



جامعة الدوحة
للعلوم والتكنولوجيا
UNIVERSITY OF DOHA
FOR SCIENCE & TECHNOLOGY



UDST ACADEMIC CATALOG 2022 – 2023



University of Doha for Science and Technology

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Welcome to University of Doha for Science & Technology



UDST Story

University of Doha for Science and Technology (UDST) was officially established by an Emiri Decision No13 of 2022 issued by His Highness the Emir Sheikh Tamim bin Hamad Al Thani. It is the First National Applied University to offer applied Bachelor's degree and Master's degree programs in addition to certificates and diplomas. The activities of University of Doha for Science and Technology are meant to achieve human, social and economic development in the country. UDST boasts more than 20 years of experience in Qatar; it started as a College and recently transformed into a university. UDST is a destination in the state for Technical and Vocational Education and Training (TVET). Its world-renowned faculty work on developing the students' skills and help raise well-equipped graduates that are proudly contributing to a knowledge-based economy and making the Qatar National Vision 2030 a reality.

Our Vision

UDST Shall be the leading institution that promotes excellence in applied education and research, contributing to innovation and the sustainable development of the State of Qatar and the global community.

Our Mission

UDST advances quality applied science and technology through agile applied higher education and research for the socio-economic development of the State of Qatar and the world.

Our Core Values

- Achievement:** We believe that education leads to success, and our role is to empower our community with knowledge and expertise which will translate into value for the Qatari and global economies.
- Development:** We believe in shaping and equipping students with the right skills for a successful future.
- Career-focused:** We focus on applied education to prepare our students with strong competencies for integration into the workplace and to contribute to the national and global economy.
- Performance:** We adopt a student-centered approach to increase student success and help them achieve their goals.
- Evolution:** We accept change and encourage progressive learning methods that adapt individuals to solving global industry needs.
- Innovation:** We value curiosity, research and the exploration of emerging technologies.

Why UDST?

Our programs encourage students to embrace innovation and prepare them to lead the socio-economic development of Qatar and global markets.

We adopt a student-centered learning approach and provide holistic support services.

Our faculty portray innovation and professional excellence and have extensive experience in their fields of expertise.

A vibrant campus that embraces diversity, encourages inclusivity and empowers its community.





Message from the President

Welcome to University of Doha for Science & Technology (UDST), the First Applied University in Qatar. We would like to greet new and returning students and wish them a successful Academic Year. As a highly acclaimed educational institution and a reference in Technical and Vocational Education and Training, we provide experiential learning in technology-rich classrooms, workshops, laboratories, and simulated environments.

Our Academic Catalog will introduce you to a wide selection of Applied Bachelor's and Master's programs to choose from, in addition to diploma programs, any of which can propel you to exciting and progressive careers in Business Management, Engineering Technology, Healthcare, Computing, Information Technology and more. Our curriculums are aligned to the requirements of an ever-evolving economy and our learning environment is designed to help students pursue their dreams, excel and reach their highest potential.

UDST prides itself on adopting a student-centered approach led by highly qualified instructors. We provide holistic support services to enrich students' experience within our vibrant campus such as one-on-one tutoring, counseling, international study opportunities, Academic Help Centers, Sport and Wellness facilities and many extra-curricular activities. In addition, we also have a Learning Commons and a well-resourced Library, where advice, support and excellent resources are always available.

In the coming pages, you will be able to thoroughly explore all aspects of the University, as we prepare you for a successful career and give you the ability to lead Qatar towards becoming an advanced society capable of sustainable development, as stated in the Qatar National Vision 2030.

I wish you a fruitful academic year ahead, and if you want more information the Admission and Registration Department is always ready to help.

Enjoy being part of the UDST Community!

Dr. Salem Al-Naemi
President
University of Doha for Science & Technology

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Introduction to the Academic Catalog



This Academic Catalog is intended to assist readers to understand the academic and administrative structure, policies, and procedures, and to provide information about current course offerings at University of Doha for Science and Technology ("the University"). Students are advised that this Catalog is not an all-inclusive set of rules and regulations but represents only a portion of the rules and regulations that will govern the student's relationship with the University.

Various academic and administrative departments have submitted the material contained in this publication. All general information and course references have been checked for accuracy, but there may be inconsistencies or errors. If you become aware of any, please bring them to the attention of the Director, Admissions and Registration (Registrar). Students are advised that the matters dealt with in this Catalog are subject to continuing review and revision. The content of this Catalog is subject to change without notice, other than through the regular processes of the University, every student accepted for registration in the University shall be deemed to have agreed to any such deletion, revision, or addition whether made before, or after acceptance.

Students are responsible for familiarizing themselves with the specific information, rules, and regulations of the University, as well as the specific requirements of each degree, diploma, certificate, or other recognition sought. While advice and counselling are available, it is the responsibility of each student to ensure that courses in which they are registered are appropriate to the requirements of the student's chosen program.

If there is an inconsistency between the general academic regulations and policies published in this Catalog, and such regulations and policies as established by resolution of the Board of Trustees or the University's administration, the version of such material as established by the Board of Trustees or the University's administration will prevail.

By the act of registration, each student becomes bound by the policies and regulations of University of Doha for Science and Technology.

University of Doha for Science & Technology disclaims all responsibility and liability for loss or damage suffered or incurred by any student or other party as a result of delays in or termination of its services, courses, or classes by reason of force majeure, fire, floods, riots, war, damage to University property, financial exigency, or other events beyond the reasonable control of the University.

University of Doha for Science & Technology disclaims any and all liability for damages arising as a result of errors, interruptions or disruptions to operations or connected with its operations, or its campuses, arising out of computer failure or non-compliance of its computing systems.

Please check the University's website for updates to this Academic Catalog for 2022-2023.

Academic Calendar of Events – Fall 2022

Note: The dates listed below are accurate at the time of publication; however, as the academic year unfolds, some dates may be changed to accommodate University or State requirements. All changes to this calendar are posted on the University intranet and will be communicated to students via SMS and/or email.

FALL SEMESTER 2022	
TBA	Registration Opens
TBA	New Student Orientation
Sunday, July 17, 2022	Start of Term/Faculty Return Date
Monday, July 18, 2022	Deferred Exams
Tuesday, July 19, 2022	Appeal Application Submission Deadline, 3pm
Wednesday, July 20, 2022	Appeal Hearings Day 1
Thursday, July 21, 2022	Appeal Hearings Day 2
Sunday, July 24, 2022	First Day of Classes
Thursday, July 28, 2022	Deferred Grade Submission Deadline, 12pm
Thursday, July 28, 2022	End of Add/Drop Period
Thursday, July 28, 2022 *new	Last Day to Withdraw with Full Fees Refund
Thursday, August 4, 2022	Last Day to Submit Grades for Spring/Summer Incompletes
Thursday, August 18, 2022*new	Last Day to Withdraw with Prorated Refund
Sunday, September 4, 2022 – Thursday, September 8, 2022	Midterm Evaluations
Sunday, September 11, 2022	Midterm Grade Submission Deadline, 12pm
Thursday, September 15, 2022	Last Day to Drop/Withdraw
Thursday, September 22, 2022	Professional Development Day (1 day)
Thursday, October 27, 2022	Last Day of Classes
Sunday, October 30, 2022 – Tuesday, November 8, 2022	Final Exams
Wednesday, November 9, 2022	Final Grade Submission Deadline, 12pm
Thursday, November 10, 2022	Last Working Day for Fall Semester
Thursday, November 10, 2022	End of Fall Term
Sunday, November 13, 2022 – Thursday, December 29, 2022	Holiday Break (34 days)
Thursday, November 17, 2022	Grades Available to Students
Sunday, December 18, 2022	National Day (1 day)

Academic Calendar of Events – Winter 2023

WINTER SEMESTER 2023	
TBA	Registration Opens
TBA	New Student Orientation
Sunday, January 1, 2023	Start of Term/Faculty Return Date
Monday, January 2, 2023	Deferred Exams
Tuesday, January 3, 2023	Appeal Application Submission Deadline, 3pm
Wednesday, January 4, 2023	Appeal Hearings Day 1
Thursday, January 5, 2023	Appeal Hearings Day 2
Sunday, January 8, 2023	First Day of Classes
Thursday, January 12, 2023	Deferred Grade Submission Deadline, 12pm
Thursday, January 12, 2023	End of Add/Drop Period
Thursday, January 12, 2023 *new	Last Day to Withdraw with Full Fees Refund
Thursday, January 19, 2023	Last Day to Submit Grades for Fall Incompletes
Thursday, February 2, 2023 *new	Last Day to Withdraw with Prorated Refund
Tuesday, February 14, 2023	National Sports Day (1 day)
Sunday, February 19, 2023 – Thursday, February 23, 2023	Midterm Evaluations
Sunday, February 26, 2023	Midterm Grade Submission Deadline, 12pm
Thursday, March 2, 2023	Last Day to Drop/Withdraw
Wednesday, March 8, 2023 – Thursday, March 9, 2023	Professional Development Days (2 days)
Tuesday, March 14, 2023	Skills Day (1 day)
Thursday, March 23, 2023 – Saturday, April 22, 2023	Ramadan
Thursday, April 6, 2023	Last Day of Classes
Sunday, April 9, 2023 – Tuesday, April 18, 2023	Final Exams
Wednesday, April 19, 2023	Final Grade Submission Deadline, 12pm
Thursday, April 20, 2023	Last Working Day for Winter Semester
Thursday, April 20, 2023	End of Winter Term
Sunday, April 23, 2023 – Thursday, April 27, 2023	Eid Al-Fitr (5 days)
Sunday, April 30, 2023	Grades Available to Students

Academic Calendar of Events – Spring 2023

SPRING SEMESTER 2023	
TBA	Registration Opens
TBA	New Student Orientation
Sunday, April 30, 2023	Start of Term/Faculty Return Date
Monday, May 1, 2023	Deferred Exams
Tuesday, May 2, 2023	Appeal Application Submission Deadline, 3pm
Wednesday, May 3, 2023	Appeal Hearings Day 1
Thursday, May 4, 2023	Appeal Hearings Day 2
Sunday, May 7, 2023	First Day of Classes
Thursday, May 11, 2023	Deferred Grade Submission Deadline, 12pm
Thursday, May 11, 2023	End of Add/Drop Period
Thursday, May 11, 2023	Last Day to Withdraw with Full Fees Refund
Thursday, May 18, 2023	Last Day to Submit Grades for Winter Incompletes
Thursday, May 25, 2023	Last Day to Withdraw with Prorated Refund
Thursday, May 25, 2023	Last Day to Drop/Withdraw
Thursday, June 22, 2023	Last Day of Classes
Friday, June 23, 2023 – Tuesday, June 27, 2023	Final Exams
Wednesday, June 28, 2023	Final Grade Submission Deadline, 12pm
Thursday, June 29, 2023	Last Working Day for Spring Semester
Thursday, June 29, 2023	End of Spring Term
Sunday, July 2, 2023 – Thursday, July 6, 2023	Eid Al-Adha (5 days)
Sunday, July 9, 2023	Grades Available to Students
Sunday, July 9, 2023 – Thursday, August 17, 2023	Holiday Break (30 days)

List of UDST Programs

***Not all programs listed are available for entry each semester. Please check with the Admissions and Registration Directorate to confirm availability of academic programs.**

COLLEGE OF BUSINESS MANAGEMENT	
PROGRAM	CREDENTIAL
Master of Science in Accounting and Finance	Master
Master of Science in Human Resource Management	Master
Bachelor of Business Administration in Applied Accounting	Bachelor
Bachelor of Business Administration in Banking and Financial Technology	Bachelor
Bachelor of Business Administration in Digital Marketing	Bachelor
Bachelor of Business Administration in Healthcare Management	Bachelor
Bachelor of Business Administration in Human Resource Management	Bachelor
Diploma in Accounting	Diploma
Diploma in Healthcare Management	Diploma
Diploma in Human Resource Management	Diploma
Diploma in Marketing	Diploma

COLLEGE OF COMPUTING AND INFORMATION TECHNOLOGY	
PROGRAM	CREDENTIAL
Bachelor of Science in Data and Cyber Security	Bachelor
Bachelor of Science in Data Science and Artificial Intelligence	Bachelor
Bachelor of Science in Digital Communication and Media Production	Bachelor
Bachelor of Science in Information Systems	Bachelor
Bachelor of Science in Information Technology	Bachelor
Diploma in Information Systems	Diploma
Diploma in Information Technology	Diploma

List of UDST Programs

***Not all programs listed are available for entry each semester. Please check with the Admissions and Registration Directorate to confirm availability of academic programs.**

COLLEGE OF ENGINEERING TECHNOLOGY	
PROGRAM	CREDENTIAL
Bachelor of Science in Chemical Engineering - Processing Engineering	Bachelor
Bachelor of Science in Construction Engineering	Bachelor
Bachelor of Science in Electrical Engineering - Automation and Control Systems Engineering	Bachelor
Bachelor of Science in Electrical Engineering - Electrical Power and Renewable Energy Engineering	Bachelor
Bachelor of Science in Electrical Engineering - Telecommunications and Network Engineering	Bachelor
Bachelor of Science in Mechanical Engineering - Maintenance Engineering	Bachelor
Advanced Diploma in Automation and Control Engineering Technology	Advanced Diploma
Advanced Diploma in Chemical and Processing Engineering Technology	Advanced Diploma
Advanced Diploma in Construction Engineering Technology	Advanced Diploma
Advanced Diploma in Electrical Power and Renewable Energy Engineering Technology	Advanced Diploma
Advanced Diploma in Maintenance Engineering Technology	Advanced Diploma
Advanced Diploma in Telecommunications and Network Engineering Technology	Advanced Diploma
Diploma in Automation and Control Engineering Technology	Diploma
Diploma in Chemical and Processing Engineering Technology	Diploma
Diploma in Construction Engineering Technology	Diploma
Diploma in Electrical Power Engineering Technology	Diploma
Diploma in Mechanical Engineering Technology	Diploma
Diploma in Telecommunications and Network Engineering Technology	Diploma

List of UDST Programs

TECHNICAN CERTIFICATE PROGRAM (TCP)

PROGRAM	CREDENTIAL
Technician Certificate – Electrical	Certificate
Technician Certificate – Instrumentation	Certificate
Technician Certificate – Mechanical	Certificate
Technician Certificate – Process Operations	Certificate

TECHNICAN CERTIFICATE (TC)

PROGRAM	CREDENTIAL
Technician Certificate - Automated Test Equipment Maintenance	Certificate
Technician Certificate - Electro-Mechanic Operation and Maintenance	Certificate
Technician Certificate - Electronics and Telecommunications Systems	Certificate

COLLEGE OF HEALTH SCIENCES

PROGRAM	CREDENTIAL
Master of Science in Critical Care Paramedicine	Master
Master of Science in Diabetic Care and Patient Education	Master
Bachelor of Science in Dental Hygiene	Bachelor
Bachelor of Science in Environmental Health	Bachelor
Bachelor of Science in Medical Radiography	Bachelor
Bachelor of Science in Occupational Health, Safety and Environment	Bachelor
Bachelor of Science in Paramedicine	Bachelor
Bachelor of Science in Pharmacy Technology	Bachelor
Bachelor of Science in Respiratory Therapy	Bachelor
Diploma in Occupational Health, Safety and Environment	Diploma
Diploma in Primary Care Paramedicine	Diploma
Diploma in Pharmacy Technology	Diploma
Diploma in Practical Nursing	Diploma



Student Affairs



Vision

We are all proud of the UDST well-rounded student experience. Outside the classroom experience, we create co-curricular and extra-curricular opportunities to enhance (a) personal management skills (b) interpersonal skills (c) teamwork skills and leadership skills.

Our professional Student Affairs staff work to establish and sustain a lively environment in which students can learn, develop holistically and thrive. Several divisions make up the department: Admissions and Registration Directorate, Library Services Directorate, Student Engagement, Sport and Wellness, Student Success, and Counselling.

Student Engagement

Embracing a global education, the Student Engagement Team collaborates with students to create opportunities to enhance student development.

The Student Engagement Team organizes extra-curricular and co-curricular initiatives and campus-wide events. Students are also exposed to a myriad of professional development opportunities to enhance their leadership skills & other personal improvement opportunities.

Offerings of this team provide a broad platform for students to grow through experiential learning and gaining applicable lifelong skills.

Students are encouraged to contact the Student Engagement Department on the campus to find out more about the many activities and clubs available, and how they can get involved. More detailed information regarding the initiatives supported by Student Engagement can be found in the Student Handbook.

For assistance, please contact the Student Engagement Office at:
Tel: 44952547

E-mail: udstlife@udst.edu.qa

Sport and Wellness

The University proudly offers students a comprehensive menu of sport and wellness focused activities, including world class facilities. Program and service offerings are continuously growing and evolving in order to respond to current interests. There are team and individual sport and fitness programs, intramural and extramural competitions and several marquee sport events held throughout the year.

Sport and Wellness facilities include a male student e-gaming and recreation lounge, a female-only lounge, 3G Turf Football Pitch, Natural Grass Cricket Pitch, tennis courts, 8-lane running track, cricket batting cages, beach volleyball court and high quality team room and changing spaces, separate male and female indoor sport halls, fitness rooms and 25m swimming pools. We are also excited to announce our brand new multi-purpose hall providing 2 multi-use courts suitable for futsal, basketball, volleyball, tennis and handball, three indoor padel courts and two indoor squash courts.

The Sport and Wellness Aquatics team invites you to our gender segregated indoor swimming pools where you can learn how to swim, take a beginners course in PADI diving, as well as start your training to become a certified Lifeguard or Swim Instructor Assistant. Our pool services offer lane swimming for those looking for recreational, training or competitive fun, or organized events such as water volleyball, challenges and fun days to ensure there is an option for all our users.

UDST has been awarded Platinum Level Status as part of FISU's Healthy Campus Program, recognizing the University as a global leader in wellness, and the only institution in the Middle East with these accolades. Wellness and the promotion of health is integrated into all our programs as a means of helping and facilitating students in achieving their optimal health and well-being. Our FITClub program is the largest club on campus, helping over 800 students and staff start their wellness journey through 1-to-1 consultations, group fitness classes and nutrition and habit coaching. Our fitness classes also offer a range of options for all ability levels and interests including, AquaFIT, Yoga, SpinFIT and HIIT. Sport and Wellness is currently working with the College of Health Sciences in ground-breaking research with the eventual intent to provide wellness testing, counselling and interventions to all first-semester students.

Student Success and Counselling



Sport and Wellness is the largest student employer on Campus and provides job-related training and certifications. Students are encouraged to watch for opportunities in the student employment section on D2L.

For assistance, please contact our customer service team at:
Tel: 4495-2224

E-mail: sportandwellnessbooking@udst.edu.qa

Student Success and Counselling

During the college years, it is very natural for students to experience challenges as they work towards their personal and academic goals. These struggles include but are not limited to; adjusting to the university environment, academic difficulties, lack of motivation, issues at home, financial struggles, loneliness, conflicts in relationships, etc. Student Success and Counselling (SSC) provides free, supportive and confidential services to all registered UDST students. These services help students overcome the challenges that they may be facing in order to experience a more enriched University life.

Student Support Services;

Individual and Group Psychological Counselling

Counselling provides a safe space for students to explore their challenges without fear of being judged or criticized. The process of counselling helps students to gain a better understanding of their thoughts, feelings and behaviors, and helps them to come up with their own solutions. Counselling services are confidential and any information you discuss with a Counsellor will not be shared with the instructors or family members and is not a part of your student record. To schedule an appointment with a Counsellor please go here:

[Book an Appointment](#)

Accessibility services

Accessibility students make up a vital part of our student community. The diverse student community at UDST includes students with various psychological, sensory, physical and learning needs. Student Success and Counselling understands the strength and needs of all students and provides various supportive services to help all students succeed. All information and medical documentation received is confidential. Accessibility services include:

- Evaluation of medical documentation to determine student needs.
- Reasonable Accommodations to ensure equal access to all the programs and activities that the University offers.
- Peer Support
- Linkages to related campus and community resources.

To access accessibility service, please book an appointment here: [Book an Appointment](#)

Academic Support

Peer Tutoring

Free academic support is available through the Peer Tutoring program. Students can receive up to 40 hours of tutoring from peer tutors. All Peer Tutors have received a minimum of "B" in the course that they are tutoring and have received proper tutor training. If you are interested in receiving tutoring support or becoming a tutor, sign up here: [Peer Tutoring](#)

Help Centers

Help Centers are a free service supported by Student Success and Counselling. Unlike peer tutoring, Help Centers operate on a mostly drop-in basis where students can get immediate answers to their academic questions or help with a particular assignment/project. Below is a list of available help centers:

- Math and Science Help Center
- English Success Zone
- Advanced Writing Center
- Engineering Help Center
- Accounting Help Center
- Health Sciences Help Center
- College of Computing & Information Technology Help Center

To access information on the Help Centers, please go to [Help Centers](#)

For additional information on Student Success and Counselling and the services offered, please visit the Student Success and Counselling course on [D2L](#)

Student Affairs



Career Services

Career Services is an innovative UDST service that assists with student career development in support of workforce planning for the State of Qatar. To achieve this mission,

the following services are provided:

- Career counselling services (may be accompanied with a career assessment);
- Assistance with resume/cover letter writing;
- Career readiness workshops;
- Simulated job interviews for students;
- Hosting an annual Career Fair;
- Student employment services (i.e. on-campus part-time employment);
- Work Term program-based services;
- Liaise between UDST's talent and prospective employers to facilitate job placement;
- Assistance with job search techniques and employability skills;
- Help students understand the workforce development needs of business and industry, and the State of Qatar.

For more information on Career Services, please visit the Student Success and Counselling course on [D2L](#)

International Education

The International Education Office at UDST provides an intercultural, global student experience that prepares graduates for the international work environment of the State of Qatar. UDST provides opportunities for students to learn, grow and enhance their understanding of themselves and the world. UDST students are provided with opportunities to develop and expand on 21st century skills by:

- Taking part in experiential learning programs
- Improving problem solving and decision making abilities
- Participating in engaging study abroad programs and international volunteer opportunities
- Gaining increased knowledge in their field of study
- Developing local and global citizenship
- Attending conferences and workshops
- Strengthening language abilities
- Improving cultural awareness

For more information please contact udstlife@udst.edu.qa

Harassment Policy

It is University policy that all registered students have the right to pursue their studies and related activities free from personal harassment from other students, faculty or staff on the campus. As part of a proactive approach to this issue, Student Affairs delivers an ongoing campus-wide Respect Campaign focusing on the importance of respect for self and others. More on this policy can be found in the Student Handbook.

Student Conduct Policy

UDST recognizes that students are responsible for their behavior and overall conduct while on campus. If a student does not follow UDST policies, procedures and regulations the University may take action. Violations are dealt with through formal disciplinary procedures. Copies of the Student Conduct Policy and the Student Rights and Responsibilities can be found in the UDST Student Handbook.

Appeal Process

All registered students of the University can appeal a decision or ruling that affects them. Issues may relate to academics, attendance, discipline and students rights and responsibilities. The University believes that student concerns should be addressed in a timely manner. Students wishing to appeal or grieve a decision should consult their Student Counsellor, Departmental Dean or Program Chair for advice on how to proceed.

Student Parking

There are several parking lots adjacent to UDST buildings. Some lots are shared by faculty and students while others are designated specifically for students. Failure to park in designated areas, or parking in special spaces (such as handicapped parking spaces), may result in disciplinary action or other penalties as described in the Student Conduct Policy.



Admissions & Registration Directorate



The Admissions and Registration Directorate administers the University's policies and procedures covering admission, academic regulations, academic status of students, tuition and fees, and awards and scholarships. This section of the Academic Catalog provides important information about these functions.

Please check the website for any changes or updates to this Academic Catalog for 2022-2023.

The Admissions and Registration Directorate is open from Sunday through Thursday from 7:30am to 3:00pm.

For General Enquiries 4495-2225

Application Deadlines

The following deadlines will be in effect for the 2022-2023 academic year:

WINTER 2023 (January – April)	SPRING 2023 (April – May)
Application Submission Dates: Start: August 28, 2022 End: November 03, 2022	Application Submission Dates: Start: January 29, 2023 End: May 25, 2023
Testing Completed / Last Date to Submit Missing Documents November 13, 2022	Testing Completed / Last Date to Submit Missing Documents June 08, 2023

Admissions



1. Applicants seeking Undergraduate admission must satisfy the University's minimum Placement Test requirements.
2. In lieu of the Placement Test, the University may accept valid test scores from other internationally recognized English and Mathematics proficiency tests:
 - a. A valid (within two years) IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, and listening) below 5.0; OR
 - b. A valid (within two years) TOEFL score of 550 ; OR
 - c. A valid (within two years) iBT score of 49 (no score below 12 for each band).
3. The Placement Test is not required for admission of CNA-Q or UDST graduates within 2 years of their CNA-Q / UDST graduation.
4. Applicants, who are transferring from or have graduated from a higher education institution where English is the medium of instruction, can request to have the Placement Test waived. Waivers are granted at the sole discretion of the University. The deadline for a student to request a waiver is the first day of classes for the semester of admission.
5. The University accepts an applicant's highest, non-expired Placement Test scores taken within two years of the application date.
6. Eligible applicants who meet the required English and Mathematics placement scores are permitted direct entry into their Program.
7. Eligible applicants who do not meet the required English and Mathematics placement scores may be admitted into the Foundation Program.
8. The minimum required Placement Test scores may vary by Program. Applicants are advised to carefully review the Placement Test requirements on the University website.

Undergraduate Admission Categories

The University evaluates Undergraduate applicants:

1. High School Graduates
2. CNA-Q / UDST Graduates
3. Transfer Students
4. Visiting Students

1.High School Graduates

Applicants who have completed high school and have not attended a higher education institution will be considered a high school applicant.

Admission Requirements:

1. A minimum average of 60% in the final year (Grade 12 or equivalent) of high school; and
2. Satisfies all minimum subject-specific requirements for entry into the Program.
OR
 1. Graduated high school; and
 2. Earned a minimum grade of 60% in final year English (Grade 12 or equivalent); and
 3. Earned a minimum grade of 60% in final year Academic Mathematics or a minimum grade of 50% in Advanced Mathematics (Grade 12 or equivalent); and;
 4. Satisfies all minimum subject-specific requirements for entry into the Program.

Placement Test Requirements:

Placement Testing is required for all high school graduates seeking Undergraduate admission. Eligible applicants who do not satisfy the required Placement Test scores or waiver provision will be considered for admission to the Foundation Program.

Application Requirements:

1. High School Transcript
 - A. All Undergraduate applicants, who attended a high school in the State of Qatar, are required to submit their final High School transcript attested by the Ministry of Education and Higher Education.

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B. Undergraduate applicants, who attended a high school outside of the State of Qatar, are required to submit their final High School transcript attested by the Ministry of Education and Higher Education or equivalent authority in that country. The transcript must also be attested by the Embassy of the State of Qatar in that country.

2. Letter of equivalency from the Ministry of Education and Higher Education in Qatar is required for:

A. All Undergraduate applicants, who attended a private high school in the State of Qatar.

B. Undergraduate applicants, who attended a high school outside of the State of Qatar.

3. Valid Passport/Travel Document; and

4. Valid Qatar National Identification card (except International applicants who can submit this after arrival into Qatar); and

5. National Service Certificate/Letter for all male Qatari applicants; and

6. Documentation to support the Admission Priority Category; and

7. Official Placement Test result or acceptable waiver; and

8. Submit online admission application and confirmation of payment of the application fee.

2. Transfer Students

Applicants who have attended another higher education institution will be considered a transfer applicant.

Admission Requirements:

1. Graduated high school; and

2. Completed 2 Semesters with a minimum cumulative GPA of 2.00 from a higher education institution recognized by an international accrediting association or by the Ministry of Education and Higher Education or equivalent authority in that country.

Placement Test Requirements:

Placement Testing is required for all students seeking Transfer admission. Applicants who do not satisfy the required Placement Test scores or waiver provision will be considered for admission to the Foundation Program.

Application Requirements:

1. High School Transcript

A. All Undergraduate applicants, who attended a high school in the State of Qatar, are required to submit their final High School transcript attested by the Ministry of Education and Higher Education.

B. Undergraduate applicants, who attended a high school outside of the State of Qatar, are required to submit their final High School transcript attested by the Ministry of Education and Higher Education or equivalent authority in that country. The transcript must also be attested by the Embassy of the State of Qatar in that country.

2. Letter of equivalency from the Ministry of Education and Higher Education in Qatar is required for:

A. All Undergraduate applicants, who attended a private high school in the State of Qatar.

B. Undergraduate applicants, who attended a high school outside of the State of Qatar.

3. Official transcript from a higher education institution recognized by an international accrediting association or attested by the Ministry of Education and Higher Education or equivalent authority in that country. The transcript must also be attested by the Embassy of the State of Qatar in that country; and

4. Valid Passport/Travel Document; and

5. Valid Qatar National Identification card (except International applicants who can submit this after arrival into Qatar); and

6. National Service Certificate/Letter for all male Qatari applicants; and

7. Documentation to support the Admission Priority Category; and

8. Official Placement Test result or acceptable waiver; and

9. Submit online admission application and confirmation of payment of the application fee.

3. CNA-Q/UDST Graduates

Applicants who have previously earned a credential from CNA-Q or UDST will be considered a University graduate applicant and can apply for Admission to another Program at the University:

1. Previously earned a CNA-Q or UDST credential.

Placement Test Requirements:

1. The Placement Test is not required for admission of CNA-Q or UDST graduates within 2 years of their CNA-Q / UDST graduation.

2. Only the English Placement Test or waiver is required for applicants seeking admission beyond 2 years of their CNA-Q / UDST graduation. Applicants who do not meet the required Placement Test scores will be considered for admission to the Foundation Program.

Application Requirements:

1. Submit online admissions application and confirmation of payment of the application fee.

4. Visiting Students

Applicants who are attending other higher education institutions and wish to take courses at the University will be considered a visiting applicant.

Admission Requirements:

1. Enrolled at another higher education institution recognized by an international accrediting association or by the Ministry of Education and Higher Education or equivalent authority in that country.

Placement Test Requirements:

Placement Testing is required for all Undergraduate visiting applicants. Visiting applicants who do not satisfy the required Placement Test scores or waiver provision are not eligible for entry into the Foundation Program.

Admissions

Application Requirements:

1. All Undergraduate visiting applicants must submit a letter of enrollment from their home institution verifying their enrollment details and that they are in good standing.
2. Official transcript from a higher education institution recognized by an international accrediting association or attested by the Ministry of Education and Higher Education or equivalent authority in that country. The transcript must also be attested by the Embassy of the State of Qatar in that country, and
3. Valid Passport/Travel Document; and
4. Valid Qatar National Identification card; and
5. Official Placement Test result or acceptable waiver; and
6. Submit online admissions application and confirmation of payment of the application fee.

Supplementary Information

High School Graduation Requirement

All Undergraduate applicants are required to complete the final year of high school (12th grade or equivalent) as specified by the Ministry of Education and Higher Education in Qatar.

Ministry validation of secondary grades is required for applicants seeking admission under the High School Graduates category.

Early Conditional Admission

The University admits high achieving Undergraduate applicants on the strength of their 11th grade and first semester of 12th grade results. Students receiving Early Conditional Admission are expected to satisfy the University's admission requirements in order to satisfy the condition of their admission

Admission Requirements:

1. Applicants who are enrolled in their final year (12th grade or equivalent) of high school; and
2. Earned a minimum of 70% in both their 11th grade and first semester of 12th grade results. Applicants in the International Baccalaureate (IB) or British System should submit predicted grades.

Placement Testing requirements:

Placement Testing is required for all students seeking Early Conditional Admission. Applicants who do not meet the required Placement Test scores will be considered for admission to the Foundation Program.

Applicants who do not satisfy the requirements for Early Conditional Admission will be evaluated for regular admission or Provisional Admission.

Provisional Admission

Based on available capacity, the University offers Provisional Admission to a limited number of Undergraduate applicants providing a structured academic pathway, essential skills, and learning support for applicants who have graduated high school but who do not meet the University's initial admission requirements.

Admission Requirements:

1. Graduated high school.

Placement Testing Requirements:

Placement Testing is required for all students seeking Provisional Admission. Applicants who do not meet the required Placement Test scores will be considered for admission to the Foundation Program.

Upon successful completion of their Provisional Admission requirements, students will be adjusted to regular student status.

The maximum duration of enrollment in Provisional Admission status is 2 academic years from the semester of admission. Students who exceed this maximum duration without completing the Provisional Admission requirements will have their admission revoked. Students who have had their Provisional Admission revoked are not eligible to re-apply for Provisional Admission.

Graduate (Master) Admission:

1. Bachelor's Degree Graduates

Graduate applicants who have earned a Bachelor's degree or equivalent will be considered for admission to a Graduate Program:

Admission Requirements:

1. Earned a CNA-Q or UDST Bachelor's degree in a related field of study; or
Earned a Bachelor's degree with a minimum cumulative GPA of 3.00 from a recognized higher education institution; and
2. Satisfied Program-specific admission requirements; and
3. Satisfy the Graduate Program's minimum English Language requirement.

Application Requirements:

1. All Graduate applicants must submit an official Bachelor's degree or equivalent transcript from a recognized higher education institution;
 - A. If the higher education institution is located in the State of Qatar, it must be recognized by the Qatar Ministry of Education and Higher Education.
 - B. If the higher education institution is located outside of the State of Qatar, the higher education institution must be accredited by an international accrediting association or recognized by the Ministry of Education and Higher Education or equivalent authority in that country. The transcript must be attested by the Ministry of Education and Higher Education or equivalent authority in that country, and also be attested by the Embassy of the State of Qatar in that country.
2. Valid Passport/Travel Document; and
3. Valid Qatar National Identification card (except International applicants who can submit this after arrival into Qatar); and
4. National Service Certificate/Letter for all male Qatari Applicants; and
5. Documentation to support the Admission Priority Category; and
6. Official Placement Test result or acceptable waiver; and Submit online admission application and confirmation of payment of the application fee.

Admissions

Transfer Students

Applicants transferring from a Graduate Program at another higher education institution must satisfy the following minimum requirements to be considered for admission as a Transfer student:

Admission Requirements:

1. Earned a Bachelor's degree in a related field of study with a minimum cumulative GPA of 3.00 from a recognized higher education institution; and
2. Are in Clear Standing or equivalent at their home institution; and
3. Fulfill Program-specific admission requirements; and
4. Satisfy the Graduate Program's minimum English Language requirement.

Application Requirements:

1. All Graduate transfer applicants must submit an official Bachelor's degree or equivalent transcript from a recognized higher education institution;
 - A. If the higher education institution is located in the State of Qatar, it must be recognized by the Qatar Ministry of Education and Higher Education.
 - B. If the higher education institution is located outside of the State of Qatar, the higher education institution must be accredited by an international accrediting association or recognized by the Ministry of Education and Higher Education or equivalent authority in that country. The transcript must be attested by the Ministry of Education and Higher Education or equivalent authority in that country, and also be attested by the Embassy of the State of Qatar in that country.
2. Valid Passport/Travel Document; and
3. Valid Qatar National Identification card (except International applicants who can submit this after arrival into Qatar); and
4. National Service Certificate/Letter for all male Qatari Applicants; and
5. Documentation to support the Admission Priority Category; and
6. Official Placement Test result or acceptable waiver; and
7. Submit online admission application and confirmation of payment of the application fee.

Visiting Students

Applicants visiting from a Graduate Program at another higher education institution must satisfy the following minimum requirements to be considered for admission as a Visiting student:

Admission Requirements:

1. Are in Clear Standing or equivalent at their home institution; and
2. Fulfill Program-specific admission requirements; and
3. Satisfy the Graduate Program's minimum English Language requirement.

Application Requirements:

1. All Graduate visiting applicants must submit a letter of enrollment from their home institution verifying there enrollment details and that they are in good standing.
2. All Graduate visiting applicants must submit an official Bachelor's degree or equivalent transcript from a recognized higher education institution;
 - A. If the higher education institution is located in the State of Qatar, it must be recognized by the Qatar Ministry of Education and Higher Education.
 - B. If the higher education institution is located outside of the State of Qatar, the higher education institution must be accredited by an international accrediting association or recognized by the Ministry of Education and Higher Education or equivalent authority in that country. The transcript must be attested by the Ministry of Education and Higher Education or equivalent authority in that country, and also be attested by the Embassy of the State of Qatar in that country.
3. Valid Passport/Travel Document; and
4. Valid Qatar National Identification card; and
5. Documentation to support the Admission Priority Category; and
6. Official Placement Test result or acceptable waiver; and
7. Submit online admission application and confirmation of payment of the application fee.

Admissions

English Language Requirements:

1. Applicants seeking Graduate admission must satisfy the University's minimum English Placement Test score requirement.
2. In lieu of the Placement Test, the University may accept valid test scores from other internationally recognized English language proficiency tests:
 - A. A valid (within two years) IELTS Academic Test Report Form with an overall band of 6.0 with no individual band score (reading, writing, speaking, and listening) below 6.0; OR
 - B. A valid (within two years) TOEFL score of 90 and minimum scores of 17 in listening, 18 in reading, and 20 in speaking; OR
 - C. A valid (within two years) iBT score of 72.
3. The Placement Test is not required for admission of CNA-Q or UDST graduates within 2 years of their CNA-Q / UDST graduation.
4. Applicants, who are transferring from or have graduated from a higher education institution where English is the medium of instruction, can request to have the Placement Test waived. Waivers are granted at the sole discretion of the University. The deadline for a student to request a waiver is the first day of classes for the semester of admission
5. The University accepts an applicant's highest, non-expired Placement Test scores taken within two years of the application date.
6. The minimum required Placement Test scores may vary by Program. Applicants are advised to carefully review the Placement Test requirements on the University website
7. Applicants who do not meet the required Placement Test scores are ineligible for placement into the Foundation Program.

Additional Requirements:

Certain graduate programs require specific undergraduate backgrounds for admission consideration. A comprehensive list of accepted undergraduate fields is available on the Admissions website.

Certain graduate programs have additional requirements including but not limited to letters of recommendation, Curriculum Vitae, employment certificate, current licensure, personal interview, etc. A comprehensive list of additional programmatic requirements is available on the Admissions website.

Additional Information for Undergraduate and Graduate Admission.





Admissions

Competitive Entry

Admission to all University Programs is competitive and attaining the minimum admission requirements does not guarantee admission to the University. In addition to available Program capacity, applications are evaluated on the following criteria:

A. Diploma Programs

Qualified applicants are assessed on their overall final year (12th grade or equivalent) High School percentage / prior CNA-Q/UDST GPA / prior higher education institution GPA, placement tests rankings, and their Admissions Priority Category.

B. Bachelor's Degree Programs

Qualified applicants are assessed on their overall final year (12th grade or equivalent) High School percentage / prior CNA-Q/UDST GPA / prior higher education institution GPA, placement tests rankings, and their Admissions Priority Category.

C. Graduate Degree Programs

Qualified applicants are assessed on their overall Bachelor's degree GPA and the Admission Priority Category.

Waitlisted Applicants

1. Eligible applicants are placed on a ranked waitlist and will be offered admission as space becomes available in the Program. Candidates are admitted until Program capacity is reached or the waitlist has been exhausted.
2. Applicants who have been placed on a waitlist can request to transfer to a Program that has available capacity.
3. Applicants on a waitlist can re-test to improve their English and Mathematics Placement Test results.
4. Applicants who have not received an offer of admission by the end of the admissions cycle are encouraged to carry forward their application to a subsequent semester. Applicants who choose to do so will be assessed on a newly ranked waitlist. Applicants must contact the Admissions and Registration Directorate to request to carry their application forward

Admission Priority

The University will select the most qualified applicants, subject to the following Admission Priority:

Priority A: Qatari Applicants/Holders of Qatari Travel Documents;
 Priority B: Applicants born to Qatari mothers living in Qatar/non-Qatari female spouses of Qatari nationals;
 Priority C: Children of Diplomats;
 Priority D: Children of University Employees;
 Priority E: Applicants born in Qatar;
 Priority F: Residents in Qatar;
 Priority G: Applicants residing outside the State of Qatar.

Conditional Admission

In extenuating circumstances, an applicant may be granted Conditional Admission while their documentation is being attested or being reviewed for equivalency. In all cases, applicants receiving Conditional Admission must meet the University's admission requirements in order to satisfy the condition of their admission. In addition, applicants receiving Conditional Admission must clear all conditions before the first day of classes for the semester of admission or their admission will be revoked.

Applicants who do not satisfy the requirements for Conditional Admission will be evaluated for Provisional Admission.

Admission Deferral

Students are admitted to the University for the semester of their application. Admitted students can defer their admission by up to 1 academic year subject to Program capacity. Students wishing to defer their admission semester should contact the Admissions and Registration Directorate before the end of the Add/Drop period for their semester of admission.

Admission No Show

New or re-admitted students who are not registered in classes by the Last Day to Add are considered to have cancelled their admission and their admission will be revoked.

No Show students must re-apply to be considered for future admission to the University.

Re-Admission

Students who have not been enrolled for one academic year or more must request re-admission through the Admissions and Registration Directorate. Re-admission applicants may apply to their prior academic program or to any other academic program for which they are eligible.

Students who have been Academically Dismissed are not eligible for Re-admission to the same Program. Academically Dismissed Students may apply for Admission to another Program for the subsequent Semester.

Discontinued and Academically Dismissed Students who have not been enrolled for at least two years are required to re-take the English Placement Test.

Restrictions

The University reserves the right to revoke offers of admission due to any action that violates the approved Admissions Policy, the Student Conduct Policy, or applicable Qatari laws.

Application Process

1. Applications will be processed provided:
 - a) The application is correctly completed with all documentation, and
 - b) All educational and other requirements are met, and
 - c) All required fees are paid.
2. Applicants will be notified immediately upon receipt of their application.
3. Applicants may be required to meet additional program specific entry requirements.

Admissions

Students Requiring Accessibility Services

Applicants requiring additional educational supports will be individually interviewed (in-take interview) by the Student Success and Counseling Department to collect pertinent information relevant to admissibility for the College the student has expressed an interest in.

The in-take interview will include:

- 1) Reviewing the Applicant's supporting medical documentation;
- 2) Reviewing the recommendation of the sponsoring or supporting group (if applicable);
- 3) Summarizing the Applicant's strengths and abilities;
- 4) Determining the need for reasonable accommodations and/or support staff required to facilitate the integration of the Applicant;
- 5) Identifying necessary resources/equipment required to facilitate the training.
- 6) Meeting with the appropriate Dean of the College to provide a summary of the findings
- 7) Final decision for admittance to a program will be made by the appropriate Dean.

The University requires that Applicants disclose their disability at the point of Admission application
There is no guarantee that admission will be offered to students requiring additional educational supports.

General Studies

Eligible Applicant who have not made a final decision about admission to a particular program, can be admitted into General Studies, subject to available capacity. Students admitted into General Studies are eligible to apply for a transfer to a program of study conditional to meeting the program admission criteria.

Entry for Part-Time Students

Students who apply for part-time status in any program must meet all the requirements outlined for full-time status and will be considered only if a vacancy exists after full-time students have been accommodated.



Definition of Academic Terms

Academic Advising

Interactions between a student and an Academic Advisor that involve discussing the student's academic plan, making appropriate course selections, academic progression, and learning outcomes.

Academic Advisor

A representative of the University who helps and advises students on their academic plan, appropriate course selections, academic progression, and learning outcomes.

Academic Calendar

A representation of the periods associated with the University's operations, containing the teaching periods, exam and holiday dates, and key deadlines, which is approved by the University's Board of Trustees.

Academic Dismissal

A decision of the University to revoke the enrollment status of a student from a Program based on their academic standing

Academic Probation

An Academic Standing assigned to Graduate Students who achieve a Cumulative GPA less than 3.00 for the first time

Academic Probation 1

An Academic Standing assigned to Foundation and Undergraduate Students who achieve a Cumulative GPA less than 2.00 for the first time or who fail an Academic Preparatory Course for the first time.

Academic Probation 2

An Academic Standing assigned to Undergraduate Students on Academic Probation 1 who fail to achieve a Cumulative GPA of at least 2.00 at the end of the following semester of registration or to Foundation Students who fail an Academic Preparatory Course on the second attempt.

Academic Warning

A non-punitive alert issued to Undergraduate Students who achieve a failing Final Grade two times for the same Course.

Academic Year

The 12-month period defined in the University's academic calendar, as approved by the Board of Trustees.

Add Course

The action where a student registers into additional courses during the Add/Drop period.

Add Deadline

The last day of the Add period for the student to add courses to their schedule.

Add/Drop Period

A period of time at the beginning of each semester when students can adjust schedules by cancelling their course registration, registering into additional courses or changing course sections.

Admission

The process in which applicants are evaluated for entry into a University Program.

Admission Priority Category

The order in which qualified applicants are admitted to seats available within Programs.

Admission Requirement

The requirements for eligibility into a University Program

Applicant

An individual who has submitted and completed an application to be admitted into a Program.

Audited Course

A non-factorable course in which a student is enrolled that cannot be graded for credit.

Certificate Program

An approved program of study consisting of a prescribed combination of courses that must address all of the following:

- Occupational skill development
- Academic or general study
- Self-interest or personal growth

Challenge Examination

An examination that assesses a Student's existing knowledge that may exempt the Student from completing a Course.

Clear Standing

The Academic Standing of a Student who has achieved the minimum Cumulative GPA required by the Program:

- Foundation Program Students are in Clear Standing when they have achieved passing Final Grades in all Academic Preparatory Courses.
- Undergraduate Students are in Clear Standing when they have attained a Cumulative GPA of at least 2.00.
- Graduate Students are in Clear Standing when they have attained a Cumulative GPA of at least 3.00.

Clinical Practice

Training conducted in the learning environment at the University but may include online and out-of-class assignments. It offers an experience-based instruction for the purpose of developing skills related to the discipline focused on "real world" activities that may be offered in a simulated "real world" environment generally in healthcare or service occupation programs. Clinical practice instruction is conducted under the supervision of an academic member.

Clinical Work

A Course providing a career-related work experience of limited duration, specifically in the health sciences field.

Competitive Entry (with regard to Admission)

Admission where the number of qualified applicants regularly exceeds the number of seats available.

Definition of Academic Terms

Conditional Admission

Instances when admission is offered before one or more of the published admission requirements are met and is conditional on the outstanding requirements being met by a specified time.

Co-requisites

A course that a student must enroll in at the same time as another course or requirement.

Course

A set of learning sessions in a particular subject, with a defined scope and duration, and specific learning outcomes.

Course Learning Outcome

The specifications of what the student should learn as the result of the specified and supported study in a given course.

Course Repetition

Re-enrollment in a course previously completed to improve the final grade or strengthen knowledge of a particular topic.

Course Requirement

Assessments and/or deliverables that a student is required to complete, such as assignments, papers, reports and other coursework.

Credit

A unit of measurement assigned to a course based on the total amount of learning time that counts toward a Program or credential completion, at a particular level of the Qatar National Qualification Framework.

Cumulative GPA

The overall cumulative grade point average across multiple semesters in a student's Program.

Deferred Examination

An exam that is taken at a time other than the scheduled time or date.

Discontinued Student

A student who was enrolled in a Program and has either not registered for a subsequent semester, registered in a current semester but not attended any classes, has withdrawn voluntarily or involuntarily, or has been suspended.

Dismissal

A decision of the University to revoke the enrollment status of a student.

Drop Course

The action where a student drops courses during the Add//Drop period thereby cancelling his/her course registration.

Drop Deadline

The last day of the Drop period as per the academic calendar.

Early Conditional Admission

A conditional admission category providing a confirmed seat to priority applicants enrolled in their final year of high school.

Eligible Applicant

An applicant who satisfies the minimum requirements for admission.

Excluded from GPA

A final grade of EX replaces the final grade in a single course and is not factored in the cumulative GPA calculation.

Exemption from Course

A grade type indicating that a student has satisfied a course requirement through Course transfer or challenge examination.

Faculty Members

Members of the teaching and/or applied research staff, whether on part- or full-time, holding the following titles: Professor, Associate Professor, Assistant Professor, Senior Lecturer/Senior Technical Instructor, or Lecturer/Technical Instructor.

Final Examination

An assessment for measuring the achievement of specific course learning outcomes, which is administered at the end of a course.

Final Grade

The grade assigned for the entire Course when all Final Grade Components of the Course are completed.

Final Grade Components

The elements which, when computed, total the Final Grade for the Course.

Foundation Program

A series of University courses designed to prepare students for their Program.

General Studies

An academic plan where a student is eligible to enroll in credit courses without being admitted into a credit Program.

Grading Scheme

The grading scale adopted by the University.

High School Graduate

An applicant that has passed high school earning a high school degree or equivalent.

Incomplete Grade

A non-factorable placeholder grade assigned when the mandatory components of the course are not completed.

In Progress

A non-factorable placeholder grade assigned for a course that extends beyond the regular semester.

Learning Session

Classes, labs, placements or work term prescribed by a course.

Non-factorable Grade

A grade that is excluded from the cumulative GPA calculation.

Passing Grade in Course

Denotes the minimum final grade required in order to succeed in a course, or a final grade of P for courses designated as Pass / Fail.

Definition of Academic Terms

Placement Test

An assessment to determine the student's level of competency in English and/or Mathematics.

Prerequisites

A course that a student must pass before enrolling in a more advanced course. Equivalent skills or prior experience that a student possesses may also be accepted as a prerequisite for a course.

Program

A prescribed set of courses leading to a qualification, including a Certificate, Diploma, Advanced Diploma, Post Diploma, or Degree.

Provisional Admission

A conditional admission category for Students who do not meet the University's initial admission requirements.

Re-admission

The process in which an applicant is admitted (or denied) into a University Program, when an applicant has previously been admitted as a student but has been dismissed or has become a discontinued student.

Registration Period

A period of time prior to the beginning of each semester when students can enroll in courses.

Re-Read

A formal re-marking of the Student's final examination which may result in a change of final grade.

Semester

A division of an academic year where a student is enrolled in a course(s) followed by an examination period.

Student

A person who is presently enrolled at the University in a credit course or who is designated by the University as a student.

Section

A course offering distinguished from other identical course offerings by date, time, location, instructor, etc.

Transcript

An official document of the University summarizing the entire academic records of a Student including essential information pertaining to the Student's courses, grades, academic standing and credential attainment.

Transfer Student

A student who moves from one higher education institution to another.

Visiting Student

A Student permitted to take courses at the University for transfer of credit to another higher education institution.

Withdraw

An action where the student withdraws from a course during the withdrawal period resulting in a withdraw grade.

Withdraw Grade

The final grade of W assigned and entered on the transcript to indicate the student's official withdrawal from a course.

Withdrawal Period

The timeframe determined by the University and extending from the end of the Add/Drop period until the middle of the semester.

Work Term

The opportunity to develop Students' job skills by providing them with a structured employment situation that is directly related to, and coordinated with, their Program.



Academic Regulations

Modes of Instruction

The following types of instruction are used at UDST:

1. Lecture (LEC)
2. Laboratory (LAB)
3. Clinical/Practicum
4. Work Term
5. Independent Studies
6. Blended Learning (including Online)

Semester Structure

The University operates under a semester structure where two semesters are offered between September and April. These are referred to as our Fall and Winter semesters. There are also two condensed seven- week semesters in Spring and Summer that are available for some programs.

Fall/Winter Semesters

A 15-week period that includes class/learning time as well as administrative and evaluation time.

Fall Semester – Begins in August/September

Winter Semester – Begins in January

Spring/Summer Semesters

Two 7-week semesters that include class/learning time as well as administrative and evaluation time.

Spring Semester - Begins in April/May

Summer Semester - Begins in July

Student ID Numbers

Individual student ID numbers will be assigned to students admitted to all University programs, whether full-time or part-time. The individual student number will be used in all correspondence and/or transactions with the University (e.g. registration, exams, requests for transcripts). Student numbers must appear on all documents to be added to the students' files, and for registration, exams, requests for transcripts, etc.

Work Term

Work term is an opportunity for students to apply knowledge and skills obtained in the classroom by working at a company to gain hands-on experience.

All work term companies and placements must be approved by the University. Work Term is an academic and mandatory course that is part of a student's program in many UDST programs.

The Work Term course is assessed and students receive a grade when they have completed the course.

Students must attend a mandatory Work Term orientation where they are given additional information about the Work Term course.

Work Term Eligibility

To be eligible to register for your Work Term course, you must successfully complete all academic courses, have a minimum GPA of 2.00, and register for your Work Term course online.

Access to Information

The University has had a practice of not releasing student information to any person without the consent of the student. The University will not release personal information, including information about attendance, marks or program to anyone (including spouse, parents or children) without written consent. Please submit the required Consent to Release Information form to the Admissions and Registration Directorate. Telephone permission will not be accepted. Students may be asked for identification before the University will release information to them.

The University does have a duty to release student records to those with a Sponsor (including information on grades, academic warnings and dismissals, attendance etc.) in accordance with the Sponsor-Student Agreement.

Student Records

Faculty and administrative officers with a demonstrated need to know will be permitted to examine the academic records of student (excluding health and personal counselling records) and will only have access to the minimum amount of information necessary in order to carry out their duties. Designated faculty and administrative officers are those individuals who have been determined to have legitimate educational interest and if the information requested is necessary for that officer to perform a task that is related to their assigned job functions or related to their performance of a contract with the University. All faculty and staff must respect the confidentiality of the information. Access to these records by other individuals requires the student's express written consent.

Credentials

The University awards the following parchments upon the successful completion of the student's program of study:

1. Certificate
2. Diploma
3. Advanced Diploma
4. Bachelor's Degree
5. Master's Degree
6. Certificate of Participation or Achievement

Student Program Completion Time Frame

Students who exceed the enrollment duration of their respective Program by 150%, counted from the first Semester of registration in the Program will be academically dismissed. The maximum enrollment duration excludes Semesters without registration.

Health Sciences Programs include mandatory clinical training rotations. Students must pass all previous courses and have a minimum cumulative GPA of 2.00 to be promoted to the clinical training component of their Program.

Successful completion of Work Term requirements is a prerequisite for graduation. To be eligible for a Work Term, a student must have Clear Standing for all courses prescribed in the program to the point where the Work Term occurs.

Academic Integrity

Academic Misconduct

Students are reminded that for guidance and information on proper scholarly behaviour, they should seek advice from academic advisors, instructors, or their counsellors.

Academic Dishonesty

There are many forms of academic dishonesty. Plagiarism, cheating, taking credit for work that is not his/her own, and helping another student take credit for work that is not his/her own are all forms of academic dishonesty. Academic dishonesty falls under the Student Code of Conduct with the penalties listed under the Student Code of Discipline.

The University of Doha for Science and Technology has an Academic Dishonesty procedure that lists four penalties that can be used:

- 1st Incident: Written reprimand by instructor and no credit for the work completed
- 2nd Incident: Written reprimand and suspension from course
- 3rd Incident: Suspension from program for one semester
- 4th Incident: Suspension from program for one year

Policy on Fraud

It is the student's responsibility to ensure that all information, supporting documentation, and academic work submitted is truthful, complete and correct. University of Doha for Science and Technology reserves the right to verify any information provided as part of an application, or part of the academic credential. It is an act of serious academic misconduct to provide any false or misleading information on an application. By submitting a completed application form and the supporting documentation, an applicant declares that the information supplied on the application form itself or otherwise in connection with an application is complete and correct. If it is proven, or if the University has reasonable grounds to conclude, that any information in an application, or in any of the material submitted in support of an application, is determined to be false or misleading, or written by a third party, the application may be invalidated at the absolute and sole discretion of UDST. This could result in immediate rejection of the application, or the revocation of an offer of admission, or in the case of an already registered student, in the termination of registration at the University.

Definitions and Procedures:

Fraud

Fraud occurs when a person or persons conspire to deceive another person or group of persons into believing that a claim made by that person or group is genuine when in fact it is false. This could include false information given on an application regarding qualifications or experience, or the provision of a fake certificate or reference to support an application, or the deliberate omission of relevant information, e.g. the non-inclusion of information regarding previous qualifications, or some other act of deception.

Inappropriate Proxy

Inappropriate Proxy is defined as when a person attends an exam or any academic activity or obligation in replacement of the student.

Plagiarism

Plagiarism is the unacknowledged inclusion of material derived from the published or unpublished work of another person (such as from the internet or from another person) whether intentional or unintentional.

Right of Appeal

Any applicant or registered student will have the right to appeal the Academic Dishonesty finding decision through the Academic Student Appeals Committee.



Academic Advising and Regulations

Academic Advising

Students are expected to read the Academic Catalog carefully and are encouraged to take responsibility for their academic goals. Students are expected to make themselves familiar with the University's academic regulations, their program's requirements and course structure. Academic advising is available through the School Official/Academic Advisor.

Registration

Students will register online on the date and at the time publicized by the University. Students can register for courses, change their schedule, and drop courses anytime during the registration period and until the end of the Add/Drop period. Students may not attend courses for which they have not registered.

Students are not officially registered in any course until they have satisfied all registration requirements and prerequisites have been met.

Late Registration

All students should register by the Add deadline registration date listed for each semester. With permission, late registration may sometimes be accepted. However, any students who are permitted to register late must receive permission from their Dean and are not guaranteed course availability.

Registration Priority

Registration priority is based on the number of credits earned in the student's program.

Adding and Dropping Courses

After registering in courses, students have until the end of the Add/ Drop period to adjust their schedule by registering into additional courses, changing course sections, or cancelling their course registration. No final grade is assigned to courses that are dropped during this period.

Withdrawing from Courses

At the conclusion of the Add/Drop period, students can withdraw from a course(s) until the end of the Withdrawal period. A final grade of W will be assigned.

Course Load and Credits

To ensure academic progress, students are encouraged to register on a full-time basis.

Course Load – Clear Standing (Undergraduate and Graduate Programs)

Semester	Academic Standing	Credential	Type of Study	Academic Load (Credits)	
				Min	Max
Fall and Winter	Clear Standing	Diploma	Full Time	12	18
	Clear Standing	Bachelor	Full Time	12	18
	Clear Standing	Master	Full Time	9	9
Spring and Summer	Clear Standing	Diploma	Full Time	6	9
	Clear Standing	Bachelor	Full Time	6	9
	Clear Standing	Master	Full Time	6	6

- Students registered in fewer than the minimum Credits for Full Time are classified Part Time.
- Students enrolled in Undergraduate Programs and who have a Sponsor are required to register in a minimum of 12 Credits in the Fall and Winter Semesters and 6 Credits in the Spring and Summer Semesters.
- International Students enrolled in Undergraduate Programs are required to register in a minimum of 12 Credits in the Fall and Winter Semesters and 6 Credits in the Spring and Summer Semesters.
- International Students and Sponsored Students enrolled in Graduate Programs are required to register in a minimum of 9 Credits in the Fall and Winter Semesters and 6 Credits in the Spring and Summer Semesters.
- The minimum and maximum Credits listed above does not apply to Students enrolled in Work Term Courses.

Academic Advising and Regulations

Course Load – Below Clear Standing (Undergraduate and Graduate Programs)

Semester	Academic Standing	Credential	Academic Load (Credits)
			Max
Fall and Winter	Below Clear Standing	Diploma	12
		Bachelor	12
		Master	6
Spring and Summer	Below Clear Standing	Diploma	6
		Bachelor	6
		Master	3

Course Load – Foundation Program

Semester	Subject	Level of Study	Academic Load	
			Contact Hours/Week	Optional UG Credits
Fall and Winter	English	FL1110	20	0
	English	FL1120	20	0
	English	FL1130	20	0
	English/Science	FL1130 & 1 Science	23	0
	English/Mathematics	FL1130 & MA1029	26	0
	English	FL1140	20	0 – 3**
	English/Science	FL1140 & up to 2 Science Courses	20 - 26	0 – 3**
	English/Mathematics	FL1140 & MA1029	26	0
	Mathematics	MA1029	6	0 - 9*
	Mathematics/Science	MA1029 & up to 2 Science Courses	6 - 12	0 - 6*
Spring and Summer	English	FL1110	30	0
	English	FL1120	30	0
	English	FL1130	30	0
	English	FL1140	30	0
	Mathematics	MA1029	12	0 – 3*

* Dependent upon completion of UDST's English language requirement (FL1140 or Placement Test score).

** UG Math is the only optional UG course for Students who are simultaneously registered in FL1140.

- Students enrolled in the Foundation Program and registered in a minimum of 15 Contact Hours are considered Full Time.
- Students enrolled in Foundation Program and who have a Sponsor are required to register in a minimum of 12 Contact Hours.
- International Students enrolled in Foundation Program are required to register in a minimum of 15 Contact Hours.
- Foundation Program Students requiring Science may request an exception to 29 Contact Hours in the Fall/Winter Semesters only.
- Foundation Program English Courses in Spring increase to 30 Contact Hours and Students cannot register into additional Course.
- Foundation Program reserves the right to reduce the maximum Contact Hours for Foundation Program Students on Academic Probation 1 or Academic Probation 2.

Course Limit Overload

Students who wish to register for extra courses must make application to the appropriate Dean/Associate Dean/College Official.

Auditing a Course

Students may request to audit a course. Students wishing to audit a course must:

- Submit to the Admissions and Registration Directorate a completed Audit Request Form approved by the Program Head before the end of the Add/Drop period.
- A student may only register to audit a course if a seat is available.
- A student can only audit a specific course once during their UDST academic career.
- A student may only audit one course per semester.

Audited Courses will appear on the student's transcript with a grade of AU. Students may not audit Foundation Program courses.

Academic Advising and Regulations

Repeating a Course

Undergraduate Students:

Only courses with a final grade of D+ or lower can be repeated. A student may repeat a course a maximum of two times. Students who fail a course two times must obtain the approval of their academic advisor before registering the course for the third time.

Graduate (Master) Students:

Only courses with a final grade of C+ or lower can be repeated. A student may repeat a course a maximum of one time. Students who fail a course must obtain the approval of their academic advisor before registering the course for the second time.

Grades for all attempts of a course appear on the official transcript. Only the highest final grade obtained from all attempts will be used in the calculation of the cumulative GPA. Courses transferred from another accredited higher education institution cannot be repeated for additional credit.

A Student's Cumulative GPA does not change after a credential has been awarded even if a Course is later repeated under a different Program.

Independent Studies

When required courses are not available in a particular semester, a student may make an application to the Dean/ Associate Dean/Department Head to register for such courses through independent study. Access to courses through independent study may be permitted when resources are available and with the permission of the Dean/Associate Dean/ Department Head. Strategies to ensure adherence to course requirements may be documented in contract format to be signed by the student, the course instructor, and the Dean/ Associate Dean/Department Head. All applications must be processed by the end of the Add/Drop period for the semester.

Inactive Registration

Students who have not been registered in a course for a period of 12 consecutive months will have their academic status changed to discontinued and will need to contact the Admissions and Registration Directorate for re-admission.

Registering Discontinued Students

Discontinued Students are required to be re-admitted to the University before registering in Courses. Students who have not been enrolled for at least two years must re-take the English Language proficiency test in order to be considered for re-admission.

Student Responsibility

While Academic Advising is available, it is the responsibility of each student to ensure that courses in which he/she is registered are appropriate to the requirements of the student's chosen program.

Students are responsible for withdrawing from courses by published deadlines. Students who fail to do so are responsible for all outstanding fees and the resulting grade.



Program Transfer and Transfer Credit

Transferring between Programs or Plans

Programs are structured such that students can transfer to another program in their current College or can transfer to a program in a different College.

Students wishing to change their program or plan must discuss their request with their Department Head/Academic Advisor and Sponsor (for sponsored students) and if their Department Head approves, and if space exists in the desired program, the request must be submitted to the Admissions and Registration Directorate.

Approval for program transfer is dependent on the student satisfying the receiving Program's minimum requirements and capacity in the receiving program.

Internal Transfer Credit

Credits earned in other UDST programs may be used to fulfill the requirements of the receiving program. Internal transfer credit may be granted on an individual course or a block credit basis. Final grades for courses completed prior to the internal transfer and which have been accepted into the receiving program are computed into the student's cumulative GPA beginning at the point of entry to the receiving program.

Internal Transfer Credit Validity

Unless otherwise specified, credits earned at UDST are eligible for transfer consideration when completed within 5 years of transfer to the program.

Internal Transfer Credit Limits

The receiving Program may accept Credits earned at the University up to the following maximums:

- 33 Credits towards a Diploma.
- 60 Credits towards a Bachelor's degree.
- 9 Credits towards a Master's degree.

External Transfer Credit

Subject to satisfying admission requirements, students who have completed courses at another recognized higher educational institution may apply for external transfer credit.

Undergraduate students are eligible for external transfer credit consideration when:

1. The external course was completed with a final grade of C or higher; and
2. The external course must be completed at the same year-level as the equivalent UDST course; and
3. The credits of the transfer course equal or exceed the credits of the equivalent UDST course.

When external transfer credit is awarded, only the equivalent UDST course is recorded on the transcript with an Exemption from Course notation of EN.

Graduate Students are eligible for external transfer credit consideration when:

1. The external course was completed with a final grade of B or higher; and
2. The external course must be completed at the same year-level as the equivalent UDST course; and
3. The credits of the transfer course equal or exceed the credits of the equivalent UDST course.

When external transfer credit is awarded, only the equivalent UDST course is recorded on the transcript with an Exemption from Course notation of EN.

External Transfer Credit Validity

Unless otherwise specified, credits earned at another institution are eligible for transfer consideration when completed within 5 years of transfer to UDST.

External Transfer Credit Limits

The student's program may accept external transfer credit from other institutions up to the following maximums:

- 33 Credits towards a Diploma.
- 60 Credits towards a Bachelor's degree.
- 9 Credits towards a Master's degree.

Master's Thesis

Credit for a Master's thesis cannot be transferred.

Course Exemption Status

Exemption status is granted if the course has a minimum of 70% equivalency in the course material required. When exemption status is awarded, a notation of EN is made on the transcript and the GPA is not affected. The University will consider exemptions for courses if the student received a passing grade.

The University will grant credit/exemption for a course successfully completed from a recognized public post-secondary institution, International Baccalaureate (IB), or Advanced Placement (AP), or A/S or A-Level programs even if that course is not offered at the University.

Credit for Prior Learning

It is the policy of the University that students will be given every opportunity to receive credit for past learning experience through a comprehensive systematic process of evaluation referred to as Prior Learning Assessment and Recognition (PLAR). Credits awarded for PLAR will be recorded on the student transcript as an exemption.

Letter of Permission

Students in Clear Standing (not on probation) without outstanding tuition or fees at UDST may take courses as part of their program at another post-secondary institution. Contact your Academic Advisor and the Admissions and Registration Directorate for additional information.

Assessment and Final Grades

Examinations and Tests

Dates for midterm and final examinations will be set in advance. No more than two midterms and final examinations will be scheduled for a student in a given 24-hour period.

Student evaluations will be conducted on a continuous basis. The method of evaluation will be recommended in the official course description.

Instructors will not be permitted to give quizzes worth more than 10% of the total final mark in the two-week period prior to the start of semester examinations. As well, no previously unassigned work may be assigned in the last two weeks of the semester.

This regulation does not apply to:

1. Courses with no final semester examinations.
2. Laboratory examinations.
3. Self-directed and modular courses.
4. Courses with block teaching.
5. Assignments given prior to this period that are due in the two weeks prior to examinations.
6. Courses offered in Spring and/or Summer (e.g., 5- to 7-week), for which the timeframe will be one week prior to the start of examinations.

Comprehensive Challenge Examinations

Enrolled students who can demonstrate evidence of expertise are eligible to apply for a comprehensive challenge examination, which has been approved by the appropriate College. Not all courses are challenge exam eligible.

Students must request permission to take challenge exams in courses in which they are enrolled or plan to enroll. Successful completion of a challenge examination results in an exemption on the transcript. Challenge examinations may not be repeated and may not be taken for a grade replacement for previously completed courses.

Release of Grades

Final grades will be released at the end of each semester. Midterm grades will be available in the middle of each semester, with the exception of the Spring and Summer semesters.

Reassessment of Grades

Students who feel that they may not have been accurately assessed on any assignment, examination, term paper, or laboratory or shop exercise should, in the first instance, discuss the matter with the instructor teaching that course. This should be done within five business days of the receipt of the assessment. If this does not result in a satisfactory resolution, students may request that the matter be reviewed by the appropriate Department Head. If this action is taken, it must be done within two business days of the instructor's decision. If the student is not satisfied with the decision of the Department Head, the student may request a review of the grade(s) by the Dean. The request should be made within three business days of the Department Head's decision.

Change of Final Grade

Once submitted, a final grade may be changed only at the request of the Academic Member delivering the Course, with the approval of the Department Head/Foundation Program Manager. Any grade change submitted outside of the approved timeframe must be approved by the Vice-President, Academic.

Appeal of Final Grades

Students who feel that a final grade is not an accurate assessment of their course learning outcome may request an audit of the final grade by the Academic Member teaching the course in accordance with the relevant procedure.

If the discussion with the Academic Member does not result in a satisfactory resolution, the student may request that the matter be reviewed by the Department Head. If the Department Head is unable to settle the dispute to the student's satisfaction, the student may request a review of the grade(s) by the Dean for a final decision.

Re-Read of Final Examinations

Students may apply to have a final examination paper re-read. An application for re-read must be made in writing to the Admissions and Registration Directorate within one month following the release of the marks.

The mark obtained in a re-read, whether higher or lower than the original mark, stands as the official mark in the course and is used in all calculations of the student's academic record.

Deferred Exams

Students who are prevented by illness, bereavement, or other extenuating circumstance, from writing a final examination, where one is scheduled, may apply for permission to write a deferred examination.

The deferred examination is the final examination for the individual concerned. Where possible, deferred exams should be completed by the last day of exams/classes for that semester, or as soon as feasible thereafter.

A request for deferred examinations must be submitted to the appropriate Department Head as soon as possible after the date on which the regular examination was scheduled.

The request for a deferred exam will be assessed by the appropriate Department Head in consultation with faculty members. Students should note that permission to write deferred examinations is a privilege, not a right, granted solely on the basis of extenuating circumstances.

Deferred Grade Changes

Deferred grade changes are processed as soon as they are received, and the Student's Academic Standing is updated.

Delay in Final Grade Submission

In the event that Final Grades are not submitted by the deadline specified in the academic calendar, a final grade of NS (Grade Not Submitted) is posted. An NS final grade must be cleared by the end of the third week after the beginning of the subsequent semester. If an NS final grade is not cleared by this date, students will receive a failing grade for the course.

Incomplete Grades

Subject to the approval of the appropriate Department Head, an incomplete grade of IN may be assigned when the mandatory components of the course are not completed by the end of the semester. An IN final grade must be cleared by the end of the third week after the beginning of the subsequent semester. If an IN final grade is not cleared by this date, students will receive a failing grade for the course.

Where extenuating circumstances warrant, the Admissions and Registration Directorate, at the request of the academic program, may approve the extension of the deadline to clear an IN final grade.

Assessment and Final Grades

In Progress Grades

An In Progress (IP) grade is a non-factorable placeholder grade assigned for a course that extends beyond the regular semester. Students who earned an IP grade are required to re-enroll in the course in the subsequent semester; the IP grade remains on the transcript, and the final grade for the course is recorded in the final semester of registration.

Audited Course

Students who have been granted approval to audit a course are assigned a final grade of AU. An AU final grade is not included in the Student's GPA calculation.

Fail Grade for Absenteeism

Students who exceed the allowable limit for absenteeism in a Course are assigned a final grade of AF.

In extenuating and unforeseeable circumstances, students who exceed the maximum allowable limit for absenteeism can petition the Attendance Fail (AF) final grade to the Department Head / Foundation Program Coordinator at the conclusion of the semester. Careful consideration will be given to the extenuating nature of the circumstance and when the absenteeism occurred in the semester. Successful petitions will result in the student being withdrawn from the course and a final grade of a W assigned and entered on the transcript.

Exemption from Course

Students who have been granted an exemption from a course are assigned a final grade of EN. An EN final grade is not included in the student's GPA calculation.

Foundation and Undergraduate Grading Scheme

Effective the Fall 2021 semester, all Foundation and Undergraduate (Diploma and Bachelor's degree) level courses utilize the following grade scheme:

Letter Grade	Percentage	Grade Points	Description
A	90 to 100	4.00	Excellent
B+	85 to <90	3.50	Very Good
B	80 to <85	3.00	Very Good
C+	75 to <80	2.50	Good
C	70 to <75	2.00	Good
D+	65 to <70	1.50	Pass
D	60 to <65	1.00	*Pass
F	Less than 60	0.0	Fail
AF		0.0	Attendance Fail

*For the Foundation Program, the passing grade for the English Language courses is 70%.

Graduate Grading Scheme

Effective the Fall 2021 semester, all credit courses at the Graduate level utilize the following grade scheme:

Letter Grade	Percentage	Grade Points	Description
A	90 to 100	4.00	Excellent
B+	85 to <90	3.50	Very Good
B	80 to <85	3.00	Very Good
C+	75 to <80	2.50	Good
C	70 to <75	2.00	Good
F	Less than 70	0.0	Fail
AF		0.0	Attendance Fail

Non-Calculable Grades

Letter Grade	Grade Points	Description
AB	Non-factorable	Deferred Grade
AU	Non-factorable	Audited Course
EN	Non-factorable	Exemption from Course
EX	Non-factorable	Excluded from GPA
IN	Non-factorable	Incomplete
IP	Non-factorable	In Progress
NS	Non-factorable	Grade Not Submitted
P	Non-factorable	Passing Grade in a Pass/Fail Course
W	Non-factorable	Withdraw

Grade Point Average (GPA) Calculation

A grade point average (GPA) is a weighted average calculation using grade points earned and credit values of courses attempted and is used to measure a student's academic performance. A GPA can range from 0.00 to 4.00.

Grade points earned per course is determined by multiplying the credit value of each course by the grade points associated with each final grade received. Example: a final grade of B+ corresponds to 3.50 grade points.

Credits	Letter Grade	Grade Points	Total Grade Points
3	B+	3.50	3 x 3.50 = 10.50

Semester GPA is calculated by dividing the sum of all total grade points achieved in a semester by the sum of all credits attempted in that semester. Semester GPA appears on the student's transcript.

Credits	Letter Grade	Grade Points	Total Grade Points
3	B+	3.50	3 x 3.50 = 10.50
3	B	3.00	3 x 3.00 = 9.00
4	A	4.00	4 x 4.00 = 16.00
3	C+	2.50	3 x 2.50 = 7.50
13			43
Semester GPA : 43 / 13 = 3.30			

Assessment and Final Grades

Cumulative GPA is calculated by dividing the sum of all total grade points achieved in a program by the sum of all credits attempted in that program. Cumulative GPA appears on the student's transcript.

Total Grade Point	Total Credits	Cumulative GPA
130	36	3.61

A student's cumulative GPA does not change after a credential has been awarded even if a course is later repeated under a different program.

Courses that are not included in the requirements for graduation will not be included in the calculation of the GPA. When a course is repeated, the highest mark attained will be used in the calculation of the GPA.

When students complete more than the minimum number of electives, they are able in consultation with their Academic Advisor, to select which electives will be used in the calculation of the GPA by making an application at the Admissions and Registration Directorate.

Without such application, the Director, Admissions and Registration will select for calculation purposes the required number of electives.



Student Records

Transcripts

Students will, upon submission of authorized request, have the right to receive transcripts of their own academic record.

- Official transcripts may be obtained at any time from the Admissions and Registration Directorate upon proper application.
- A transcript depicts the student's complete academic record including awards, warnings, suspensions, and dismissals. Questions or concerns about an official transcript should be directed to the Director, Admissions and Registration.
- Actions of the Academic Appeals Committee are permanently recorded on student academic records and transcripts.

Transcripts or grade reports will not be released to third parties without the prior written approval of the student. In cases where students have outstanding accounts with the University, UDST will not release official transcripts or other graduation documentation.

Academic Documentation

Transcripts and graduation certificates will be withheld from a student who is in possession of UDST property such as books, equipment or supplies, or who has other obligations to the University.

Academic Status

ACADEMIC STANDING – FOUNDATION PROGRAM

Academic Standing is assessed for Students starting in their first Semester in the Foundation Program. The following Academic Standings are applied to Foundation Program Students based on their academic performance:

Clear Standing

At the conclusion of the Semester, the Academic Standing is updated to Clear Standing when Foundation Program Students have earned passing Final Grades in all Academic Preparatory Courses.

Credit courses and the resulting Cumulative GPA are excluded from the Academic Standing assessment for Foundation Program Students.

Academic Probation 1

At the conclusion of the Semester, the Academic Standing is updated to Academic Probation 1 when a Student fails an Academic Preparatory Course for the first time, regardless of the Cumulative GPA.

Academic Probation 2

At the conclusion of the Semester, the Academic Standing is updated from Academic Probation 1 to Academic Probation 2 when a Student fails an Academic Preparatory Course on the second attempt, regardless of the Cumulative GPA.

Academic Dismissal

At the conclusion of the Semester, the Academic Standing is updated from Academic Probation 2 to Academic Dismissal when a Student fails an Academic Preparatory Course on the third attempt, regardless of the Cumulative GPA.

Maximum Enrollment Duration

Students who exceed the maximum enrollment duration of 150% from the first Semester of registration in the Foundation Program are subject to Academic Dismissal. The maximum enrollment duration depends on the Student's level of placement into the Foundation Program and includes all semesters in which a Final Grade, including a W, is assigned. The maximum enrollment duration excludes semesters without registration.

ACADEMIC STANDING – UNDERGRADUATE PROGRAMS

Academic Standing is assessed for Students starting in their second Semester in their Undergraduate Program. The following Academic Standings are applied to Undergraduate Students based on academic performance:

Clear Standing

At the conclusion of the Semester, the Academic Standing is updated to Clear Standing when Undergraduate Students have earned a Cumulative GPA of at least 2.00.

Academic Probation 1

The Academic Standing is updated from Clear Standing to Academic Probation 1 for students who fail for the first time to achieve a Cumulative GPA of at least 2.00.

Academic Probation 2

The Academic Standing is updated from Academic Probation 1 to Academic Probation 2 for students who fail to achieve a Cumulative GPA of at least 2.00 at the end of the following semester of registration.

Academic Dismissal

The Academic Standing is updated from Academic Probation 2 to Academic Dismissal for students who fail to achieve a Cumulative GPA of at least 2.00 at the end of the following semester of registration.

Maximum Enrollment Duration

Students who exceed the maximum enrollment duration of their respective Program by 150% are subject to Academic Dismissal. The maximum enrollment duration is counted from the first Semester of registration in the Program and includes all semesters in which a Final Grade, including a W, is assigned. The maximum enrollment duration excludes semesters without registration.

Additional Information

Academic Standing is assessed at the end of the Fall and Winter Semesters and is noted on the Student's Transcript. With the exception of the Foundation Program, Academic Standing is not assessed for the Spring/Summer Semester.

ACADEMIC STANDING – GRADUATE PROGRAMS

Academic Standing is assessed for Students starting in their first Semester in their Graduate Program. The following Academic Standings are applied to Undergraduate Students based on academic performance:

Clear Standing

At the conclusion of the Semester, the Academic Standing is updated to Clear Standing when Graduate Students have earned a Cumulative GPA of at least 3.00.

Academic Probation

The Academic Standing is updated from Clear Standing to Academic Probation for students who fail for the first time to achieve a Cumulative GPA of at least 3.00.

Academic Dismissal

The Academic Standing is updated from Academic Probation to Academic Dismissal for students who fail to achieve a Cumulative GPA of at least 3.00 at the end of the following semester of registration.

Failing a Graduate Course

Students who achieve a failing Final Grade in a Graduate Course on the second attempt are subject to Academic Dismissal.

Maximum Enrollment Duration

Students who exceed the maximum enrollment duration of their respective Program by 150% are subject to Academic Dismissal.

The maximum enrollment duration is counted from the first Semester of registration in the Program and includes all semesters in which a Final Grade, including a W, is assigned. The maximum enrollment duration excludes semesters without registration.

Additional Information

Academic Standing is assessed at the end of the Fall and Winter Semesters and is noted on the Graduate Student's Transcript. Academic Standing is not assessed for the Spring/Summer Semester.

Academic Status

Re-Admission of Academically Dismissed Students

1. Students who are academically dismissed from the University must apply for re-admission.
2. Students who have been Academically Dismissed will not be eligible for re-admission to the same Program.
3. Academically Dismissed Students may apply for Admission to another Program in the subsequent Semester.
4. Students who have been Academically Dismissed from two Undergraduate Programs, excluding the Foundation Program, or two Graduate Programs are not eligible to return to the University.

Student Appeals

All registered students of the University have the right to appeal decisions or rulings that pertain to specific academic or conduct matters to the Student Appeals Committee. Students may initiate a Student Appeal for decisions pertaining to the following categories only:

- An Academic Dismissal pursuant to the Academic Standing Policy; or
- An Academic Dishonesty finding; or
- A Student Misconduct finding resulting from conduct that is prohibited as outlined in the Student Conduct Policy and resulting in a suspension or an expulsion.

The Student Appeals Committee will investigate the appeal to ensure that:

- No substantial procedural and/or factual error occurred in the administration of the appealed decision, and/or;
- Any new documentation or information presented is evaluated in light of the appealed decision, and/or;
- The appealed disciplinary decision is not inequitable or unduly harsh;
- In the case of Academic Dismissal, there is no reasonable expectation that the appellant can either achieve Clear Standing or can graduate if granted a one-semester extension.

In fulfilling its role, the Student Appeals Committee will ensure that the Student Appeals Policy and Procedures are fairly and consistently applied, and that the appeal decision serves the best interest of our students, the University and the community we serve.

Successful Academic Dismissal appeals result in the student being granted a one semester extension. Students wishing to appeal must complete an appeal application (available from the Admissions and Registration Directorate) with information and documentation supporting their appeal. Please consult the Academic Calendar for the deadline to submit a Student Appeal and when Student Appeals will be heard.

All requests for Student Appeal will be submitted to the Student Appeals Committee. The original decision which is being appealed remains in effect unless and until it is overturned on Appeal. Submitting a Student Appeal will not prevent the decision being appealed from being enforced. The decision of the Student Appeals Committee can be appealed to the University President.

For additional information or advice concerning appeals, please consult your counsellor or the Admissions and Registration Directorate.



Student Attendance Policy

Policy

Students are expected to attend all classes and laboratories/workshops associated with courses, and attendance will be recorded by the instructor. The maximum allowable limit for absenteeism is 15% of learning sessions per course during a semester. All absences, unless excused, compute towards the allowable limit for absenteeism. This is a University requirement and applies equally to all Colleges.

Students who are at risk of exceeding the allowable 15% limit for absenteeism must seek academic advising and take the recommended corrective action in their courses before the end of the Withdrawal Period.

Students who exceed the allowable 15% limit for absenteeism in a course will receive an Attendance Fail which is a failing grade for that course. Students who fail a course for absenteeism will not be eligible to attend the final exam in that course.

Purpose and Scope

The purpose of an attendance policy is to ensure that students attend classes on a regular basis. The University recognizes that regular attendance and participation in class is fundamental to student success. In addition, regular attendance increases student learning opportunities and prepares them for the expectations around punctuality and attendance in the workplace.

Instructors will refer students who are not meeting the attendance expectations to an Academic Advisor. Academic Advisors will address the absenteeism, will define the consequences if the behavior continues, and will explore corrective strategies to help the student be successful in the course.

Attendance and Punctuality

Students have the right to know, at the beginning of the course, the requirements regarding class attendance and punctuality in courses in which they are registered. Students are responsible for attending classes and laboratories/workshops associated with courses and exercising punctuality.

The University expects all Students and all Instructional Members to be on time for Learning Sessions. Instructional Members will record Student attendance for all Learning Sessions. Learning Sessions will commence as listed in the Official Schedule and Students arriving by the time the Learning Session commences are considered punctual.

General Guidelines

Attendance is recorded on the first day after the conclusion of the Add/Drop Period and ends on the last day of class/learning session of that course. Student attendance is recorded by instructors daily. It is recorded as:

- Present (and can include Tardy and Left Early)
- Absent
- Excused Absence
- Admin Excused

Excused Absences:

Absence from a class or learning session does not relieve students from completing any missed course requirements. The instructor, at his/her discretion, may grant students an extension for completion of course requirements if substantiating evidence is provided.

In extenuating circumstances, students may be granted an excused absence from a learning session.

For further information on what constitutes an excused absence, please [Click Here](#)

Class Learning Sessions

Students arriving after commencement of the Learning Session will be recorded as absent in the Attendance System. All absenteeism, unless excused, will be factored into the Student's attendance computation.

Instructional Members have the right to close the door to the classroom 10 minutes after the commencement of the Learning Session and may prevent the Student from entering the Learning Session. This punctuality requirement will be clearly identified on the Course Information Sheet.

Laboratory/Workshop/Clinic Learning Sessions

Students arriving after commencement of the Learning Session will be recorded as absent in the Attendance System. All absenteeism, unless excused, will be factored into the Student's attendance computation.

For safety and operational reasons, the Instructional Member may, for certain laboratory, workshop and clinic Learning Sessions, prohibit Students from entering after the Learning Session has commenced and their absence will be recorded in the Attendance System. This punctuality requirement will be clearly identified on the Course Information Sheet.

The same principle of recording attendance applies to students who leave learning sessions early.

The above mentioned applies to all University courses including those with one or more linked sections.

Students who exhibit chronic absenteeism may be referred to a Counselor by the instructor.

Placements in Clinicals, Practicums, Work Placement and Work Terms

Students, who are enrolled in a Placement as part of their Program, are responsible for ensuring that they adhere to the attendance standards set by the Placement provider.

Students exceeding the allowable limit for absenteeism in a course set by the Placement provider, where it is more stringent than the allowable 15% limit for absenteeism, will receive a failing grade for that course.

Student Attendance Policy

Absenteeism Outcome

Students exceeding the maximum allowable limit for absenteeism will receive a failing grade of AF (Attendance Fail), regardless of their performance.

Students who fail the course for absenteeism will not be eligible to attend the final exam in that course.

Appeal

Students who believe that their attendance has not been accurately recorded in the Attendance system should discuss the matter with the Instructional Member teaching that learning session. This should be done within five business days of the learning session in question.

If the discussion with the Instructional Member does not result in a satisfactory resolution, the student may request that the matter be reviewed by the Department Head. This should be done within two business days of the Instructional Member's decision. If the student is not satisfied with the decision from the Department Head, the matter may be escalated to the Dean / Manager of the Foundation Program for a final decision. Such a request should be made within three business days of the Department Head's decision.

In extenuating and unforeseeable circumstances, students who exceed the 15% maximum allowable limit for absenteeism can petition the Attendance Fail final grade to the Department Head. Careful consideration will be given to the extenuating nature of the circumstance and when the absenteeism occurred in the semester. Successful petitions will result in the student being withdrawn from the course and a final grade of W assigned. No refund will be issued.



Academic Awards

The University offers opportunities to students in many programs to receive a number of academic awards and prizes. Some academic awards have monetary value which are presented in recognition of specific academic achievements.

Full information about academic awards is available at the University's website.

Criteria for Academic Awards:

1. Unless otherwise stated, applications are not required in order to be considered for Academic Awards.
2. No monetary award will be awarded to a candidate who holds an award of equal or greater value.
3. Student must be currently enrolled in a recognized university program and have completed at least two semesters (excluding Spring/Summer) in the previous academic year as a full-time student.
4. Return graduates will only be considered if they are currently enrolled in a recognized university program and have completed at least two semesters (excluding Spring/Summer) in the previous academic year as a full time student in the same program.
5. For academic awards which selection criteria is based on weighted average, a minimum of 80% weighted average applies.
6. The weighted average will be calculated for the students based on the program requirements they were enrolled in last academic year.
7. Only the courses that the students have actually enrolled in the previous academic year will be included in their weighted average.
8. There are different eligibility criteria for each Academic Award. Full information about the eligibility criteria for each award is available at the University's website.

The awards listed in this section are subject to change. Refer to the University's website for updates on academic awards.

Recognition

Academic awards administered by the University will be recorded on the recipient's academic transcript.

AWARD	QUANTITY	CRITERIA	AWARD
Academic Excellence Award for Master Degree	1	Awarded to the student with the highest weighted average from a Master degree program at the University.	Cash award of QR20,000 (paid in two installments) and a Crystal
Academic Excellence Award for Bachelor Degree	1	Awarded to the student with the highest weighted average from a Bachelor degree program at the University.	Cash award of QR20,000 (paid in two installments) and a Crystal
Academic Excellence Award for Advanced Diploma	1	Awarded to the student with the highest weighted average from a 3 year program at the University.	Cash award of QR20,000 (paid in two installments) and a Crystal
Academic Excellence Award for Two Year Diploma	1	Awarded to the student with the highest weighted average from a 2 year program at the University.	Cash award of QR20,000 (paid in two installments) and a Crystal
Academic Merit Award	8	Awarded to the two undergraduate students with the highest weighted average from each College after the selection of the Academic Excellence Awards recipients.	Cash award of QR10,000 (paid in two installments) and a Crystal
Academic Distinction Award	24	Awarded to the top six undergraduate students with the highest weighted average from each College after selection of the Academic Excellence and Academic Merit Awards recipients.	Medal & Certificate
English Foundation Award	2	Awarded to two students from Foundation English and two students from Foundation Math as nominated by faculty for their outstanding performance in the Foundation Program.	Plaque & Certificate

Academic Awards

AWARD	QUANTITY	CRITERIA	AWARD
Industrial Trades Dean Award	5	Recipients (four awards for TCP, one per stream, and one award for TC) will be nominated by the College from each program/stream in TCP and TC programs based on their academic achievements.	Plaque & Certificate
Achievement Award	NS*	Students will be selected for this award if they: 1. Entered the University at FL1070/FL1120 or lower; 2. Achieved a minimum cumulative GPA of 3.50 ; and 3. Their projected graduation date is in the current academic year.	Recognition Certificate
Applied Research Award	1	Students will be nominated for this award based on the number of Publications; presentation of research at National and/or International events; and participation in internal or external research projects.	Crystal & Certificate
Innovation Award	1	Students will be nominated for this award based on the number of Publications; presentation of innovation at National and/or International events; and participation in internal or external research projects.	Crystal & Certificate
Dean's List	NS*	1. Student must have passed all the courses in the semester 2. Student must have a semester GPA of 4.00 (not a cumulative GPA) 3. Student must be a full-time credit student in the semester 4. If the student is a full-time credit student and is enrolled in a preparatory course in a term, the preparatory course must have a grade of at least 90% since GPA of 4.00 equates to a grade of 90%.	Notation on the transcript & Announcement on the website
President's Award for Academic Excellence	NS*	Awarded to one graduate from each program who attains the highest weighted average in their program.	Crystal, Sash, and Certificate
Member of the Graduation Class Honor Society	NS*	Graduating students will become members of Honor Society upon meeting the following criteria: 1. The student is considered a potential graduate upon the Graduation Ceremony date; 2. The student has achieved a cumulative GPA of 4.00 throughout the duration of his/her program, determined at the point of being deemed a potential graduate.	Cord

* Not Specified (NS), as there is no limited number of awardees. All students who meet the award criteria are eligible.



Graduation

Students must meet the following criteria to be eligible to graduate:

- Successfully completed all courses pertaining to their program plan
- Achieved a clear academic standing
- Achieved a minimum GPA of 2.00 for undergraduate programs and a minimum GPA of 3.00 for graduate programs
- Cleared all outstanding fees
- Met the English Proficiency Requirement for their program where applicable
- Returned all University equipment and books

Some programs require a minimum cumulative GPA of 2.00 in order for students to be eligible for a Work Term. Students are encouraged to consult with their Academic Advisor for Work Term enrollment requirements.

It is the student's responsibility to ensure that all program requirements have been met. Submission of the "Application to Graduate" form by the required deadlines ensures that the Admissions and Registration Directorate will have the opportunity to review the student's program requirements and complete an audit. Students should be aware that courses not required for their program will not be used to calculate their final Cumulative GPA.

Students may graduate after completing their program requirements. There is only one official Graduation Ceremony which is held in the Spring.

Applying to Graduate

Graduation & Conferral Dates

Students are eligible to graduate after completing all program requirements in the Fall, Winter or Spring semester. Only one official Graduation Ceremony will be held, in the Spring. All students who had degrees conferred the previous Fall or Winter, and those who are eligible to graduate in the Spring, will be listed in the official Spring Graduation Programme. Students must submit an Application to Graduate by the published deadline to be considered for graduation.

Conferral Dates and Graduation Application Deadlines:

Fall Graduation –conferred on January 15. The last day to submit an Application to Graduate to the Admissions and Registration Directorate to graduate in Fall is October 15.

Winter Graduation –conferred on the Spring Convocation date. The last day to submit an Application to Graduate to the Admissions and Registration Directorate to graduate in Winter is February 15.

Spring Graduation:

Conferred on July 15. The last day to submit an Application to Graduate to the Admissions and Registration Directorate to graduate in Spring is March 15.

Summer Graduation:

Conferred on September 15. The last day to submit an Application to Graduate to the Admissions and Registration Directorate to graduate in Summer is March 15.

There is no ceremony for the Fall conferral date, but graduates from these periods are invited to attend the Graduation Ceremony in the Spring.

Conferral Dates:

January 15 – Completion in Fall
 Spring Convocation Date - Completion in Winter July 15 –
 Completion in Spring
 September 15 – Completion in Summer

If a student is graduating from more than one program, an Application to Graduate Form must be submitted to the Admissions and Registration Directorate for each credential.

Parchment Replacement

To replace a lost parchment, a declaration from the student to verify that the parchment has been lost, stolen or destroyed is required. Replacement parchments will be produced for the Credential Conferral Date only.



Tuition and Fees

1. Effective the Fall 2022 Semester, Students are assessed the following Tuition Fees:

1.1. Foundation and Diploma Programs

Foundation and Diploma Programs (New Admits and Returning Graduates Only)

Description	Full-Time Students (Qatar Residents)	Full-Time Students (International)	Part-Time Students (Qatar Residents Only)
Tuition Fee	12,500 QAR per semester	18,750 QAR per semester	2,500 QAR per course
Materials and Supplies Fee	150 QAR per semester	150 QAR per semester	25 QAR per course
Student Services Fee	150 QAR per academic year	150 QAR per academic year	150 QAR per academic year

The above-mentioned apply to New Admits and Returning Graduates only. The following definitions apply for the purposes of tuition and fee assessment:

New Admits: A student enrolled for the first time on or after the Fall 2020 semester.

Returning Graduates: A CNAQ/UDST graduate enrolled in a new program on or after the Fall 2020 semester.

International Student: A student who is not a citizen or resident of the State of Qatar and is issued their Qatari Residence Permit under University Sponsorship.

Full-Time Students: Students who are enrolled in a minimum of fifteen (15) hours per week in Fall and Winter semesters are considered full-time students

Part-Time Students: Students who are enrolled in less than fifteen (15) hours per week are considered part-time students.

Foundation and Diploma Programs (Continuing Students Only)

Description	Non Sponsored		Sponsored	
	Full-Time Students	Part-Time Students	Full-Time Students	Part-Time Students
Tuition Fee	10,000 QAR per semester	2,000 QAR per course	15,000 QAR per semester	3,000 QAR per course
Materials and Supplies Fee	150 QAR per semester	25 QAR per course	150 QAR per semester	25 QAR per course
Student Services Fee	150 QAR per academic year	150 QAR per academic year	150 QAR per academic year	150 QAR per academic year

For the purpose of tuition assessment, the following definition applies:

Continuing Student: A student continuing from previous semesters and was enrolled for the first time prior to Fall 2020.

1.2.1. Spring and/or Summer semester tuition is waived for all Diploma Program students who were registered as Full-Time students in the Fall or Winter semesters of the same academic year.

1.3. Technician Certificate Program (TCP)

Description	Full-Time Students	Part-Time Students
Tuition Fee	12,500 QAR per semester	2,500 QAR per course
Materials and Supplies Fee	150 QAR per semester	25 QAR per course
Student Services Fee	150 QAR per academic year	150 QAR per academic year

1.4. Bachelor's Degree Programs*

Collages	Rate per Credit (Qatar Residents)	Rate per Credit (International Students)
Business Management	975 QAR	1,463 QAR
Computing and Information Technology	975 QAR	1,463 QAR
Engineering Technology	980 QAR	1,470 QAR
Health Sciences	985 QAR	1,478 QAR
Materials and Supplies Fee	150 QAR per semester	150 QAR per semester
Student Services Fee	150 QAR per academic year	150 QAR per academic year

1.5. Graduate Programs (Master's Degrees)*

Collages	Rate per Credit (Qatar Citizens and Residents)	Rate per Credit (International Students)
Business Management	2,165 QAR	2,194 QAR
Computing and Information Technology	2,165 QAR	2,194 QAR
Engineering Technology	2,176 QAR	2,205 QAR
Health Sciences	2,187 QAR	2,216 QAR
Materials and Supplies Fee	150 QAR per semester	150 QAR per semester
Student Services Fee	150 QAR per academic year	150 QAR per academic year

Tuition and Fees

*The following definition applies for the purposes of tuition and fee assessment:

International Student: A student who is not a citizen or resident of the State of Qatar and is issued their Qatari Residence Permit under University Sponsorship.

2. Effective the Spring 2022 Semester, the following per course Work Term Fees apply:

2.1.1. Work Term Fees (per course)

Colleges	Fee per Course
Business Management	5,000 QAR each course
Computing and Information Technology	5,000 QAR each course
Engineering Technology	5,000 QAR each course
Health Sciences (per the below course table)	3,000 QAR (up to 240 hours) 5,000 QAR (up to 360 hours) 7,000 QAR (up to 525 hours)

Health Sciences (per the below course table):

Course Code	Title	Credit	Clinical	Program	Course Fee
AHDH3160	Clinical Practice I	4	12 hrs/ 15 weeks	B.A.Sc. DH; Dip. DH	QAR 3500
AHDH3260	Clinical Practice II	4	12 hrs/ 15 weeks	B. A.Sc. DH; Dip. DH	QAR 3500
AHDH3360	Clinical Practice III	2	12 hrs/ 7 weeks	B.A.Sc. DH; Dip. DH	QAR 3500
AHDH4160	Clinical Practice IV	4	12 hrs/ 15 weeks	B. A.Sc. DH; Dip. DH	QAR 3500
AHDH4260	Clinical Practice V	2	6 hrs/ 15 weeks	B.A.Sc. DH; Dip. DH	QAR 2500
AHRT4100	Practicum I	9	28 hrs/ 15 weeks	B. A.Sc. RT; Dip. RT	QAR 7000
AHRT4200	Practicum II	9	28 hrs/ 15 weeks	B.A.Sc. RT; Dip. RT	QAR 7000
AHRT4300	Practicum III	4	28 hrs/ 7 weeks	B.A.Sc. RT; Dip. RT	QAR 7000
AHMR3101	Clinical Radiography I	12	35 hrs/ 16 weeks	B.A.Sc. MR	QAR 7000
AHMR3201	Clinical Radiography II	12	35 hrs/ 16 weeks	B.A.Sc. MR	QAR 7000
AHMR4101	Clinical Radiography III	12	35 hrs/ 16 weeks	B.A.Sc. MR	QAR 7000
MACC5230	Advanced Clinical Integration I	3	8 hrs/ 15 weeks	M.A.Sc. CCP	QAR 3500
MACC6210	Advanced Clinical Integration II	4	16hrs/ 15weeks	M.A.Sc. CCP	QAR 3500
MACC6300	Critical Care Paramedicine Preceptorship	6	42hrs/ 7weeks	M.A.Sc. CCP	QAR 5000
AHPA2212	Clinical Practice II	2	8 hrs/ 15 weeks	B.A.Sc. P; Dip. P	QAR 3500

Tuition and Fees

Health Sciences (per the below course table):

Course Code	Title	Credit	Clinical	Program	Course Fee
AHPA4132	Clinical Integration II ((lab and clinical 1 day/week)	3	8 hrs/ 15 weeks	B.A.Sc. P	QAR 3500
AHPA4233	Clinical Integration III (lab and clinical 1 day/week)	3	8 hrs/ 15 weeks	B.A.Sc. P	QAR 3500
AHPA3341	Practicum I	6	42 hrs/ 7 weeks	B.A.Sc. P; Dip. P	QAR 5000
AHPA4342	Practicum II	6	42 hrs/ 7 weeks	B.A.Sc. P	QAR 5000
AHPT3200	Clinical Work Term	9	35 hrs/ 12 weeks	B.A.Sc. PT	QAR 5000
AHEH3310	Environmental Health Practicum I	5	35 hrs/ 7 weeks	B.A.Sc. EH; Dip. EH	QAR 5000
AHEH4310	Environmental Health Practicum II	5	35 hrs/ 7 weeks	B.A.Sc. EH	QAR 5000
AHHS4300	Occupational Health, Safety & Environment Practicum	5	35 hrs/ 7 weeks	B.A.Sc. OHSE; Dip. OHSE	QAR 5000
MACC5300	Intensive Care Practicum	3	24hrs/ 7weeks	M.A.Sc. CCP	QAR 3500
MADC5310	Diabetes Educator Practicum	5	35 hrs/ 7 weeks	M.A.Sc. DCPE	QAR 5000

3. Tuition Fee-Exempt Students

- 3.1. Tuition exemption applies to Undergraduate and Foundation Program Students only. The Tuition Fee-Exempt Students are categorized as follows, for students applying for admission for the first time, applying for re-admission, or continuing from the previous semester:
 - 3.1.1. Qatari Students (self-sponsored): 100% Tuition Fee waiver.
 - 3.1.2. Qatari Students (sponsored by a third party): 100% Tuition Fee waiver.
 - 3.1.3. Children of Qatari mothers: 100% Tuition Fee waiver.
- 3.2. Students not falling within the categories identified in clause 3.1, and sponsored non-Qatari Students, will pay the standard Tuition Fee rate as established and approved by the Board of Trustees for all Programs.
- 3.3. The Tuition-Fee Exemption does not apply to Technician Certificate Program (TCP) and Graduate Program students.

4. Tuition Refund and Administrative Fee Schedules

- 4.1. With the exception of Tuition Fee-Exempt Students, Students who Drop or Withdraw from one or more Courses are responsible for the associated Tuition Fees subject to Schedules 1 and 2.
- 4.2. Tuition Fee-Exempt Students who Drop or Withdraw from one or more Courses, will be subject to administrative fees, as indicated in Schedules 1 and 2.
- 4.3. Students are responsible for initiating their own refunds and are required to complete the Student Revenue Refund Form. Forms are available from the Finance Department.
- 4.4. Tuition refunds will be issued by using the same method of payment used to pay tuition fees from the Finance Department, where possible. All refund amounts will be applied against outstanding accounts before any money is returned to the student.

Tuition and Fees

Schedule 1: Tuition Refund and Administrative Fee Schedule for Fall and Winter Semester:

Tuition Fee Refund	
Fee-paying Students who Drop or Withdraw from one or more Courses are eligible to receive the following tuition refund:	
Week	All programs
Week 1 (until the last day to Add Drop)	No tuition assessed during the Add/Drop period
Week 2	75% refund
Week 3	50% refund
Week 4	25% refund
Week 5 and thereafter	0% refund

Administrative Fees for Tuition-Exempt Students			
Tuition Fee-Exempt Students who Drop or Withdraw from one or more Courses are subject to the following Administrative Fee:			
Week	Foundation	Diploma	Bachelor's Degree
Week 1 (until the last day to Add/Drop)	No Administrative Fee assessed during the Add/Drop	No Administrative Fee assessed during the Add/Drop	No Administrative Fee assessed during the Add/Drop
Week 2	QR 1,000	QR 1,000	QR 250 per credit
Week 3 and thereafter	QR 2,000	QR 2,000	QR 500 per credit

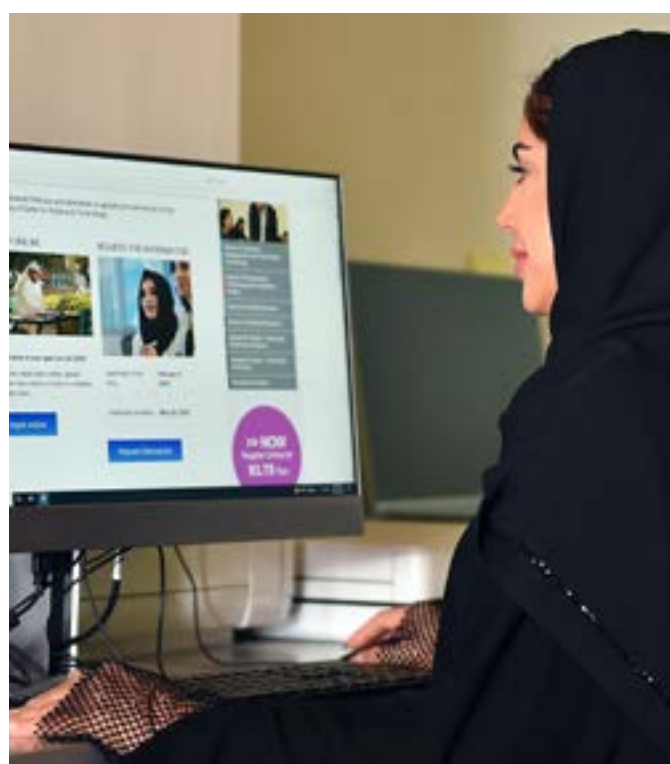
Schedule 2: Tuition Refund and Administrative Fee Schedule for Spring and/or Summer Semester:

5. Repeating a Course

5.1. All Students are charged Tuition Fees for each occurrence a course with a Final Grade is repeated. This includes the following Final Grades:

Letter Grade	Grade Points	Description
C+	2.50	Good (Applicable for Graduate Programs Only)
C	2.00	Good (Applicable for Graduate Programs Only)
D+	1.50	Pass
D	1.00	Pass
F	0.0	Fail
AF	0.0	Attendance Fail
AU	Non-factorable	Audited Course
IN	Non-factorable	Incomplete
P	Non-factorable	Passing Grade in a Pass/Fail Course
W	Non-factorable	Withdraw

- All Students, including Tuition Fee-Exempt Students, who have discontinued their enrollment are assessed a QR 2,000 re-admission fee for each occurrence of re-admission.
- In the event of a successful appeal of an Academic Dismissal for exceeding the maximum normal Program enrollment duration, all Students, with the exception of Tuition Fee-Exempt Students, are charged Tuition Fees for their remaining period of study.
- After enrollment, Qatari Students can transfer an academic program only once before being assessed Tuition Fees upon the second transfer.



Tuition and Fees

9. Payment of Fees:

- 9.1. Fees for the current semester are due no later than the end of the semester.
- 9.2. If the fees are not paid by the end of the semester, the student will be allowed to register in the following semester under the condition that they pay 80% of the outstanding fees by the end of the Add/Drop period.
- 9.3. If the student fails to do so, they will be automatically deregistered and will not be able to attend classes.
- 9.4. Should the College cancel a program, all fees will be refunded
- 9.5. Applications received from sponsors will be processed and the fees will be charged to the sponsor's account. Similarly, sponsored students do not pay tuition fees at the time of registration. The College verifies sponsorship at the time of registration and collects the tuition fee from the sponsor
- 9.6. Receipts are issued for all financial transactions with the College. Students should ensure that they obtain and save these receipts for use in resolving financial conflicts. In the absence of such documentation, the College financial records will provide the basis for decisions.

9.7. Textbooks:

- 9.7.1. Students are responsible for obtaining all required textbooks and/or reference material for each course in their program. Textbooks can be purchased from the UDST Bookstore.
- 9.7.2. Costs for textbooks vary per course. Please note sponsored students do not need to pay for their books.
- 9.8. Textbooks Refunds: Refunds will be given for returned textbooks under the following conditions:
 - 9.8.1. Books are returned within three weeks after the first day of classes
 - 9.8.2. Books are unmarked and in saleable condition
 - 9.8.3. Original receipts are presented when the refund is requested



Tuition and Fees

Administrative Fee Structure - Effective Fall 2022 Student Services

Service	Description	Administrative Fee
Admission application fee	Per Application	300QR (including Placement Test)
Retaking Placement Test		200QR
Print of official Transcript		30QR *
Student Card	First card	0QR
Student Card	Replacement card	100QR
Student Locker	Locker	105QR
Student Locker	Lost Locker Key	15QR
Gym membership		0QR
Swimming pool entry		0QR
Housing	Undergraduate	2750QR per month
Housing	Graduate	2750QR per month
Photocopy	Description	Administrative Fee
Binding 1-49	Unit	2QR
Binding 50-199	Unit	3QR
Binding 200-500	Unit	5QR
Copy A4 B&W 1 Side	Page	0.10QR
Copy A4 B&W 2 Sides	Page	0.15QR
Copy A3 B&W 1 Side	Page	0.30QR
Copy A3 B&W 2 Sides	Page	0.45QR
Copy A4 Color 1 Side	Page	1.00QR
Copy A4 Color 2 Sides	Page	1.50QR
Copy A3 Color 1 Side	Page	1.20QR
Copy A3 Color 2 Sides	Page	2.00QR
A4 Lamination	Unit	1.50QR
A3 Lamination	Unit	3.00QR
Print A4 B&W 1 Side	Page	0.10QR
Print A4 B&W 2 Sides	Page	0.15QR
Print A3 B&W 1 Side	Page	0.30QR
Print A3 B&W 2 Sides	Page	0.45QR
Print A4 Color 1 Side	Page	1.00QR
Print A4 Color 2 Sides	Page	1.50QR
Print A3 Color 1 Side	Page	1.50QR
Print A3 Color 2 Sides	Page	2.00QR
Scanning Charge	Page	0.10QR

**CPE**

التعليم المستمر والمهني

**Continuing & Professional
Education**

Relevant, Value-Added, Innovative Training and Development Solutions

The Continuing and Professional Education (CPE) Directorate at UDST provides affordable and accessible professional education, training and certification, contributing to the socio-economic development of Qatar with an aim to become the center of choice in the State for continuing and professional education, training and certification.

The goal of the Directorate is to provide:

Training Excellence
Strategic Growth
Center of Excellence
Effective Workforce
Community Engagement

In addition to UDST's core Values, CPE believes in:

Client-Centricity
Professionalism
Market Driven
Adaptability
Return on Investment

Recently, the CPE Directorate engaged in partnership agreements with a number of internationally-recognized training providers such as Petroskills to provide technical training in the field of Oil & Gas; Management Center Europe to provide the AMA Certified Professional in Management prep course; and Bradfield Learning & Development to provide CIPD qualifications to HR practitioners in Qatar.

In addition to the above, our team of experts at UDST are available to provide customized, off-the-shelf, face-to-face, and blended learning solutions that meet our clients' unique needs.

A snapshot of our technical and professional development solutions includes:

Engineering

- Basic Instrumentation
- Centrifugal Compressors
- Centrifugal Pump Maintenance
- Control Valves and Actuators
- Control Valves and Positioners
- Coupling and Shaft Alignment Techniques
- Direct Current (DC) Motor Maintenance
- Distributed Control System Fundamentals (Process)

- Environmental Awareness
- Fundamentals of Oil & Gas
- Petroskills Oil & Gas courses
- Heat Exchanger Overhaul and Testing Techniques
- Instrumentation & Distributed Control System Fundamentals
- Pressure Relief Safety Valves
- Programmable Logic Controllers
- Pumps - Positive Displacement
- Renewable Energy
- Three Phase Induction Motor Maintenance

Business and Management

- Anti-Money Laundering
- Budgeting and Cost Control
- Effective Time Management
- Emotional Intelligence
- Executive Assistant Professional Training
- Finance for Non-Finance Managers
- Flexible Thinking
- Goal Setting
- HR Functions
- HR Planning
- Introduction to Business Planning
- Introduction to Marketing
- Introduction to Strategic Management
- PowerPoints that Persuade
- Practical Policy Development
- Problem Solving
- Professional Netiquette
- Recruitment and Selection
- Teamwork and Collaboration
- Visuals for High Impact

Information Technology

- Advanced MS Excel
- Gathering and Documenting User Requirements
- MS Web Expression 4.0
- IT Project Management
- IT Security in Oil & Gas
- IT Security in Sports Management



Health Sciences

- American Heart Association (AHA) programs
- Fundamentals of Diabetes Education
- Health and Wellness
- Infection Control
- Medical Terminology
- Mental Health
- Occupational Health & Safety
- Pain Management
- Research for Medical Practitioners
- Stress Management

Language Skills

- IELTS Preparation
- General and Business English
- General French
- General German
- General Japanese
- General Turkish

Professional Courses

- AMA CPM Preparation Course
- American Heart Association (AHA) Advanced Cardiovascular Life Support (ACLS)
- American Heart Association (AHA) Basic Life Support (BLS)
- American Heart Association (AHA) Heartsaver First Aid CPR AED
- American Heart Association (AHA) Pediatric Advanced Life Support (PALS)
- CIPD Advanced Diploma in Strategic Learning & Development (DSLDD) - Level 7
- CIPD Advanced Diploma in Strategic People Management (DSPM) - Level 7
- CIPD Associate Diploma in Organisational Learning & Development (DOL) - Level 5
- CIPD Associate Diploma in People Management (DPM) - Level 5
- CIPD Certificate in People Practice (CPP) - Level 3
- NEBOSH International General Certificate
- Gas Conditioning and Processing- G4
- Relief and Flare Systems – PF44
- Integration of Rocks, Log and Test Data - ILC
- Piping Systems – Mechanical Design and Specification – ME41
- Well Design and Engineering – WDE
- Fundamentals of Pump and Compressor Systems – ME44

- Carbonate Reservoirs – PCR
- Coring and Core Analysis (CCA)
- Reservoir Management – RM
- Gas Conditioning and Processing –LNG Emphasis – G4LNG
- Process Safety Engineering – PS4
- Well Test Design and Analysis- WTA

For your specific training and development solution contact us at:

Phone: +974 4495 2111
WhatsApp: +974 3304 2840
Email: cpe@udst.edu.qa

or visit

www.udst.com/cpe





The Office of the Associate Vice President, Student Affairs at UDST advances the mission and vision of the University through its leadership of four essential departments that support the delivery of academic programs while promoting student success and ensuring enrichment and engagement for all.

Admissions and Registration, Student Life, Health and Wellness, Student Success, and Library Services Directorate each play a special role to ensure the UDST student experience is enhanced and enriched to maximize personal growth and professional development. Academic supports, special interest clubs, sports and wellness programs, campus life activities, and international education opportunities all contribute to the engagement of students in academic, co-curricular, and extra-curricular pursuits.

See special sections in this calendar for full information about Admissions and Registration and Student Life, Health and Wellness, and Student Success. The following pages provide details about Library and Learning Commons services.

The following people in these departments can assist you:

Library Manager	4495-2167
Library Information Desk	4495-2051
Learning Commons Information Desk	4495-2049

Library

The Library is managed by professional staff and provides research and supplementary resources for all programs taught at the University. The collection includes a comprehensive selection of online and print books, international and local newspapers, magazines, academic journals, and specialized online databases. Individual and group study rooms with flat screen monitors, and student computers are available. The Library provides general and specialized tours, workshops, and one-on-one sessions for staff, faculty and students. Staff, faculty and students can chat online with our staff to receive help as well as book appointments with librarians for information searching assistance. Located in Building 14.

Learning Commons

The Learning Commons supports student learning objectives and achievements across the curriculum in an integrated, collaborative environment. The Learning Commons provides open and closed group study space, student computers, and a small reading library collection. Visit the Digital Media Centre in the Learning Commons to spark your creativity. Services in the Learning Commons include help in the areas of communication skills, and IELTS preparation. Career services is now located with counselling. Located in Building 3.

Career Services

Career Services aims to be an innovative service of UDST, that assists with career development of its students, to support the workforce plans for the State of Qatar. Services offered, include but are not limited - to career counselling, career readiness workshops, resume building, simulated job interviews, student employment, work term.

Learner Services

Innovation Space and Digital Media Centre

The Innovation Space and Digital Media Centre provides a space for students to work on video, audio, and photo projects with specialized software, cameras, green screen, and other digital equipment. Located in the Learning Commons, Building 3.

Advanced Writing Centre

The Advanced Writing Centre assists all program students at UDST with any of their writing needs. Make an appointment or drop in. Located in the Learning Commons, Building 3.

English Success Zone

The English Success Zone assists students with their English language needs. Make an appointment or drop in. Group and individual sessions are available. Located in 5.1.01.

Accounting Help Centre

The Accounting Help Centre provides support to business students who need assistance with Accounting, Finance and Economics. The Centre is staffed by faculty, teaching assistants and student tutors from 9:00 – 3:00 Sunday to Thursday. Located in Building 12, Room 218.

Math and Science Help Centre

The Math and Science Help Centre provides additional help or study space for individual students, as well as group learning, in Mathematics, Biology, Chemistry, Physics and Science. All students are welcome to drop in, no appointment necessary. Located in Building 5, Room 5.1.62.

Bookstore

Textbooks and stationeries are available for purchase at the UDST Bookstore from 8:00a.m-2:30p.m, Sunday-Thursday. Located in Building 16. Bookstore should be visited after consultation with your instructor regarding the books required for the courses.

Prayer Room Location

Prayer rooms are available to students and visitors throughout the University.







Foundation Program (FP)



About

The UDST Foundation Program is recognized for excellence in delivering high quality, technologically enhanced, preparatory programs and courses to enable students to be successful in the College's discipline programs.

Foundation Program courses support student success in educational programs that meet international certification requirements. These courses are designed to provide secondary school graduates with English language, mathematics, and/or science skills required to succeed in their discipline program of choice.

Foundation Program courses instill in learners the fundamental knowledge, skills, and attitudes necessary to prepare them for success in University discipline programs. The core goals of the Foundation Studies Program are to:

Goal 01. Provide academic bridging for students who do not meet entrance requirements (Academic bridging is based on student need and University program requirements)

Goal 02. Provide English language proficiency training for students destined for University programs

Goal 03. Provide preparatory mathematics and science courses for students destined for University programs

In addition, the English language programs offered by the Foundation Program are accredited by the Commission on English Language Program Accreditation (CEA).

<https://www.cea-accredit.org>

Foundation Program (FP)



Program Description:

The Foundation Program is a maximum four-semester program designed to help students meet the entrance requirements for their discipline program of choice by offering preparatory English, Mathematics, and Science courses.

Students enroll in the required preparatory English, Mathematics and Science courses according to their UDST placement test scores and their planned program of study. Depending on their level at entry, students may complete the Foundation Program in as little as one semester.

Students may also be eligible to enroll in discipline program-related credit-bearing courses in the final semester of their Foundation Program pending course availability and overall number of contact hours.

Program International Accreditation:

The Foundation English Language Program at UDST is accredited by the Commission on English Language Program Accreditation (CEA), for the period August 2016 through August 2026, and UDST agrees to uphold the CEA Standards for English Language Programs and Institutions. CEA is a rigorous credential, recognized by the U.S. Secretary of Education as a nationally recognized accrediting agency for English language programs and institutions in the U.S.

For further information about this accreditation, please contact CEA, 1001 North Fairfax Street, Suite 630, Alexandria, VA 22314, (703) 665-3400, www.cea-accredit.org.



Program Duration:

One to Four Semesters

Program Objectives:

Dependent on individual student need, during their Foundation Program (FP) students may be required to complete one or more of the following:

- PO01. Listen and respond to listening tasks up to seven minutes long about targeted academic topics
- PO02. Read and respond to texts about targeted academic topics up to 750 words
- PO03. Give a seven-minute presentation on a targeted academic topic
- PO04. Write targeted academic essays of up to 300 words
- PO05. Solve, analyze and apply linear equations
- PO06. Use graphing techniques, data management analysis, and algebraic manipulations
- PO07. Discuss the fundamental principles of Biology
- PO08. Discuss fundamental concepts of Chemistry and perform basic chemical calculations

Foundation Program (FP)

Admission Requirements:

Admissions to the Foundation Program is based on an applicant's future College program. As such applicants must meet the basic program requirements for admissions for entry to the Foundation Program.

Admission to the Foundation Program is competitive and applicants should strive to complete both the University English and Math Placement Tests to the best of their ability.

Program Study Plan:

The following sample study plan is for a full 4-semester Foundation Program, including preparatory mathematics and science courses. Students who test at a higher level may be exempt from some of the courses, thereby shortening the length of their individualized Foundation Program study plan.

COURSE NUMBER	COURSE TITLE	REQUISITE		CR	HOURS/WEEK	
		Pre-Req	Co-Req		LEC	LAB
SEMESTER 1 (15 WEEKS)						
FL1110	Academic English I	-	-	0	150	60
SEMESTER 2 (15 WEEKS)						
FL1120	Academic English II	FL1110	-	0	150	60
SEMESTER 3 (15 WEEKS)						
FL1130	Academic English III	FL1120	-	0	150	60
MA1029	Preparatory Mathematics	-	FL1130	0	90	0
CH1012	Preparatory Chemistry	FL1120	FL1130/ MA1029	0	45	0
SEMESTER 4 (15 WEEKS)						
FL1140	Academic English IV	FL1130	-	0	150	60
BL1012	Preparatory Biology	FL1130	FL1140	0	45	0
Various	Selected Credit Courses					

English Courses:

Dependent on test scores, students requiring preparatory English courses may enroll in the following English language courses:

COURSE NUMBER	COURSE TITLE	CEFR DESCRIPTOR	*CEFR RANGE	*OOPT RANGE
FL1140	Academic English V	Independent User – Threshold Plus	B1 – B1.2	57 - 64
FL1130	Academic English III	Independent User - Threshold	B1.1 – B1	49 - 56
FL1120	Academic English II	Basic User – Waystage Plus	A2 – A2.1	39 - 48
FL1110	Academic English I	Basic User – Waystage	A1.1 -A2	25- 38

Future Pathways:

Upon successful completion of their Foundation Program courses students are eligible to enroll in UDST discipline programs.

Program Webpage:

[Click Here](#)



College of General Education (CGE)



Introduction:

The College of General Education fulfils a very important role in the academic journey of all students at the University: it is the home of their first-year experience, irrespective of their chosen program of study. The courses students take with our College form an integral part of their academic program and are referred to as a General Education Requirement. The purpose of this requirement is to introduce all University students to a wide range of subjects which form the basis of theoretical and applied knowledge acquisition in Mathematics, the Natural Sciences, English language Communication, Social Sciences and the Humanities.

Students will develop essential study skills through courses in experiential or effective learning, learn about research and quantitative analysis, have the opportunity to select specific courses focusing on global awareness and regional challenges, and practice their critical thinking and problem-solving skills in a supportive group environment.

Our faculty come from many parts of the world, each bringing valuable expertise in their scientific domain, as well as passionate dedication to student development and success.

Course Introduction:

The College of General Education (CGE) provides a range of introductory General Education courses grouped into six thematic clusters: English Communication; Experiential Learning; Global Awareness and Regional Challenges; Mathematics and Natural Sciences; Research Methods and Quantitative Analysis; and Social Sciences, Humanities and the Arts.; and. Dependent on each student's discipline program requirements, they are required to take a specific number of General Education courses.

General Education courses introduce students to mathematics and quantitative analysis, the natural sciences, research methods and analysis, as well as the interdisciplinary nature of modern science and its applications. With a focus on the first-year experience of university education, General Education courses assist students to acquire essential experiential learning skills along with a firm grounding in written and oral English communication, emphasizing critical thinking and problem-solving skills. Selected courses in the sciences, social sciences, humanities and the arts will provide students with the opportunity to become more aware of global and regional challenges and to explore the wider social implications of an increasingly diverse and interconnected world while developing the principles of personal and social responsibility necessary for thriving and advancing their intellectual and practical skills.



College of General Education (CGE)

General Education Cluster Courses:

A sample of course offerings under each cluster include:

English Communication (ELCO) Course Cluster

COURSE NUMBER	COURSE TITLE
COMM1010	English Communication I
COMM1020	English Communication II

Experiential Learning (EFEL) Course Cluster

COURSE NUMBER	COURSE TITLE
EFFL1001	Effective Learning
EFFL1002	Applied & Experiential Learning

Global Awareness and Regional Challenges (GARC) Course Cluster

COURSE NUMBER	COURSE TITLE
AECH2103	Leadership & Management Principles
AECH2112	Sustainability & Renewable Energy
ECON1001	Global Economic Concepts
GARC1001	Qatar History & Society
GARC2001	Human Development in Qatar

Mathematics and Natural Sciences (MANS) Course Cluster

COURSE NUMBER	COURSE TITLE
BIOL1010	Introduction to Biology
BIOL1011	Introduction to Biology (Lab)
BIOL1030	Biochemistry & Microbiology
BIOL1031	Biochemistry & Microbiology (Lab)
BIOL1001	Inquiry-Based Biology
BIOL1002	Introduction to Botany
BIOL1003	Fundamentals of Ecology
BIOL1004	Introduction to Geology
BIOL1110	Anatomy & Physiology I
BIOL1210	Anatomy & Physiology II
BIOL2010	Microbiology
BIOL2011	Microbiology (Lab)
CHEM1010	General Chemistry I
CHEM1011	General Chemistry I (Lab)
CHEM1020	General Chemistry II
CHEM1021	General Chemistry II (Lab)
CHEM1030	Health Sciences Chemistry

CHEM1031	Health Sciences Chemistry (Lab)
CHEM1040	Applied Science
CHEM1041	Applied Science (Lab)
CHEM3010	Petrochemistry
CHEM3011	Petrochemistry (Lab)
COMP1401	Introduction to Computers & Information Systems
MATH1010	Algebra & Trigonometry
MATH1020	Pre-Calculus
MATH1030	Calculus I
MATH1040	Statistics
MATH1050	Linear Algebra
MATH1060	Numerical Problem Solving
MATH1070	Applied Mathematics
MATH2010	Calculus II
PHYS1020	General Physics
PHYS1021	General Physics (Lab)
PHYS1030	Health Sciences Physics
PHYS1031	Health Sciences Physics (Lab)
SCIE1001	Science & its Applications
SCIE1002	Science & the Environment

Research Methods and Quantitative Analysis (RMQA) Course Cluster

COURSE NUMBER	COURSE TITLE
COMM3010	Research & Reporting
RSST3001	Research & Statistics
RSST3002	Probability and Statistical Analysis

College of General Education (CGE)

Social Sciences, Humanities and the Arts (SSHA)

Course Cluster

COURSE NUMBER	COURSE TITLE
AECH1100	Environmental Awareness & Ethics
AHHG2080	Ethics in Healthcare
BUSG2001	Introduction to Entrepreneurship
BUSG2002	Project Management
SSHA1001	Islamic & Arab Civilization
SSHA1002	Introduction to Sociology
SSHA1003	Introductory Psychology
SSHA1004	Ethical Reasoning
SSHA1006	Introduction to the Arts

General Education (GE) Webpage:

<https://www.udst.edu.qa/academic/college-general-education>





College of Business Management (CBM)



The College of Business Management (CBM) is a leading business school in the region, offering Diploma, Bachelor Degree and Master's programs across five (5) areas: Accounting and Finance, Banking and Financial Technology, Healthcare Management, Human Resource Management, and Digital Marketing. Each business program is aligned with relevant professional associations and is developed in close collaboration with senior business managers. Programs are designed to assure that the knowledge, skills, and competencies are developed in alignment with industry and State needs with and trending global business developments.

CBM faculty draw on a range of direct industry and research experience in the development and delivery of their classes. Courses are taught in an applied experiential manner that fully engage students in their learning. All Undergraduate programs also include a required Work Placement, providing students with hands-on, in-field, work experience. To enhance the applied nature of our programs, the College operates an in-house trading room and financial lab workspace in cooperation with LSEG Refinitiv, with a live feed from the Qatar Stock Exchange. This on-site Financial Centre is designed to promote an understanding of how the local economy is interconnected with the global economy and provides an opportunity for students to interact with emerging financial technologies.

In addition to foundational business knowledge, CBM programs also develop students' innovation and entrepreneurial skills, providing them with the competencies to initiate and run their own enterprises. To further support entrepreneurship, UDST students can access the Business Gateway hub, which provides resources to support individuals engaging in new business ventures.

CBM graduates are highly employable, having developed the key skills and competencies desired by employers across business fields.

We look forward to welcoming you to our College and the start of your career in business.



Diploma Programs



Diploma in Accounting (Dip. Acc)

Program Description:

The Diploma in Accounting (Dip. Acc) is a two year program that prepares graduates with the knowledge, skills, and competencies to start a career as a professional accountant. In the Dip. Acc program students are introduced to accounting practices, accounting technologies, fundamental business concepts, and soft skills. Students engage in hands-on experiential learning through applied activities and the use of accounting technologies.

Program Duration:

Two years

Accreditation:

The Diploma in Accounting (Dip. Acc) is accredited through the Accreditation Council for Business Schools and Programs (ACBSP), a leading specialized accreditation association for business education.

For more information on UDST's ACBSP accreditation, please visit www.acbsp.org.



Admission Requirements:

High School or Academic Requirement:

1. High school graduation certificate or equivalent approved by the Ministry of Education and Higher Education with a minimum average of 60%.

English Language Requirement:

1. The required score on the University English Placement Test or a passing score from another approved internationally recognized English language test, as validated by the Admissions & Registration Department; OR
2. A valid (within two years) IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, and listening) below 5.0; OR
3. Successful completion of Foundation Program requirements.

Mathematics Requirement:

1. A minimum of 60% on the University Math Placement Test; OR
2. A valid SAT Report Form with a minimum score of 480; OR
3. Successful completion of Foundation Program requirements.

Additional Admission Criteria:

1. Admission is competitive. Eligible applicants are ranked based on their overall final year (Grade 12 or equivalent) high school percentage, placement tests rankings, and admission priority category.

Diploma in Accounting (Dip. Acc)

Program Educational Objectives:

Program Educational Objectives (PEOs) describe the knowledge, skills, and competencies a graduate can demonstrate within 2-3 years of graduation.

Within a few years of graduation from the Diploma in Accounting (Dip. Acc) program, graduates will be able to:

- PEO01. Possess knowledge and skills in applied accounting, and practice general business analytical skills to prepare financial and managerial reports
- PEO02. Meet requirements for a professional accounting body
- PEO03. Effectively operate in the common business domains such as finance, management, and marketing
- PEO04. Possess the personal and cognitive skills required to be effective in business including effective communication, efficient teamwork, entrepreneurship, and other soft skills such as time management, supervision and leadership management
- PEO05. Demonstrate ethics in business and responsibility to their society and profession

Student Learning Outcomes:

Student Learning Outcomes (SLOs) describe the knowledge, skills and competencies a graduate can demonstrate immediately upon graduation.

Upon successful completion of the Diploma in Accounting (Dip. Acc) program, graduates will be prepared to:

- SLO001. Explain accounting concepts and techniques used in business environments
- SLO002. Demonstrate skill in preparing financial statements according to international standards by using financial information, accounting tools and techniques
- SLO003. Develop preliminary budgets and business plans using accounting principles, concepts, tools and techniques
- SLO004. Identify major trends in accounting that impact business operations
- SLO005. Develop as an accounting professional in the areas of communication, team building, creativity, and ethical/legal functioning.



Diploma in Accounting (Dip. Acc)

Study Plan: Year 1

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 1	ACCT1001	Financial Accounting	-	-	3	2	3
	COMM1010	English Communication I	-	-	3	3	0
	EFFL1001	Effective Learning	-	-	3	3	0
	MATH1070	Applied Mathematics	-	-	3	3	0
	Semester 1 Total:				12	11	3
SEMESTER 2	BKFT1001	Principles of Finance	-	-	3	2	3
	COMM1020	English Communication II	COMM1010	-	3	3	0
	MRKT1001	Principles of Marketing	-	-	3	2	3
	Elective	Mathematics and Natural Science Cluster	-	-	3	3	0
	Semester 2 Total:				12	10	6
SEMESTER 3	HRMG1001	Principles of Human Resource Management	-	-	3	2	3
	Semester 3 Total:				3	2	3
	Year 1 Total:				27	23	12

Year 2

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK			
			Pre-Req	Co-Req	CR	LEC	LAB	
SEMESTER 4	ACCT2001	Managerial Accounting	ACCT1001	-	3	2	3	
	ACCT2003	Intermediate Financial Accounting I	ACCT1001	-	3	2	3	
	ACCT2010	Quantitative Methods for Decision Making	-	-	3	2	3	
	BUSG2010	Qatar Business Law	-	-	3	2	3	
	ECON2010	Business Economics	-	-	3	2	3	
	Semester 4 Total:					15	10	15
SEMESTER 5	ACCT2005	Intermediate Financial Accounting II	ACCT2003	-	3	2	3	
	ACCT3001	Advanced Costing & Managerial Accounting	ACCT2001	-	3	2	3	
	ACCT3005	Accounting Information Systems	ACCT2003	-	3	2	3	
	ACCT3007	Financial Reporting & Analysis	ACCT2003	-	3	2	3	
	ACCT3009	Financial Modelling	ACCT2003	-	3	2	3	
	Semester 5 Total:					15	10	15
SEMESTER 6	BUSG2301	Work Placement	Min 54 Credits	-	9	360 Total HRs		
	Semester 6 Total:					9	0	0
	Year 2 Total:					39	20	30
	Dip. Acc Program Total:					66	43	42

Diploma in Accounting (Dip. Acc)

Graduate Future Pathways:

Graduates of the Diploma in Accounting (Dip. Acc) may choose to continue their studies and complete the Bachelor of Applied Accounting (B.B.A. AAcc), or Bachelor of Business Administration in Banking and Fintech (B.B.A. BkFinTech) degree program.

Graduate Career Opportunities:

The Diploma in Accounting (Dip. Acc) is an applied program with learning outcomes closely linked to the labor market. A wide range of career opportunities in the field currently exist and include, but are not limited to, the following:

- Payroll Officer
- Assistant Comptroller
- Junior Auditor
- Credit Analyst
- Taxation Officer
- Financial Officer

Program Webpage:

[Click Here](#)



Diploma in Healthcare Management (Dip. HCM)



Program Description:

The Diploma in Healthcare Management (Dip. HCM) is a two year program that prepares graduates with the knowledge, skills and competencies needed for an entry level position in the field of Healthcare Management (HCM). After completing the Dip. HCM program, graduates will possess a practical and theoretical overview of the functions of managing business activities in a healthcare setting. Students engage in hands-on experiential learning through applied assignments and a required HM work placement.

Program Duration:

Two years

Admission Requirements:

High School or Academic Requirement:

1. High school graduation certificate or equivalent approved by the Ministry of Education and Higher Education with a minimum average of 60%.

English Language Requirement:

2. The required score on the University English Placement Test or a passing score from another approved internationally recognized English language test, as validated by the Admissions & Registration Department; OR
3. A valid (within two years) IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, and listening) below 5.0; OR
4. Successful completion of Foundation Program requirements.

Mathematics Requirement:

5. A minimum of 60% on the University Math Placement Test; OR
6. A valid SAT Report Form with minimum score of 480; OR
7. Successful completion of Foundation Program requirements.

Additional Admission Criteria:

1. Admission is competitive. Eligible applicants are ranked based on their overall final year (Grade 12 or equivalent) high school percentage, placement tests rankings, and admission priority category.

Diploma in Healthcare Management (Dip. HCM)

Program Educational Objectives:

Program Educational Objectives (PEOs) describe the knowledge, skills, and competencies a graduate can demonstrate within 2-3 years of graduation.

Within a few years of graduation from the Bachelor of Diploma in Healthcare Management (Dip. HCM) program, graduates will be able to:

- PEO01. Analyze operational performance of healthcare entities within a healthcare delivery system
- PEO02. Apply knowledge and skills focused on the specific occupation of healthcare administration
- PEO03. Use analytical skills in effective decision-making and generating solutions to problems in healthcare settings
- PEO04. Function effectively in the business-related domains of a healthcare entity such as: managing its finances, managing and protecting healthcare data, marketing its services, and risk management
- PEO05. Make use of personal and cognitive skills to be effective in the administration of healthcare systems including communication, teamwork, and other soft skills such as: time management and employee relations
- PEO06. Apply ethical principles in the conduct of a healthcare entity's business and demonstrate responsibility to society and to the profession

Student Learning Outcomes:

Student Learning Outcomes (SLOs) describe the knowledge, skills and competencies a graduate can demonstrate immediately upon graduation.

Upon successful completion of the Healthcare Management (Dip. HCM) program, graduates will be prepared to:

- SLO01. Compare the practical aspects of different business functions related to a healthcare entity in Qatar
- SLO02. Apply knowledge of different business skills, tools, and technologies to the healthcare entity, including: financial management, business ethics, laws and policies, employee relations, management of healthcare data, performance management, and information systems
- SLO03. Analyze best practices in healthcare contexts for effective and efficient solutions to business challenges
- SLO04. Influence decision-making using a variety of communication formats in culturally diverse healthcare systems
- SLO05. Apply ethical principles to different situations within the domain of healthcare administration

Study Plan:

Year 1

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 1	COMM1010	English Communication I	-	-	3	3	0
	MATH1070	Applied Mathematics	-	-	3	3	0
	HRMG1001	Principles of Human Resource Management	-	-	3	2	3
	Effective & Experiential Learning Elective: Select 1 of 2						
	EFFL1001	Effective Learning	-	-	3	3	0
	EFFL1002	Applied & Experiential Learning	-	-	3	3	0
	Semester 1 Total:					12	11
SEMESTER 2	COMM1020	English Communication II	COMM1010	-	3	3	0
	ACCT1001	Financial Accounting	-	-	3	2	3
	MRKT1001	Principles of Marketing	-	-	3	2	3
	HCMT1001	Intro to Healthcare Organizations & Operations	-	-	3	2	3
	Semester 2 Total:					12	9
SEMESTER 3	BKFT1001	Principles of Finance	-	-	3	2	3
	HCMT2001	Hospital Functions & Management	HCMT1001	-	3	2	2
	Semester 3 Total:					6	4
Year 1 Total:					30	24	17

Diploma in Healthcare Management (Dip. HCM)

Year 2

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 4	BUSG2010	Qatar Business Law	-	-	3	2	3
	BUSG2002	Project Management	-	-	3	3	0
	HRMG2020	Employee Relations	-	-	3	2	3
	HCMT3001	Health Social & Public Policy	HCMT2001	-	3	2	2
	HCMT3002	Healthcare Data Protection & Management	HCMT2001	-	3	2	2
	Semester 4 Total:				15	11	9
SEMESTER 5	HCMT3003	Patient Management & Service Excellence	HCMT2001	-	3	2	2
	HCMT3004	Health Economics	HCMT2001	-	3	2	2
	HCMT3005	Healthcare Informatics	HCMT2001	-	3	2	2
	HCMT3006	Risk Management in Healthcare Settings	HCMT3002	-	3	2	2
	Semester 5 Total:				12	8	9
SEMESTER 6	BUSG2301	Work Placement	Min 54 Credits	-	9	360 Total HRs	3
	Semester 6 Total:				9	0	0
	Year 2 Total:				36	19	18
	Dip. HCM Program Total:				66	43	35

Graduate Future Pathways:

Graduates of the Diploma in Healthcare Management (Dip. HCM) may choose to continue their studies and complete the Bachelor of Science in Healthcare Management (B.Sc. HCM) degree program.

Career Opportunities:

The Diploma in Healthcare Management (Dip. HCM) is an applied program with learning outcomes closely linked to the labor market. A wide range of career opportunities in the field currently exist and include, but are not limited to, the following:

- Healthcare services assistant
- Healthcare Office Administrator
- Medical Records Assistant
- Outpatient care coordinator
- Public Health Assistant
- Customer Care Representative

Program Webpage:

[Click Here](#)

Diploma in Human Resource Management (Dip. HRM)



Program Description:

The Diploma in Human Resource Management (Dip. HRM) is a two year program that prepares graduates with the knowledge, skills and competencies needed for an entry level position in the field of Human Resource Management. After completing the Dip. HRM program, graduates will possess a practical and theoretical overview of human resources functions, and its critical role in organizations. Students engage in hands-on experiential learning through applied assignments and a required HRM work placement.

Program Duration:

Two years

Accreditation:

The Diploma in Human Resource Management (Dip. HRM) is accredited through the Accreditation Council for Business Schools and Programs (ACBSP), a leading specialized accreditation association for business education. For more information on UDST's ACBSP accreditation, please visit www.acbsp.org.



Admission Requirements:

High School or Academic Requirement:

1. High school graduation certificate or equivalent approved by the Ministry of Education and Higher Education with a minimum average of 60%.

English Language Requirement:

1. The required score on the University English Placement Test or a passing score from another approved internationally recognized English language test, as validated by the Admissions & Registration Department; OR
2. A valid (within two years) IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, and listening) below 5.0; OR
3. Successful completion of Foundation Program requirements.

Mathematics Requirement:

1. A minimum of 60% on the University Math Placement Test; OR
2. A valid SAT Report Form with minimum score of 480; OR
3. Successful completion of Foundation Program requirements.

Additional Admission Criteria:

1. Admission is competitive. Eligible applicants are ranked based on their overall final year (Grade 12 or equivalent) high school percentage, placement tests rankings, and admission priority category.

Diploma in Human Resource Management (Dip. HRM)

Program Educational Objectives:

Program Educational Objectives (PEOs) describe the knowledge, skills, and competencies a graduate can demonstrate within 2-3 years of graduation.

Within a few years of graduation from the Diploma in Human Resource Management (Dip. HRM) program, graduates will be able to:

- PEO01. Apply knowledge of HR functions in supporting the organization goals
- PEO02. Interpret HR data for effective decision making
- PEO03. Diagnose the HR challenges and provide innovative solutions
- PEO04. Identify HR personnel needs to implement and achieve operational goals
- PEO05. Demonstrate ethical behavior in managing human capital and organizational resources
- PEO06. Develop HR plans related to, recruitment, selection, performance management, training and development and employee compensation

Student Learning Outcomes:

Student Learning Outcomes (SLOs) describe the knowledge, skills, and competencies a graduate can demonstrate immediately upon graduation.

Upon successful completion of the Diploma in Human Resource Management (Dip. HRM) program, graduates will be prepared to:

- SLO01. Discuss the role and purpose of human resource functions in organizations
- SLO02. Diagnose current practices, trends, and challenges in human resource management
- SLO03. Apply HR skills and competencies to attract, retain and develop talent
- SLO04. Develop employee performance initiatives and compensation plans aligned with organizational goals
- SLO05. Demonstrate responsible and ethical behavior as a human resource professional

Study Plan:

Year 1

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 1	COMM1010	English Communication I	-	-	3	3	0
	EFFL1002	Applied & Experiential Learning	-	-	3	3	0
	HRMG1001	Principles of Human Resource Management	-	-	3	2	3
	MATH1070	Applied Mathematics	-	-	3	3	0
Semester 1 Total:					12	11	3
SEMESTER 2	ACCT1001	Financial Accounting	-	-	3	2	3
	COMM1020	English Communication II	COMM1010	-	3	3	0
	COMP1401	Introduction to Computers & Information Systems	-	-	3	3	1
	MRKT1001	Principles of Marketing	-	-	3	2	3
Semester 2 Total:					12	10	7
SEMESTER 3	BKFT1001	Principles of Finance	-	-	3	2	3
	BUSG2010	Qatar Business Law	-	-	3	2	3
Semester 3 Total:					6	4	6
Year 1 Total:					30	25	16

Diploma in Human Resource Management (Dip. HRM)

Year 2

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK			
			Pre-Req	Co-Req	CR	LEC	LAB	
SEMESTER 4	ECON2010	Business Economics	-	-	3	2	3	
	HRMG2020	Employee Relations	-	-	3	2	3	
	HRMG3010	Human Resource Planning & Selection	HRMG1001	-	3	2	2	
	MGMT2010	Organizational Behavior	Min 30 Credits	-	3	2	3	
	Semester 4 Total:					12	8	11
SEMESTER 5	HRMG3020	Qatar Employment Law	-	-	3	2	2	
	HRMG3030	Occupational Health & Safety	-	-	3	2	2	
	HRMG3040	Performance Management	HRMG3010	-	3	2	2	
	HRMG3050	Training & Development	HRMG1001	-	3	2	2	
	HRMG4020	Compensation & Benefits	HRMG1001	-	3	2	2	
	Semester 5 Total:					15	10	10
SEMESTER 6	BUSG2301	Work Placement	Min 54 Credits	-	9	360 Total Hours		
	Semester 6 Total:					9	0	0
	Year 2 Total:					36	18	21
	Dip. HRM Program Total:					66	43	37

Graduate Future Pathways:

Graduates of the Diploma in Human Resource Management (Dip. HRM) may choose to continue their studies and complete the Bachelor of Human Resource Management (B.B.A. HRM) degree program.

Career Opportunities:

The Diploma in Human Resource Management (Dip. HRM) is an applied program with learning outcomes closely linked to the labor market. A wide range of career opportunities in the field currently exist and include, but are not limited to, the following:

- Benefits Clerk
- Recruitment Assistant
- Training Coordinator
- Onboarding Coordinator
- Compensation Clerk
- Professional Development Assistant

Program Webpage:

[Click Here](#)

Diploma in Marketing (Dip. Mktg)



Program Description:

The Diploma in Marketing (Dip. Mktg) is a two year program that prepares graduates with the knowledge, skills and competencies needed for a career in marketing. After completing this hands-on diploma program, graduates will possess a foundation in marketing platforms, tools, and techniques. They will be well positioned to create content and assist with the development and execution of marketing campaigns and strategy. Students engage in hands-on experiential learning through applied assignments and a required work placement.

Program Duration:

Two years

Accreditation:

The Diploma in Marketing (Dip. Mktg) is accredited through the Accreditation Council for Business Schools and Programs (ACBSP), a leading specialized accreditation association for business education. For more information on UDST's ACBSP accreditation, please visit www.acbsp.org.



Admission Requirements:

High School or Academic Requirement:

1. High school graduation certificate or equivalent approved by the Ministry of Education and Higher Education with a minimum average of 60%.

English Language Requirement:

1. The required score on the University English Placement Test or a passing score from another approved internationally recognized English language test, as validated by the Admissions & Registration Department; OR
2. A valid (within two years) IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, and listening) below 5.0; OR
3. Successful completion of Foundation Program requirements.

Mathematics Requirement:

4. A minimum of 60% on the University Math Placement Test; OR
5. A valid SAT Report Form with minimum score of 480; OR
6. Successful completion of Foundation Program requirements.

Additional Admission Criteria:

1. Admission is competitive. Eligible applicants are ranked based on their overall final year (Grade 12 or equivalent) high school percentage, placement tests rankings, and admission priority category.

Diploma in Marketing (Dip. Mktg)

Program Educational Objectives:

Program Educational Objectives (PEOs) describe the knowledge, skills, and competencies a graduate can demonstrate within 2-3 years of graduation.

Within a few years of graduation from the Diploma in Marketing (Dip. Mktg) program, graduates will be able to:

- PEO01. Demonstrate knowledge and competence in the specific occupation of digital marketing, and in general business administration
- PEO02. Make use of communication and interpersonal skills to be effective team workers and to contribute to the development of the enterprise
- PEO03. Demonstrate ethics in business and responsibility to their society and profession
- PEO04. Show commitment to continuous professional development in digital marketing, and interest in obtaining further qualifications

Student Learning Outcomes:

Student Learning Outcomes (SLOs) describe the knowledge, skills, and competencies a graduate can demonstrate immediately upon graduation.

Upon successful completion of the Diploma in Marketing (Dip. Mktg) program, graduates will be prepared to:

- SLO01. Apply digital marketing concepts and techniques in business environments
- SLO02. Contrast digital tactics including; search engine optimization, social media, videos, email, blogging, websites, influencers etc. to assist in product promotion and sales
- SLO03. Apply business principles including; budget reconciliation, pricing, law and economics
- SLO04. Demonstrate marketing analytical knowledge to interpret major trends in sales and marketing
- SLO05. Summarize ethical principles within the domain of digital marketing

Study Plan:

Year 1

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 1	MRKT1001	Principles of Marketing	-	-	3	2	3
	COMM1010	English Communication I	-	-	3	3	0
	MATH1070	Applied Mathematics	-	-	3	3	0
	Effective & Experiential Learning Elective: Select 1 of 2						
	EFFL1001	Effective Learning	-	-	3	3	0
	EFFL1002	Applied & Experiential Learning	-	-	3	3	0
Semester 1 Total:					12	11	3
SEMESTER 2	COMM1020	English Communication II	COMM1010	-	3	3	0
	MRKT2003	Fundamentals of Digital Marketing	MRKT1001	-	3	2	3
	ACCT1001	Financial Accounting	-	-	3	2	3
	HRMG1001	Principles of Human Resource Management	-	-	3	2	3
	Semester 2 Total:					12	9
SEMESTER 3	RSST3001	Research & Statistics	-	-	3	3	0
	BKFT1001	Principles of Finance	-	-	3	2	3
	Semester 3 Total:					6	5
Year 1 Total:					30	25	15

Diploma in Marketing (Dip. Mktg)

Year 2

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 4	ECON2010	Business Economics	-	-	3	2	3
	BUSG2010	Qatar Business Law	-	-	3	2	3
	MRKT2002	Marketing Research	RSST3001	-	3	2	3
	MRKT3008	Digital Marketing Communications	MRKT2003	-	3	2	3
	MRKT3104	Consumer Behavior in the Digital Age	MRKT1001	-	3	2	2
	Semester 4 Total:				15	10	14
SEMESTER 5	MRKT3007	Professional Selling	MRKT1001	-	3	2	2
	MRKT3105	Marketing Content & Media Management	MRKT1001	-	3	2	3
	MRKT3009	Marketing Analytics & Data Mining	MRKT2003	-	3	2	3
	MRKT3011	Branding in the Digital Age	MRKT2003	-	3	2	2
	Semester 5 Total:				12	8	10
SEMESTER 6	BUSG2301	Work Placement	Min 54 Credits	-	9	360 Total HRs	3
	Semester 6 Total:				9	0	0
	Year 2 Total:				36	18	24
	Dip. Mktg Program Total:				66	43	39

Graduate Future Pathways:

Graduates of the Diploma in Marketing (Dip. Mktg) may choose to continue their studies and complete the Bachelor of Digital Marketing (B.B.A. DMktg) degree program.

Career Opportunities:

The Diploma in Marketing (Dip. Mktg) is an applied program with learning outcomes closely linked to the labor market. A wide range of career opportunities in the field currently exist and include, but are not limited to, the following:

- Assistant Account Manager
- Advertising Assistant
- Assistant Product Manager
- Customer Service Representative
- Digital Content Coordinator
- Social Media Assistant

Program Webpage:

[Click Here](#)



Bachelor of Business Administration in Applied Accounting (B.B.A. AAcc)

Program Description:

The Bachelor of Business Administration in Applied Accounting (B.B.A. AAcc) degree is a four year program which provides graduates with the knowledge skills and competencies to succeed in the dynamic field of business and accountancy. Program courses focus on developing a strong foundation in technical accounting and business competencies, as well as on developing the soft skills necessary to succeed in the field of accounting. Students will combine accounting fundamentals and the application of accounting technologies in the recording, management and reporting of financial information, and so will be positioned to actively contribute to the economic growth, social development and environmental management requirements of Qatar National Vision 2030. The approach to teaching in the program is experiential and integrative including hands-on and cross disciplinary, technology enabled projects. The program also includes an on-the-job work placement, allowing students to gain in-field work experience, with a specific focus on accountancy. In the final year, students will demonstrate the breadth and depth of their skills and knowledge in a Applied Accounting capstone project.

Program Duration:

Four years

Admission Requirements:

High School or Academic Requirement:

1. High school graduation certificate or equivalent approved by the Ministry of Education and Higher Education with a minimum average of 60%; OR
2. Two-year Accounting Diploma from CNA-Q, or equivalent; OR
3. One-year Advanced Accounting Diploma from CNA-Q, or equivalent.

English Language Requirement:

1. The required score on the University English Placement Test or a passing score from another approved internationally recognized English language test, as validated by the Admissions & Registration Department; OR
2. A valid (within two years) IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, and listening) below 5.0; OR
3. Successful completion of Foundation Program requirements.

Mathematics Requirement:

1. A minimum of 60% on the University Math Placement Test; OR
2. A valid SAT Report Form with minimum score of 480; OR
3. Successful completion of Foundation Program requirements.

Additional Admission Criteria:

1. Admission is competitive. Eligible applicants are ranked based on their overall final year (Grade 12 or equivalent) high school percentage, placement tests rankings, and admission priority category.

Bachelor of Business Administration in Applied Accounting (B.B.A. AAcc)

Program Educational Objectives:

Program Educational Objectives (PEOs) describe the knowledge, skills, and competencies a graduate can demonstrate within 2-3 years of graduation.

Within a few years of graduation from the Bachelor of Business Administration in Applied Accounting (B.B.A. AAcc) program, graduates will be able to:

- PEO01. Possess extensive knowledge and skills focused in a specific occupation of applied accounting, and be practicing general business analytical skills to inform strategic decision making
- PEO02. Achieve chartered membership in one or more professional accounting bodies and conform with the association's requirements for professional development and best practice
- PEO03. Effectively perform in the common business domains such as finance, management, leadership, marketing, and information systems
- PEO04. Possess the personal and cognitive skills required to be effective in business including; effective communication, efficient teamwork, entrepreneurship, and other soft skills, such as time management, supervision and leadership management
- PEO05. Demonstrate ethics in business and responsibility to their society and profession

Student Learning Outcomes:

Student Learning Outcomes (SLOs) describe the knowledge, skills, and competencies a graduate can demonstrate immediately upon graduation.

Upon successful completion of the Bachelor of Business Administration in Applied Accounting (B.B.A. AAcc) program, graduates will be prepared to:

- SLO01. Apply accounting concepts and techniques in business environments
- SLO02. Utilize financial information and accounting tools, techniques and standards to prepare financial statements according to international standards
- SLO03. Use accounting principles, concepts, tools and techniques for budgeting, business planning, decision-making, and financial performance evaluation
- SLO04. Apply analytical and computational knowledge and skills in accounting to determine major trends in business
- SLO05. Select financial management principles, tools, and techniques to analyze various issues related to financial performance, investment, and financing

Study Plan:

Year 1

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 1	ACCT1001	Financial Accounting	-	-	3	2	3
	COMM1010	English Communication I	-	-	3	3	0
	EFFL1001	Effective Learning	-	-	3	3	0
	MATH1070	Applied Mathematics	-	-	3	3	0
	Semester 1 Total:				12	11	3
SEMESTER 2	BKFT1001	Principles of Finance	-	-	3	2	3
	COMM1020	English Communication II	COMM1010	-	3	3	0
	MRKT1001	Principles of Marketing	-	-	3	2	3
	Mathematics & Natural Science Elective				3	3	0
	Semester 2 Total:				12	10	6
SEMESTER 3	HRMG1001	Principles of Human Resource Management	-	-	3	2	3
	SSHA1004	Ethical Reasoning	-	-	3	3	0
	Semester 3 Total:				6	5	3
	Year 1 Total:				30	26	12

Bachelor of Business Administration in Applied Accounting (B.B.A. AAcc)

Year 2

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 4	ACCT2003	Intermediate Financial Accounting I	ACCT1001	-	3	2	3
	ACCT2010	Quantitative Methods for Decision Making	-	-	3	2	3
	ECON2010	Business Economics	-	-	3	2	3
	MATH1060	Numerical Problem Solving	-	-	3	3	1
Semester 4 Total:					12	9	10
SEMESTER 5	ACCT2001	Managerial Accounting	ACCT1001	-	3	2	3
	ACCT2005	Intermediate Financial Accounting II	ACCT2003	-	3	2	3
	BKFT3007	Principles of Corporate Finance	BKFT1001	-	3	2	3
	BUSG2010	Qatar Business Law	-	-	3	2	3
	MISY2010	Management Information Systems	-	-	3	2	3
Semester 5 Total:					15	10	15
SEMESTER 6	MGMT2010	Organizational Behavior	Min 30 Credits	-	3	2	3
	Global Awareness & Regional Challenges Elective: Select 1 of 3						
	GARC1001	Qatar History & Society	-	-	3	3	0
	GARC2001	Human Development in Qatar	-	-	3	3	0
	GARC2002	Globalization & Environment	-	-	3	3	0
Semester 6 Total:					6	5	3
Year 2 Total:					33	24	28

Bachelor of Business Administration in Applied Accounting (B.B.A. AAcc)

Year 3

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 7	ACCT3001	Advanced Costing & Managerial Accounting	ACCT2001	-	3	2	3
	ACCT3005	Accounting Information Systems	ACCT2003	-	3	2	3
	BUSG2001	Introduction to Entrepreneurship	-	-	3	3	0
	MGMT3035	Business Ethics	Min 30 Credits	-	3	3	0
Semester 7 Total:					12	10	6
SEMESTER 8	ACCT3007	Financial Reporting & Analysis	ACCT2003	-	3	2	3
	ACCT3009	Financial Modelling	ACCT2003	-	3	2	3
	BKFT3001	Financial Risk Management	ECON2010	-	3	3	0
	BKFT3005	Strategic Financial Decision Making	BKFT1001	-	3	2	3
	RSST3001	Research & Statistics	-	-	3	3	0
Semester 8 Total:					15	12	9
SEMESTER 9	ECON1001	Global Economic Concepts	-	-	3	3	0
	MGMT4000	Strategic & Sustainable Management	MGMT2010	-	3	3	0
Semester 9 Total:					6	6	0
Year 3 Total:					33	28	15



Bachelor of Business Administration in Applied Accounting (B.B.A. AAcc)

Year 4

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 10	ACCT3010	Planning, Budgeting, & Forecasting	ACCT3001	-	3	2	3
	ACCT4001	Auditing & Assurance Services	ACCT2005	-	3	3	0
	ACCT4005	Contemporary Topics in Accounting	ACCT2003	-	3	3	0
	BUSG4101	Practicum in Business	Min 90 Credits	-	3	1	6
	Semester 10 Total:				12	9	9
SEMESTER 11	ACCT4007	Advanced Financial Accounting	ACCT3007	-	3	2	3
	BUSG4201	Capstone Project	BUSG4101	-	3	1	6
	MGMT4010	Leadership & Change Management	MGMT2010	-	3	3	0
	Semester 11 Total:				9	6	9
SEMESTER 12	BUSG4301	Work Placement	BUSG4201	-	9	360 Total Hours	
	Semester 12 Total:				9	0	0
	Year 4 Total:				30	15	18
B.B.A. AAcc Program Total:					126	93	73

Graduate Future Pathways:

Graduates of the Bachelor of Business Administration in Applied Accounting (B.B.A. AAcc) may choose to continue their studies and complete the Master of Science in Accounting and Finance (M.Sc. AccFin) degree program or pursue further specializations in their field.

Career Opportunities:

The Bachelor of Business Administration in Applied Accounting (B.B.A. AAcc) is an applied program with learning outcomes closely linked to the labor market. A wide range of career opportunities in the field currently exist and include, but are not limited to, the following:

- Accounts Receivable Administrator
- Credit Analyst
- Internal Auditor
- Investor Relations Assistant
- Business Analyst
- Loan Officer

Program Webpage:

[Click Here](#)

Bachelor of Business Administration in Banking and Financial Technology (B.B.A. BkFinTech)



Program Description:

The Bachelor of Business Administration in Banking and Financial Technology (B.B.A. BkFinTech) is an applied business degree with a major focus on Banking and Financial Technology (FinTech). Banking is a sought-after career within Qatar and the region, and the digital financial services industry is growing rapidly worldwide. This program introduces students to the fundamentals of the banking and FinTech industries, including the information technology areas critical to both. Students will engage in hands-on practice in the application of banking and FinTech concepts and strategies along with general business principles and practice. The program includes an on-the-job banking and/or FinTech work placement, allowing students to gain in-field work experience. In the final year, students demonstrate the breadth and depth of their skills and knowledge in an applied Banking and FinTech capstone project.

Program Duration:

Four years

Admission Requirements:

High School or Academic Requirement:

1. High school graduation certificate or equivalent approved by the Ministry of Education and Higher Education with a minimum average of 60%; OR
2. Two-year Accounting Diploma from CNA-Q, or equivalent; OR
3. One-year Advanced Accounting Diploma from CNA-Q, or equivalent.

English Language Requirement:

1. The required score on the University English Placement Test or a passing score from another approved internationally recognized English language test, as validated by the Admissions & Registration Department; OR
2. A valid (within two years) IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, and listening) below 5.0; OR
3. Successful completion of Foundation Program requirements.

Mathematics Requirement:

1. A minimum of 60% on the University Math Placement Test; OR
2. A valid SAT Report Form with minimum score of 480; OR
3. Successful completion of Foundation Program requirements.

Additional Admission Criteria:

1. Admission is competitive. Eligible applicants are ranked based on their overall final year (Grade 12 or equivalent) high school percentage, placement tests rankings, and admission priority category.

Bachelor of Business Administration in Banking and Financial Technology (B.B.A. BkFinTech)

Program Educational Objectives:

Program Educational Objectives (PEOs) describe the knowledge, skills, and competencies a graduate can demonstrate within 2-3 years of graduation.

Within a few years of graduation from the Bachelor of Business Administration in Banking and Financial Technology (B.B.A. BkFinTech) program, graduates will be able to:

- PE001. Demonstrate expertise in dealing with contemporary banking and FinTech operations, systems and issues
- PE002. Function effectively with colleagues, industry professionals and government entities to creatively, ethically and competently influence the banking and FinTech landscape
- PE003. Recommend strategic solutions to banking and FinTech concerns and act as a member of the leadership team to implement these solutions
- PE004. Engage with continuous professional development and lifelong learning to remain current both in the Banking and FinTech field as well as in the business and social environment
- PE005. Function as a mid-level manager in the Banking industry or as an entrepreneur, contributing to the development of strategies and policies
- PE006. Rule on banking and ethical matters in consultation with the national regulatory bodies of Qatar's banking and FinTech industry responsibility to their society and profession

Student Learning Outcomes:

Student Learning Outcomes (SLOs) describe the knowledge, skills, and competencies a graduate can demonstrate immediately upon graduation.

Upon successful completion of Business Administration in Banking and Financial Technology (B.B.A. BkFinTech) program, graduates will be prepared to:

- SLO01. Contrast the functions, roles and products of banks and financial intermediaries, both within Qatar and internationally
- SLO02. Analyze the value of high-yielding functions, products and services along the delivery value chain of performance and profitability
- SLO03. Demonstrate fluency in Data Science programs/ models such as Python, R, Blockchain, AI etc. and be able to recommend technological solutions to such problems as imperfect or asymmetric data
- SLO04. Interpret data to predict manage, and influence the behaviors of customers and identify trends and opportunities in banking and investment services
- SLO05. Interpret the rights, duties and compliance requirements of financial intermediaries and their customers and apply ethical principals in unregulated areas
- SLO06. Model high levels of customer service, communication, etiquette, initiative and creativity

Study Plan:

Year 1

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 1	ACCT1001	Financial Accounting	-	-	3	2	3
	COMM1010	English Communication I	-	-	3	3	0
	EFFL1001	Effective Learning	-	-	3	3	0
	MATH1070	Applied Mathematics	-	-	3	3	0
Semester 1 Total:					12	11	3
SEMESTER 2	BKFT1001	Principles of Finance	-	-	3	2	3
	COMM1020	English Communication II	COMM1010	-	3	3	0
	HRMG1001	Principles of Human Resource Management	-	-	3	2	3
	INFS1101	Intro to Computing & Problem Solving	-	-	3	2	3
Semester 2 Total:					12	9	9
SEMESTER 3	SSHA1004	Ethical Reasoning	-	-	3	3	0
	COMP1401	Introduction to Computers & Information Systems	-	-	3	3	1
Semester 3 Total:					6	6	1
Year 1 Total:					30	26	13

Bachelor of Business Administration in Banking and Financial Technology (B.B.A. BkFinTech)

Year 2

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 4	ACCT2010	Quantitative Methods for Decision Making	-	-	3	2	3
	BKFT2001	Banking & Financial Institutions	BKFT1001	-	3	3	0
	ECON2010	Business Economics	-	-	3	2	3
	MRKT1001	Principles of Marketing	-	-	3	2	3
Semester 4 Total:					12	9	9
SEMESTER 5	ACCT2001	Managerial Accounting	ACCT1001	-	3	2	3
	BUSG2010	Qatar Business Law	-	-	3	2	3
	INFS1201	Computer Programming	INFS1101	-	4	3	3
	MATH1060	Numerical Problem Solving	-	-	3	3	1
	MISY2010	Management Information Systems	-	-	3	2	3
Semester 5 Total:					16	12	13
SEMESTER 6	MGMT2010	Organizational Behavior	Min 30 Credits	-	3	2	3
	GARC2001	Human Development in Qatar	-	-	3	3	0
Semester 6 Total:					6	5	3
Year 2 Total:					34	26	25



Bachelor of Business Administration in Banking and Financial Technology (B.B.A. BkFinTech)

Year 3

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 7	BKFT3005	Strategic Financial Decision Making	BKFT1001	-	3	2	3
	BUSG2001	Introduction to Entrepreneurship	-	-	3	3	0
	DSAI2201	Introduction to Data Science & AI	INFS1201	-	3	2	3
	MGMT3035	Business Ethics	Min 30 Credits	-	3	3	0
Semester 7 Total:					12	10	6
SEMESTER 8	BKFT3007	Principles of Corporate Finance	BKFT1001	-	3	2	3
	BKFT3010	Personal Finance & Wealth Planning	BKFT1001	-	3	3	0
	INFS2201	Database Management Systems	INFS1101	-	3	2	3
	MGMT4000	Strategic & Sustainable Management	MGMT2010	-	3	3	0
	RSST3001	Research & Statistics	-	-	3	3	0
Semester 8 Total:					15	13	6
SEMESTER 9	ECON1001	Global Economic Concepts	-	-	3	3	0
	MGMT4010	Leadership & Change Management	MGMT2010	-	3	3	0
Semester 9 Total:					6	6	0
Year 3 Total:					33	29	12



Bachelor of Business Administration in Banking and Financial Technology (B.B.A. BkFinTech)

Year 4

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 10	BUSG4101	Practicum in Business	Min 90 Credits	-	3	1	6
	DACS3202	Cyber Security Analytics & Visualization	DSAI2201	-	3	2	3
	BKFT4001	Financial Innovation in Markets & Technologies	BKFT2001	-	3	3	0
	BKFT4020	Investment Analysis	BKFT3007	-	3	2	3
Semester 10 Total:					12	8	12
SEMESTER 11	BKFT4010	Portfolio Management	BKFT3007	-	3	2	3
	BUSG4201	Capstone Project	BUSG4101	-	3	1	6
	Elective: Select 1 of 2						
	BKFT4015	Derivatives & Risk	BKFT3005	-	3	3	0
SEMESTER 12	BKFT3001	Financial Risk Management	ECON2010	-	3	3	0
	Semester 11 Total:					9	6
	BUSG4301	Work Placement	BUSG4201	-	9	360 Total HRs	
Semester 12 Total:					9	0	0
Year 4 Total:					30	14	21
B.B.A. BkFinTech Program Total:					127	95	71

Graduate Future Pathways:

Graduates of the Bachelor of Business Administration in Banking and Financial Technology (B.B.A. BkFinTech) may choose to continue their studies and complete the Master of Science in Accounting and Finance (M.Sc. AccFin) degree program or pursue further specializations in their field.

Program Webpage:

[Click Here](#)

Career Opportunities:

The Bachelor of Business Administration in Banking and Financial Technology (B.B.A. BkFinTech) is an applied program with learning outcomes closely linked to the labor market. A wide range of career opportunities in the field currently exist and include, but are not limited to, the following:

- Assistant Trader
- Financial Analyst
- FinTech Advisor
- Data Analyst
- Investor Relations Assistant
- Compliance Officer

Bachelor of Business Administration in Digital Marketing (B.B.A. DMktg)



Program Description:

The Bachelor of Business Administration in Digital Marketing (B.B.A. DMktg) is a four year program which prepares graduates for a professional career in digital marketing (DMktg). In this program students develop a comprehensive understanding of DMktg concepts in areas such as: advertising persuasion, consumer behavior, user experience design, analytics, SEO and integrated media strategies. Through experiential learning, students work in multi-disciplined teams in courses such as analyzing business cases, and strategic management. The program includes a practical on-the-job DM work placement, which allows students to gain dynamic in-field work experience. In the final year of the program, students demonstrate the breadth and depth of their skills and knowledge through an applied DMktg capstone project.

Program Duration:

Four years

Admission Requirements:

High School or Academic Requirement:

1. High school graduation certificate or equivalent approved by the Ministry of Education and Higher Education with a minimum average of 60%; OR
2. Two-year Marketing Diploma from CNA-Q, or equivalent; OR
3. One-year Advanced Marketing Diploma from CNA-Q, or equivalent.

English Language Requirement:

1. The required score on the University English Placement Test or a passing score from another approved internationally recognized English language test, as validated by the Admissions & Registration Department; OR
2. A valid (within two years) IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, and listening) below 5.0; OR
3. Successful completion of Foundation Program requirements.

Mathematics Requirement:

1. A minimum of 60% on the University Math Placement Test; OR
2. A valid SAT Report Form with minimum score of 480; OR
3. Successful completion of Foundation Program requirements.

Additional Admission Criteria:

1. Admission is competitive. Eligible applicants are ranked based on their overall final year (Grade 12 or equivalent) high school percentage, placement tests rankings, and admission priority category.

Bachelor of Business Administration in Digital Marketing (B.B.A. DMktg)

Program Educational Objectives:

Program Educational Objectives (PEOs) describe the knowledge, skills, and competencies a graduate can demonstrate within 2-3 years of graduation.

Within a few years of graduation from the Bachelor of Business Administration in Digital Marketing (B.B.A. DMktg) program, graduates will be able to:

- PEO01. Make use of comprehensive knowledge and competence in the specific occupation of digital marketing, and in general business administration
- PEO02. Choose membership of one or more Marketing Professional Associations and conform with its requirements for professional development
- PEO03. Function in common business activities such as; finance, management, leadership, strategy, marketing and digital systems
- PEO04. Make use of personal and cognitive skills to be effective; communicators, team workers, entrepreneurs, and leaders
- PEO05. Demonstrate ethics in business and responsibility to their society and profession

Student Learning Outcomes:

Student Learning Outcomes (SLOs) describe the knowledge, skills, and competencies a graduate can demonstrate immediately upon graduation.

Upon successful completion of the Bachelor of Business Administration in Digital Marketing (B.B.A. DMktg) program, graduates will be prepared to:

- SLO01. Apply digital marketing concepts and techniques in business environments
- SLO02. Utilize tactics including; search engine optimization, social media, videos, email, blogging, websites, influencers etc. to develop the organizations brand, market reach and resulting revenues
- SLO03. Use business principles to develop effective budgets, business plans, make decisions, and evaluate performance
- SLO04. Apply marketing analytical knowledge and skills to determine major trends in consumerism or within specific markets
- SLO05. Apply extensive occupational knowledge relating to specific commercial areas to contribute to the development of strategic and marketing plans
- SLO06. Assess ethical principles within the domain of digital marketing

Study Plan:

Year 1

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK			
			Pre-Req	Co-Req	CR	LEC	LAB	
SEMESTER 1	COMM1010	English Communication I	-	-	3	3	0	
	MATH1070	Applied Mathematics	-	-	3	3	0	
	MRKT1001	Principles of Marketing	-	-	3	2	3	
	Effective & Experiential Learning Elective: Select 1 of 2							
	EFFL1001	Effective Learning	-	-	3	3	0	
	EFFL1002	Applied & Experiential Learning	-	-	3	3	0	
	Semester 1 Total:					12	11	3
SEMESTER 2	ACCT1001	Financial Accounting	-	-	3	2	3	
	COMM1020	English Communication II	COMM1010	-	3	3	0	
	HRMG1001	Principles of HRM	-	-	3	2	3	
	Mathematics & Natural Sciences Elective					3	3	0
	Semester 2 Total:					12	10	6
SEMESTER 3	BKFT1001	Principles of Finance	-	-	3	2	3	
	Mathematics & Natural Sciences Elective					3	3	0
	Semester 3 Total:					6	5	3
Year 1 Total:					30	26	12	

Bachelor of Business Administration in Digital Marketing (B.B.A. DMktg)

Year 2

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 4	ECON2010	Business Economics	-	-	3	2	3
	MGMT2010	Organizational Behavior	Min 30 Credits	-	3	2	3
	MISY2010	Management Information Systems	-	-	3	2	3
	MRKT2003	Fundamentals of Digital Marketing	MRKT1001	-	3	2	3
Semester 4 Total:					12	8	12
SEMESTER 5	ACCT2001	Managerial Accounting	ACCT1001	-	3	2	3
	RSST3001	Research & Statistics	-	-	3	3	0
	MRKT3104	Consumer Behavior in the Digital Age	MRKT1001	-	3	2	2
	Social Sciences, Humanities, & the Arts Elective: Select 1 of 8						
	BUSG2001	Introduction to Entrepreneurship	-	-	3	3	0
	BUSG2002	Project Management	-	-	3	3	0
	SSHA1001	Islamic & Arab Civilization	-	-	3	3	0
	SSHA1002	Introduction to Sociology	-	-	3	3	0
	SSHA1003	Introductory Psychology	-	-	3	3	0
	SSHA1004	Ethical Reasoning	-	-	3	3	0
	SSHA1005	Law & Society	-	-	3	3	0
	SSHA1006	Introduction to the Arts	-	-	3	3	0
Semester 5 Total:					12	10	5
SEMESTER 6	MRKT3006	Services Marketing	MRKT1001	-	3	2	2
	BUSG2010	Qatar Business Law	-	-	3	2	3
Semester 6 Total:					6	4	5
Year 2 Total:					30	22	22



Bachelor of Business Administration in Digital Marketing (B.B.A. DMktg)

Year 3

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 7	MGMT3035	Business Ethics	Min 30 Credits	-	3	3	0
	MRKT2002	Marketing Research	RSST3001	-	3	2	3
	MRKT3008	Digital Marketing Communications	MRKT2003	-	3	2	3
	Global Awareness & Regional Challenges Elective: Select 1 of 4						
	GARC1001	Qatar History & Society	-	-	3	3	0
	ECON1001	Global Economic Concepts	-	-	3	3	0
	GARC2001	Human Development in Qatar	-	-	3	3	0
	GARC2002	Globalization & Environment	-	-	3	3	0
	Semester 7 Total:				12	10	6
SEMESTER 8	MRKT3007	Professional Selling	MRKT1001	-	3	2	2
	MRKT3009	Marketing Analytics & Data Mining	MRKT2003	-	3	2	3
	MRKT3105	Marketing Content & Media Management	MRKT1001	-	3	2	3
	Social Sciences, Humanities, & the Arts Elective: Select 1 of 8						
	BUSG2001	Introduction to Entrepreneurship	-	-	3	3	0
	BUSG2002	Project Management	-	-	3	3	0
	SSHA1001	Islamic & Arab Civilization	-	-	3	3	0
	SSHA1002	Introduction to Sociology	-	-	3	3	0
	SSHA1003	Introductory Psychology	-	-	3	3	0
	SSHA1004	Ethical Reasoning	-	-	3	3	0
SEMESTER 9	MRKT3010	Digital Optimization	MRKT2003	-	3	2	3
	MRKT3011	Branding in the Digital Age	MRKT2003	-	3	2	2
	Semester 9 Total:				6	4	5
Year 3 Total:					30	23	19

Bachelor of Business Administration in Digital Marketing (B.B.A. DMktg)

Year 4

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK			
			Pre-Req	Co-Req	CR	LEC	LAB	
SEMESTER 10	BUSG4101	Practicum in Business	Min 90 Credits	-	3	1	6	
	MGMT4000	Strategic & Sustainable Management	MGMT2010	-	3	3	0	
	MRKT4214	Digital Marketing Strategy	MRKT2003	-	3	2	2	
	Global Awareness & Regional Challenges Elective: Select 1 of 4							
	GARC1001	Qatar History & Society	-	-	3	3	0	
	ECON1001	Global Economic Concepts	-	-	3	3	0	
	GARC2001	Human Development in Qatar	-	-	3	3	0	
	GARC2002	Globalization & Environment	-	-	3	3	0	
Semester 10 Total:					12	9	8	
SEMESTER 11	BUSG4201	Capstone Project	BUSG4101	-	3	1	6	
	MGMT4010	Leadership & Change Management	MGMT2010	-	3	3	0	
	MRKT4112	Advanced Topics in Digital Marketing	MRKT2003	-	3	2	2	
	MRKT4213	Sales Management	MRKT3007 MRKT2003	-	3	2	2	
	Semester 11 Total:					12	8	10
SEMESTER 12	BUSG4301	Work Placement	BUSG4201	-	9	360 Total HRs		
	Semester 12 Total					9	0	0
	Year 4 Total:					33	17	18
B.B.A. DMktg Program Total:					123	88	71	

Graduate Future Pathways:

Graduates of the Bachelor of Business Administration in Digital Marketing (B.B.A. DMktg) may choose to continue their studies and complete the Master of Science in Human Resource Management (M.Sc. HRM) degree program or pursue further specializations in their field.

Program Webpage:

[Click Here](#)

Career Opportunities:

The Bachelor of Business Administration in Digital Marketing (B.B.A. DMktg) is an applied program with learning outcomes closely linked to the labor market. A wide range of career opportunities in the field currently exist and include, but are not limited to, the following:

- Content Coordinator
- SEO/SEM Specialist
- Social Media Coordinator
- Digital Marketing Assistant
- Clinic Assistant Manager
- Junior Marketing Associate

Bachelor of Business Administration in Healthcare Management (B.B.A. HCM)



Program Description:

The Bachelor of Business Administration in Healthcare Management (B.B.A. HCM) is a four year program which prepares graduates to embark on a professional career path in health care and related professions. In this program, students develop a comprehensive understanding of general business and healthcare specific issues and concepts to improve the administration of patient care. In the program, students engage in experiential learning and work in multi-disciplinary teams analyzing business cases. The program also includes a practical on-the-job healthcare management work placement, which allows students to gain dynamic in-field work experience. In the final year of the program, students demonstrate the breadth and depth of their skills and knowledge through an applied healthcare management capstone project.

Program Duration:

Four years

Admission Requirements:

High School or Academic Requirement:

1. High school graduation certificate or equivalent approved by the Ministry of Education and Higher Education with a minimum average of 60%; OR
2. Two-year Healthcare Management Diploma from UDST, or equivalent.

English Language Requirement:

1. The required score on the University English Placement Test or a passing score from another approved internationally recognized English language test, as validated by the Admissions & Registration Department; OR
2. A valid (within two years) IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, and listening) below 5.0; OR
3. Successful completion of Foundation Program requirements.

Mathematics Requirement:

1. A minimum of 60% on the University Math Placement Test; OR
2. A valid SAT Report Form with minimum score of 480; OR
3. Successful completion of Foundation Program requirements.

Additional Admission Criteria:

1. Admission is competitive. Eligible applicants are ranked based on their overall final year (Grade 12 or equivalent) high school percentage, placement tests rankings, and admission priority category.

Bachelor of Business Administration in Healthcare Management (B.B.A. HCM)

Program Educational Objectives:

Program Educational Objectives (PEOs) describe the knowledge, skills, and competencies a graduate can demonstrate within 2-3 years of graduation.

Within a few years of graduation from the Bachelor of Business Administration in Healthcare Management (B.B.A. HCM) program, graduates will be able to:

- PEO01. Contrast leadership, operational and strategic performance within Qatar's healthcare delivery system
- PEO02. Apply knowledge and skills focused on the specific occupation of healthcare management
- PEO03. Demonstrate the use of analytical skills in effective decision making and generating solutions to problems in healthcare environments
- PEO04. Function effectively in the business-related domains of the healthcare ecosystem such as; governance, strategic planning, finance, management, leadership, marketing, and information systems
- PEO05. Model the personal and cognitive skills required to be effective in the healthcare system including; effective communication, efficient teamwork, entrepreneurship, and other soft skills, such as; time management, supervision, and leadership management
- PEO06. Demonstrate the application of ethics in business and responsibility to society and to the profession

Student Learning Outcomes:

Student Learning Outcomes (SLOs) describe the knowledge, skills, and competencies a graduate can demonstrate immediately upon graduation.

Upon successful completion of the Bachelor of Business Administration in Healthcare Management (B.B.A. HCM) program, graduates will be prepared to:

- SLO01. Compare the theoretical and practical aspects of the different business functions related to the healthcare system in Qatar
- SLO02. Apply business skills, tools, and techniques to the healthcare sector, including financial management, ethics and policies, quality and performance management, and information systems and technologies
- SLO03. Analyze best practices in healthcare contexts, to provide sustainable and efficient solutions to business challenges
- SLO04. Influence decision-making through effective communications across culturally diverse healthcare systems using different communication methods and formats
- SLO05. Evaluate ethical principles within the domain of healthcare management and apply these to different situations

Study Plan: Year 1

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 1	COMM1010	English Communication I	-	-	3	3	0
	MATH1070	Applied Mathematics	-	-	3	3	0
	HRMG1001	Principles of Human Resource Management	-	-	3	2	3
	Effective & Experiential Learning Elective: Select 1 of 2						
	EFFL1001	Effective Learning	-	-	3	3	0
	EFFL1002	Applied & Experiential Learning	-	-	3	3	0
Semester 1 Total:					12	11	3
SEMESTER 2	COMM1020	English Communication II	COMM1010	-	3	3	0
	ACCT1001	Financial Accounting	-	-	3	2	3
	HCMT1001	Intro to Healthcare Organizations & Operations	-	-	3	2	3
	Mathematics & Natural Sciences Elective				3	3	0
	Semester 2 Total:				12	10	6
SEMESTER 3	BKFT1001	Principles of Finance	-	-	3	2	3
	Mathematics & Natural Sciences Elective				3	3	0
	Semester 3 Total:				6	5	3
Year 1 Total:					30	26	12

Bachelor of Business Administration in Healthcare Management (B.B.A. HCM)

Year 2

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 4	HCMT2001	Hospital Functions & Management	HCMT1001	-	3	2	2
	MGMT2010	Organizational Behavior	Min 30 Credits	-	3	2	3
	MISY2010	Management Information Systems	-	-	3	2	3
	Global Awareness & Regional Challenges Elective: Select 1 of 4						
	GARC1001	Qatar History & Society	-	-	3	3	0
	ECON1001	Global Economic Concepts	-	-	3	3	0
	GARC2001	Human Development in Qatar	-	-	3	3	0
	GARC2002	Globalization & Environment	-	-	3	3	0
	Semester 4 Total:				12	9	8
SEMESTER 5	ACCT2001	Managerial Accounting	ACCT1001	-	3	2	3
	ECON2010	Business Economics	-	-	3	2	3
	MRKT1001	Principles of Marketing	-	-	3	2	3
	BUSG2010	Qatar Business Law	-	-	3	2	3
	Semester 5 Total:				12	8	12
SEMESTER 6	RSST3001	Research & Statistics	-	-	3	3	0
	Social Science, Humanities & the Arts Elective: Select 1 of 7						
	BUSG2001	Introduction to Entrepreneurship	-	-	3	3	0
	SSHA1001	Islamic & Arab Civilization	-	-	3	3	0
	SSHA1002	Introduction to Sociology	-	-	3	3	0
	SSHA1003	Introductory Psychology	-	-	3	3	0
	SSHA1004	Ethical Reasoning	-	-	3	3	0
	SSHA1005	Law & Society	-	-	3	3	0
	SSHA1006	Introduction to the Arts	-	-	3	3	0
	Semester 6 Total:				6	6	0
Year 2 Total:				30	23	20	

Bachelor of Business Administration in Healthcare Management (B.B.A. HCM)

Year 3

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 7	MGMT3035	Business Ethics	Min 30 Credits	-	3	3	0
	HCMT3001	Health Social & Public Policy	HCMT2001	-	3	2	2
	HCMT3002	Healthcare Data Protection & Management	HCMT2001	-	3	2	2
	HCMT3003	Patient Management & Service Excellence	HCMT2001	-	3	2	2
Semester 7 Total:					12	9	6
SEMESTER 8	HCMT3004	Health Economics	HCMT2001	-	3	2	2
	HRMG2020	Employee Relations	-	-	3	2	3
	HCMT3005	Healthcare Informatics	HCMT2001	-	3	2	2
	HCMT3006	Risk Management in Healthcare Settings	HCMT3002	-	3	2	2
Semester 8 Total:					12	8	9
SEMESTER 9	BUSG2002	Project Management	-	-	3	3	0
	HCMT3007	Health Science Research & Regulations	RSST3001	-	3	2	2
Semester 9 Total:					6	5	2
Year 3 Total:					30	22	17



Bachelor of Business Administration in Healthcare Management (B.B.A. HCM)

Year 4

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK			
			Pre-Req	Co-Req	CR	LEC	LAB	
SEMESTER 10	MGMT4000	Strategic & Sustainable Management	MGMT2010	-	3	3	0	
	HCMT4008	Trends in Healthcare	HCMT3003	-	3	2	2	
	BUSG4101	Practicum in Business	Min 90 Credits	-	3	1	6	
	Global Awareness & Regional Challenges Elective: Select 1 of 4							
	GARC1001	Qatar History & Society		-	3	3	0	
	ECON1001	Global Economic Concepts		-	3	3	0	
	GARC2001	Human Development in Qatar		-	3	3	0	
	GARC2002	Globalization & Environment		-	3	3	0	
	Semester 10 Total:					12	9	8
SEMESTER 11	MGMT4010	Leadership & Change Management	MGMT2010	-	3	3	0	
	HCMT4009	Healthcare Career Planning	HCMT2001	-	3	3	0	
	MRKT3105	Marketing Content & Media Management	MRKT1001	-	3	2	3	
	BUSG4201	Capstone Project	BUSG4101	-	3	1	6	
	Semester 11 Total:					12	9	9
SEMESTER 12	BUSG4301	Work Placement	BUSG4201	-	9	360 Total HRs		
	Semester 12 Total					9	0	0
	Year 4 Total:					33	18	17
	B.B.A. HCM Program Total:					123	89	66

Graduate Future Pathways:

Graduates of the Bachelor of Business Administration in Healthcare Management (B.B.A. HCM) may choose to continue their studies and complete the Master of Science in Human Resource Management (M.Sc. HRM) degree program or pursue further specializations in their field.

Program Webpage:

[Click Here](#)

Career Opportunities:

The Bachelor of Business Administration in Healthcare Management (B.B.A. HCM) is an applied program with learning outcomes closely linked to the labor market. A wide range of career opportunities in the field currently exist and include, but are not limited to, the following:

- Hospital or Medical Clinic Administrator
- Healthcare Data Analyst
- Health Information Specialist
- Healthcare Service Manager
- Clinic Assistant Manager
- Client Services Consultant

Bachelor of Business Administration in Human Resources Management (B.B.A. HRM)



Program Description:

The Bachelor of Business Administration in Human Resource Management (B.B.A. HRM) is a four year program which prepares graduates to embark on a professional career path in human resources (HR) and related professions. Students will gain a comprehensive understanding of HR functions and develop management competencies in areas such as: recruitment and selection, compensation and benefits, organizational development, employee training and development, HR analytics, psychographics, change management, and workforce planning. Students will engage in experiential learning throughout their program and will work in multi-disciplinary teams in most of their HRM specific courses. The program also includes an on-the-job HRM work placement, allowing students to gain in-field business administration work experience, with a specific focus on human resource management (HRM). In the final year, students will demonstrate the breadth and depth of their skills and knowledge in an applied HRM capstone project.

Program Duration:

Four years

Admission Requirements:

High School or Academic Requirement:

1. High school graduation certificate or equivalent approved by the Ministry of Education and Higher Education with a minimum average of 60%; OR
2. Two-year Human Resource Diploma from CNA-Q, or equivalent; OR
3. One-year Advanced Human Resources Diploma from CNA-Q, or equivalent.

English Language Requirement:

1. The required score on the University English Placement Test or a passing score from another approved internationally recognized English language test, as validated by the Admissions & Registration Department; OR
2. A valid (within two years) IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, and listening) below 5.0; OR
3. Successful completion of Foundation Program requirements.

Mathematics Requirement:

1. A minimum of 60% on the University Math Placement Test; OR
2. A valid SAT Report Form with minimum score of 480; OR
3. Successful completion of Foundation Program requirements.

Additional Admission Criteria:

1. Admission is competitive. Eligible applicants are ranked based on their overall final year (Grade 12 or equivalent) high school percentage, placement tests rankings, and admission priority category.

Bachelor of Business Administration in Human Resources Management (B.B.A. HRM)

Program Educational Objectives:

Program Educational Objectives (PEOs) describe the knowledge, skills, and competencies a graduate can demonstrate within 2-3 years of graduation.

Within a few years of graduation from the Bachelor of Business Administration in Human Resource Management (B.B.A. HRM) program, graduates will be able to:

- PEO01. Develop HRM business partnerships, acting as a consultant in determining and implementing human resource policies, procedures and practices that contribute to the development of the organization
- PEO02. Influence decision makers through highly effective executive presentations and professional communication skills
- PEO03. Assess and advise on employment related issues and conflicts with critical awareness of the political, economic, social, ethical and technological factors relating to the organization
- PEO04. Prioritize HRM strategies to assist with the development and growth of both individual employees and the organization as a whole
- PEO05. Appraise and present HRM data and metrics to guide senior leadership in making informed decisions in relation to strategic HRM and organizational initiatives
- PEO06. Function effectively as a team leader, mentoring and coaching junior associates, and assisting employees with their career development and implanting the full life cycle of performance management
- PEO07. Take part in professional development to advance knowledge and competence within the human resource professions and to enhance personal career progression

Student Learning Outcomes:

Student Learning Outcomes (SLOs) describe the knowledge, skills, and competencies a graduate can demonstrate immediately upon graduation.

Upon successful completion of the Bachelor of Business Administration in Human Resource Management (B.B.A. HRM) program, graduates will be prepared to:

- SLO01. Function effectively as an HRM business professional, ethically and systematically practicing and evaluating human resource theory, practices and policies within the enterprise
- SLO02. Make use of appropriate business administration, communication and transferable skills to efficiently manage work tasks, contribute to teamwork, and influence others
- SLO03. Interpret and collect research and data in order to contribute to organizational transformation through the development and implementation of strategy and the continuous assessment of performance matrices
- SLO04. Prioritize the use of available organizational resources based on an assessment of needs and risks and a justifiable interpretation of the scale of benefits
- SLO05. Appraise self and organizational performance and formulate action plans to address development areas

Study Plan:

Year 1

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 1	COMM1010	English Communication I	-	-	3	3	0
	EFFL1002	Applied & Experiential Learning	-	-	3	3	0
	HRMG1001	Principles of Human Resource Management	-	-	3	2	3
	MATH1070	Applied Mathematics	-	-	3	3	0
Semester 1 Total:					12	11	3
SEMESTER 2	ACCT1001	Financial Accounting	-	-	3	2	3
	COMM1020	English Communication II	COMM1010	-	3	3	0
	COMP1401	Introduction to Computers & Information Systems	-	-	3	3	1
	MRKT1001	Principles of Marketing	-	-	3	2	3
Semester 2 Total:					12	10	7
SEMESTER 3	BKFT1001	Principles of Finance	-	-	3	2	3
	GARC1001	Qatar History & Society	-	-	3	3	0
Semester 3 Total:					6	5	3
Year 1 Total:					30	26	13

Bachelor of Business Administration in Human Resources Management (B.B.A. HRM)

Year 2

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 4	ECON2010	Business Economics	-	-	3	2	3
	HRMG2020	Employee Relations	-	-	3	2	3
	MISY2010	Management Information Systems	-	-	3	2	3
	SSHA1003	Introductory Psychology	-	-	3	3	0
Semester 4 Total:					12	9	9
SEMESTER 5	ACCT2001	Managerial Accounting	ACCT1001	-	3	2	3
	BUSG2010	Qatar Business Law	-	-	3	2	3
	MGMT2010	Organizational Behavior	Min 30 Credits	-	3	2	3
	RSST3001	Research & Statistics	-	-	3	3	0
Semester 5 Total:					12	9	9
SEMESTER 6	BUSG2002	Project Management	-	-	3	3	0
	SCIE1002	Science & the Environment	-	-	3	3	0
Semester 6 Total:					6	6	0
Year 2 Total:					30	24	18



Bachelor of Business Administration in Human Resources Management (B.B.A. HRM)

Year 3

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 7	GARC2002	Globalization & Environment	-	-	3	3	0
	HRMG3010	Human Resource Planning & Selection	HRMG1001	-	3	2	2
	HRMG3020	Qatar Employment Law	-	-	3	2	2
	MGMT3035	Business Ethics	Min 30 Credits	-	3	3	0
Semester 7 Total:					12	10	4
SEMESTER 8	HRMG3030	Occupational Health & Safety	-	-	3	2	2
	HRMG3040	Performance Management	HRMG3010	-	3	2	2
	HRMG3050	Training & Development	HRMG1001	-	3	2	2
	Elective: Select 1 of 2						
	HRMG4081	Psychology in Human Resource Management	MGMT2010	-	3	2	2
	HRMG4091	Creativity & Innovation in the Workplace	MGMT2010	-	3	2	2
Semester 8 Total:					12	8	8
SEMESTER 9	MGMT4000	Strategic & Sustainable Management	MGMT2010	-	3	3	0
	Elective: Select 1 of 2						
	HRMG4083	Labor Force Engineering	HRMG3010	-	3	2	2
	HRMG4093	Strategic Human Resource Management	HRMG3010	-	3	2	2
Semester 9 Total:					6	5	2
Year 3 Total:					30	23	14



Bachelor of Business Administration in Human Resources Management (B.B.A. HRM)

Year 4

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK			
			Pre-Req	Co-Req	CR	LEC	LAB	
SEMESTER 10	BUSG4101	Practicum in Business	Min 90 Credits	-	3	1	6	
	HRMG4010	International Human Resource Management	HRMG1001 MGMT2010	-	3	2	2	
	HRMG4020	Compensation & Benefits	HRMG1001	-	3	2	2	
	HRMG4092	Human Resource Analytics	HRMG3040	-	3	2	2	
	MGMT4010	Leadership & Change Management	MGMT2010	-	3	3	0	
	Semester 10 Total:					15	10	12
SEMESTER 11	BUSG4201	Capstone Project	BUSG 4101	-	3	1	6	
	HRMG4030	Organization Design & Development	MGMT2010	-	3	2	2	
	HRMG4040	Artificial Intelligence in Human Resource Man- agement	HRMG3010 MISY2010	-	3	2	2	
	Elective: Select 1 of 2							
	HRMG4084	Managing Diversity & Inclusion	MGMT2010	-	3	2	2	
	HRMG4094	Quality Practices in Human Resource Manage- ment	HRMG3040	-	3	2	2	
Semester 11 Total:					12	7	12	
SEMESTER 12	BUSG4301	Work Placement	BUSG4201	-	9	360 Total HRs		
	Semester 12 Total:					9	0	0
	Year 4 Total:					36	17	24
	B.B.A. HRM Program Total:					126	90	69

Graduate Future Pathways:

Graduates of the Bachelor of Business Administration in Human Resource Management (B.B.A. HRM) may choose to continue their studies and complete the Master of Science in Human Resource Management (M.Sc. HRM) degree program or pursue further specializations in their field.

- Recruitment Specialist
- Talent & Acquisition Specialist
- Human Resource Information Systems (HRIS) Specialist
- Benefits Administrator

Program Webpage:

[Click Here](#)

Career Opportunities:

The Bachelor of Business Administration in Human Resource Management (B.B.A. HRM) is an applied program with learning outcomes closely linked to the labor market. A wide range of career opportunities in the field currently exist and include, but are not limited to, the following:

- Training and Development Specialist
- Compensation & Benefits Specialist
- Human Resources (HR) Generalist
- Employee Relations Specialist
- Human Resources (HR) Analytics Specialist

Master's Programs



Master of Science in Accounting and Finance (M.Sc. AccFin)

Program Description:

The Master of Science in Accounting and Finance (M.Sc. AccFin) is awarded to students on the basis of a demonstrated achievement of program outcomes. The program is delivered over two years and includes academic, discipline-specific studies delivered through practical and experiential learning. The M.Sc. AccFin program offers an integrated approach that combines core practical accounting and finance application knowledge with applied research and analytical skills which are aligned with industry demands. Many courses include a research project as part of their assessment. Upon completion of the program, graduates will clearly demonstrate independent thinking in planning and implementing tasks at a professional level. Graduates demonstrate the global functions of practical accounting and financial knowledge, and are adept in dealing with complex issues in a systematic, strategic and creative way. Students develop the knowledge skills and competencies to apply an advanced body of knowledge in multiple contexts for both professional practice and as a pathway to a doctoral degree in Accounting or Finance.

Program Duration:

Two years

Admission Requirements:

Academic Requirement:

1. Undergraduate degree in Business from an accredited higher education institution with a minimum GPA of 3.0 on a 4.0 scale.
2. Undergraduate degree in an unrelated field of study with a minimum GPA of 3.0 on a 4.0 scale will be required to complete bridging courses to enhance existing knowledge, skill, and competencies.
3. Undergraduate degree with GPA above 2.0 and below 3.0 on a 4.0 scale, must have a minimum of five years' work experience in a related field. In addition, bridging courses may be required.

English Language Requirement:

4. The required score on the UDST English Placement Test or a passing score from another approved internationally recognized English language test, as validated by the Admissions & Registration Department; OR
5. A valid (within two years) IELTS Academic Test Report Form with an overall band of 6.0 with no individual band score (reading, writing, speaking, and listening) below 6.0; OR
6. A valid (within two years) TOEFL score of 90 and minimum scores of 17 in listening, 18 in reading, and 20 in speaking; OR

Additional Admission Criteria:

7. Academic transcripts related to the undergraduate degree must be submitted with application, and
8. Employment certificate from current employer indicating minimum full-time employment experience in years

Master of Science in Accounting and Finance (M.Sc. AccFin)

Program Educational Objectives:

Program educational objectives (PEOs) describe the knowledge, skills, and competencies a graduate can demonstrate in 2-3 years of graduation.

Within a few years of graduation from the Master of Science in Accounting and Finance (M.Sc. AccFin) program, graduates will be able to:

- PEO01. Demonstrate strategic knowledge of finance that can be used in analysis and business decision-making
- PEO02. Engage critical thinking skills based on quantitative finance theories to make sound investment decisions
- PEO03. Evaluate international accounting issues and practices that meet International Financial Reporting Standards
- PEO04. Build research skills in accounting and finance

Student Learning Outcomes:

Student Learning Outcomes (SLOs) describe the knowledge, skills, and competencies a graduate can demonstrate immediately upon graduation.

Upon successful completion of the Master of Science in Accounting and Finance (M.Sc. AccFin) program, graduates will be prepared to:

- SLO01. Evaluate corporate strategies pertaining to capital budgeting, capital structure, and working capital management
- SLO02. Analyze various investment strategies used to identify assets for portfolio construction using financial models and theories in decision-making
- SLO03. Critically appraise alternative solutions in financial decision making based on systematic analysis of complex business problems
- SLO04. Integrate quantitative skills, financial ideas, models, and techniques to analyze and recommend solutions to management challenges
- SLO05. Evaluate the accounting implications of an economic event according to the principles, standards, and practices of international financial reporting
- SLO06. Formulate a well-diversified portfolio using the appropriate current software and technology and creative approaches

Study Plan:

Year 1

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 1	MSAF6100	Empirical Research Methods	-	-	3	3	0
	MSAF6105	Financial Management	-	-	3	3	0
	MSAF6101	Financial Statement Preparation & Analysis	-	-	3	3	0
	Semester 1 Total:				9	9	0
SEMESTER 2	MSAF6205	Advanced Corporate Finance	MSAF6101 MSAF6105	-	3	3	0
	MSAF6211	Advanced Management Accounting	-	-	3	3	0
	MSAF6201	International Financial Reporting	MSAF6101	-	3	3	0
	Semester 2 Total:				9	9	0
Year 1 Total:					18	18	0

Master of Science in Accounting and Finance (M.Sc. AccFin)

Year 2

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK			
			Pre-Req	Co-Req	CR	LEC	LAB	
SEMESTER 3	MSAF6305	Investments & Portfolio Management	MSAF6205	-	3	3	0	
	Elective: Select 1 of 3							
	MSAF6315	Advanced Asset Pricing	MSAF6205	-	3	3	0	
	MSAF6301	Contemporary Issues in Accounting & Financial Economics	MSAF6101 MSAF6105	-	3	3	0	
	MSAF6325	Derivatives & Alternative Investments	MSAF6205	-	3	0	0	
	Semester 3 Total:					6	6	0
SEMESTER 4	MSAF6400	Dissertation	MSAF6100	-	6	2	12	
	Semester 4 Total:					6	2	12
	Year 2 Total:					12	8	12
	M.Sc. AccFin Program Total:					30	26	12

Graduate Future Pathways:

Graduates of the Master of Science in Accounting and Finance (M.Sc. AccFin) program may choose to continue their post graduate studies and pursue a Doctorate degree in their area of specialization.

Career Opportunities:

The two year Master of Science in Accounting and Finance (M.Sc. AccFin) is an applied program with learning outcomes closely linked to the labor market. A wide range of career opportunities in the field currently exist and include, but are not limited to, the following:

- Financial Analyst
- Financial Manager
- Investment Banker
- Financial Consultant
- Investor Relations Manager
- Portfolio Manager

Program Webpage:

[Click Here](#)

Master of Science in Human Resource Management (M.Sc. HRM)



Program Description:

The Master of Science in Human Resource Management (M.Sc. HRM) is a two year post-graduate program which provides graduates with the knowledge skills and competencies to meet the growing needs of human capital. Graduating students will be able to demonstrate an applied practical knowledge of human resource functions, and deal with complex issues systematically and creatively. The program uses an integrated approach to develop independent thinking in planning and implementing tasks at a professional level. It combines courses in core business areas with research-focused courses in a model fit for the specialization. In particular the program addresses issues such as labor-capital shortages, HR field skills gaps, and the development of the local and expatriate labor force. Graduates possess the ability to apply an advanced body of knowledge in multiple contexts for professional practice and as a pathway for a doctoral degree in human resource management.

Graduates are well positioned to effectively participate in the economic growth, social development and environmental management requirements of Qatar National Vision 2030.

Program Duration:

Two years

Admission Requirements:

Academic Requirement:

1. Bachelor of Applied Science from CNA-Q for Bachelor of Business Administration from UDST; OR
2. Undergraduate degree in an accepted field of study from an accredited higher education institution with a minimum GPA of 3.0 on a 4.0 scale.

English Language Requirement:

1. The required score on the University English Placement Test or a passing score from another approved internationally recognized English language test, as validated by the Admissions & Registration Department; OR
2. A valid (within two years) IELTS Academic Test Report Form with an overall band of 6.0 with no individual band score (reading, writing, speaking, and listening) below 6.0; OR
3. A valid (within two years) TOEFL score of 90 and minimum scores of 17 in listening, 18 in reading, and 20 in speaking; OR
4. A valid (within two years) iBT score of 72.

Additional Admission Criteria:

1. Academic transcripts related to the undergraduate degree and/or post graduate diploma presented upon application, and
2. Employment certificate from current employer with minimum experience of 2 years full-time employment

Master of Science in Human Resource Management (M.Sc. HRM)

Program Educational Objectives:

Program Educational Objectives (PEOs) describe the knowledge, skills, and competencies a graduate can demonstrate within 2-3 years of graduation.

Within a few years of graduation from the Master of Science in Human Resource Management (M.Sc. HRM) program, graduates will be able to:

- PEO01. Demonstrate mastery of applied and theoretical knowledge to reflect critically on established theories and professional practice in Human Resource Management
- PEO02. Synthesize complex information related to business decision making in general and Human Resource Management in particular, by using their cognitive, analytical, and creative skills
- PEO03. Interpret Human Resource Management frameworks, propositions, methodologies and professional decisions to specialist and non-specialist audience
- PEO04. Develop and execute a substantial research-based project, or thesis experience and/or piece of scholarship
- PEO05. Demonstrate self-reflection and originality in problem solving
- PEO06. Build effective working relationship with colleagues from diverse skills, experience levels in domestic and international environments

Student Learning Outcomes:

Student Learning Outcomes (SLOs) describe the knowledge, skills, and competencies a graduate can demonstrate immediately upon graduation.

Upon successful completion of the Master of Science in Human Resource Management (M.Sc. HRM) program, graduates will be prepared to:

- SLO01. Evaluate the effectiveness of strategic HR models in problem solving and decision making
- SLO02. Analyze narrative and cognitive methods in collecting human capital data
- SLO03. Develop competency-based strategies for effective talent management programs and initiatives
- SLO04. Evaluate the effectiveness of various HRP tools resolving workforce planning issues
- SLO05. Analyze strategies used to forecast labor supply and demand in domestic and international contexts
- SLO06. Conduct independent research to assist the organization in resolving current HR issues
- SLO07. Apply appropriate HR theories and models to resolve problem/s faced by an organization
- SLO08. Evaluate legal and ethical obligations in assessing organizational performance domestic and international environments

Study Plan:

Year 1

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 1	HRMG5010	Contemporary Issues in Human Resources	-	-	3	3	0
	BUSG5010	Advanced Business Research Methods	-	-	3	3	0
	BUSG5020	Decision Making & Negotiation	-	-	3	3	0
	Semester 1 Total:				9	9	0
SEMESTER 2	BUSG5030	Corporate Social Responsibility & Governance	-	-	3	3	0
	HRMG5020	People Analytics	-	-	3	3	0
	Elective: Select 1 of 2						
	HRMG6081	Global Talent Management	HRMG5010	-	3	3	0
	HRMG6091	Organizational Development & Change	HRMG5010	-	3	3	0
Semester 2 Total:					9	9	0
Year 1 Total:					18	18	0

Master of Science in Human Resource Management (M.Sc. HRM)

Year 2

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK			
			Pre-Req	Co-Req	CR	LEC	LAB	
SEMESTER 3	HRMG5030	Leading Strategic HR Transformation	HRMG5010	-	3	3	0	
	HRMG5040	Digital Human Resources	HRMG5010	-	3	3	0	
	HRMG5099	Human Resource Management Thesis	BUSG5010	-	Credits will not be counted in this semester. Course will be assessed in the final semester			
	Elective: Select 1 of 2							
	HRMG6082	Culture & Diversity Management	-	-	3	3	0	
	HRMG6092	Talent Management & Development	-	-	3	3	0	
	Semester 3 Total:					9	9	0
SEMESTER 4	HRMG5099	Human Resource Management Thesis	BUSG5010	-	6	0	18	
	Elective: Select 1 of 2							
	HRMG6083	Managing Change in Multinational Corporations	HRMG5010	-	3	3	0	
	HRMG6093	Design Thinking & Creativity	-	-	3	3	0	
	Semester 4 Total:					9	3	18
	Year 2 Total:					18	12	18
	M.Sc. HRM Program Total:					36	30	18

Graduate Future Pathways:

Graduates of the Master of Human Resource Management (M.Sc. HRM) program may choose to continue their post graduate studies and pursue a Doctorate degree in their area of specialization.

Program Webpage:

[Click Here](#)

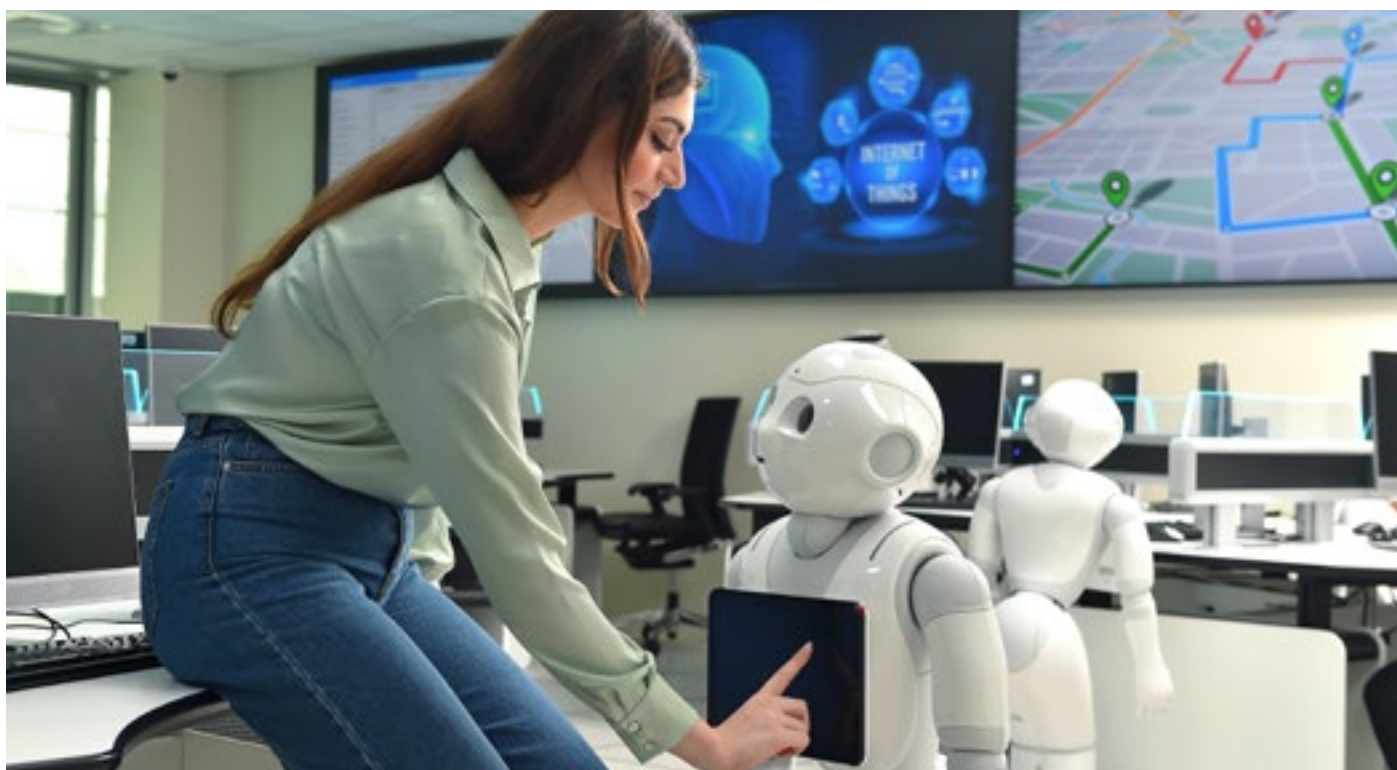
Career Opportunities:

The Master of Science in Human Resource Management (M.Sc. HRM) is an applied two year program with learning outcomes closely linked to the labor market. A wide range of career opportunities in the field currently exist and include, but are not limited to, the following:

- Human Resources (HR) Manager
- Compensation & Benefits Manager
- Human Resources Information Systems (HRIS) Manager
- Talent & Acquisition Manager
- Learning & Development Manager
- Recruitment Manager



College of Computing and Information Technology (CCIT)



We would like to welcome you to the College of Computing and Information Technology (CCIT). Information Technology (IT) is a broad and rapidly growing field critical to business, government and everyday life. CCIT offers cutting-edge undergraduate and graduate programs developed by distinguished faculty and industry experts, allowing students to specialize in Information Systems, Information Technology, Data and Cyber Security, Data Science and Artificial Intelligence, or Digital Communication and Media Production.

We are proud of our commitment to providing applied, experience-based education in Information Technology (IT) and a vital component of this educational experience is the faculty. CCIT faculty have research and industry expertise and liaise with industry in the development and delivery of curriculum to ensure students receive in-demand IT training. In addition, CCIT faculty are passionate about education and committed to inspiring and supporting students through their learning journey.

CCIT has launched (2) two exciting educational platforms dedicated to developing student knowledge, skills and competencies in IT:

1. The Cyber Security Lab, founded in partnership with Palo Alto Networks, supports cutting-edge research and teaching on different cyber security areas, with the ability to share research and information regionally and globally.
2. The AI and IoT Lab. contains state of the art robots and IoT platforms to support cutting edge research, training and teaching in AI and IoT.

Like the IT industry in Qatar, CCIT is dynamic and ever-growing. Our College is committed to offering current programs and courses that contribute to developing in-demand skills and competencies to support Qatar's technology leadership in the region and internationally.



Diploma Programs



Diploma in Information Systems (Dip. IS)

Program Description:

The Diploma in Information Systems (Dip. IS) is a two year program that prepares graduates with the knowledge, skills and competencies needed to launch an exciting career in Information Systems (IS). After completing this hands-on diploma program, graduates will possess a foundation in IT systems and networking concepts, programming languages, cybersecurity and Web technologies.

The Dip. IS program enables students to:

- Build a strong foundation in information systems
- Develop skills applicable to the rapidly changing computing industry
- Learn through integrating applied real-world experiences
- Build knowledge, skills and capabilities aligned to the requirements of leading international information technology and information systems bodies

Students engage in hands-on experiential learning through applied assignments and a required IS work placement. Graduates are well positioned to support the maintenance of information systems in a wide variety of fields.

Program Duration:

Two years

Admission Requirements:

High School or Academic Requirement:

1. High school graduation certificate or equivalent approved by the Ministry of Education and Higher Education with a minimum average of 60%, plus two courses: one final year Mathematics, and one final year Science (Biology, Physics, Chemistry) or Technology (Algorithms, Programming, Network, Computer Science, or equivalent).

English Language Requirement:

1. The required score on the University English Placement Test or a passing score from another approved internationally recognized English language test, as validated by the Admissions & Registration Department; OR
2. A valid (within two years) IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, and listening) below 5.0; OR
3. Successful completion of Foundation Program requirements.

Mathematics Requirement:

4. Must achieve the required score on the University Math Placement Test; OR
5. A valid SAT Report Form with minimum score of 480.

Additional Admission Criteria:

1. Admission is competitive. Eligible applicants are ranked based on their overall final year (Grade 12 or equivalent) high school percentage, placement tests rankings, and admission priority category.

Diploma in Information Systems (Dip. IS)

Program Educational Objectives:

Program educational objectives (PEOs) describe the knowledge, skills, and competencies a graduate can demonstrate within 2-3 years of graduation.

Within a few years of graduation from the Diploma in Information Systems (Dip. IS) program, graduates will be able to:

- PEO01. Integrate Information Systems solutions
- PEO02. Apply policies and procedures approved by executive officials to ensure adherence to best practice in information systems and data protection
- PEO03. Utilize current and emerging safeguards to ensure the safety and authenticity of organizational data
- PEO04. Implement innovative business solutions to provide added value to the organization
- PEO05. Engage in lifelong learning, professional development, and ethical practices

Student Learning Outcomes:

Student Learning Outcomes (SLOs) describe the knowledge, skills, and competencies a graduate can demonstrate immediately upon graduation.

Upon successful completion of the Diploma in Information Systems (Dip. IS) program, graduates will be prepared to:

- SLO01. Analyze a broadly-defined computing problem and apply principles of information systems to identify solutions
- SLO02. Identify and analyze user needs and to take them into account in the selection, creation, integration, evaluation, and administration of information systems
- SLO03. Communicate effectively in a variety of professional contexts
- SLO04. Recognize professional responsibilities and make informed judgments in computing practice
- SLO05. Function effectively as member of a team engaged in activities appropriate to information systems



Diploma in Information Systems (Dip. IS)

Study Plan:

Year 1

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 1	COMM1010	English Communication I	-	-	3	3	0
	INFS1101	Intro to Computing & Problem Solving	-	-	3	2	3
	INFT1201	Computer Hardware	-	-	4	3	3
	Effective & Experiential Learning Elective: Select 1 of 2						
	EFFL1001	Effective Learning	-	-	3	3	0
	EFFL1002	Applied & Experiential Learning	-	-	3	3	0
Semester 1 Total:					13	11	6
SEMESTER 2	COMM1020	English Communication II	COMM1010	-	3	3	0
	INFS1201	Computer Programming	INFS1101	-	4	3	3
	INFT2101	Networking I	INFT1201	-	4	3	3
	MATH1020	Pre-Calculus	MATH1010 OR Min Score on UDST Math Placement Test	-	3	3	0
	Semester 2 Total:					14	12
SEMESTER 3	INFT2202	Linux Foundations	INFT1201	-	3	2	3
	Elective: Select 1 of 3						
	MATH1040	Statistics	-	-	3	3	1
	SCIE1001	Science & Its Applications	-	-	3	3	0
	SCIE1002	Science & the Environment	-	-	3	3	0
	Semester 3 Total:					6	5
Year 1 Total:					33	28	15

Diploma in Information Systems (Dip. IS)

Year 2

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 4	DACS2201	Introduction to Data & Cyber Security	INFT2101	-	3	2	3
	INFS2101	Web Technologies I	INFS1201	-	3	2	3
	INFS2201	Database Management Systems	INFS1101	-	3	2	3
	INFS3102	Object Oriented Programming	INFS1201	-	3	2	3
	Semester 4 Total:				12	8	12
SEMESTER 5	COMP2201	Technical Project	Min 39 Credits	-	3	0	6
	INFS3103	Systems Analysis & Design	INFS2201	-	3	2	3
	INFS3201	Web Technologies II	INFS2101	-	3	2	3
	INFT3203	Web Server Management	INFS2101 INFT2202	-	3	2	3
	Semester 5 Total:				12	6	15
SEMESTER 6	COMP2301	Work Placement	COMP2201	-	9	0	40
	Semester 6 Total:				9	0	40
	Year 2 Total:				33	14	67
Dip. IS Program Total:					66	42	82

Graduate Future Pathways:

Graduates of the Diploma in Information Systems (Dip. IS) program are eligible for advanced entry into the Bachelor of Science in Information Systems (B.Sc. IS). Graduates may also apply to the Bachelor of Science in Information Technology (B.Sc. IT), the Bachelor of Science in Data Science and Artificial Intelligence (B.Sc. DSAI) or the Bachelor of Science in Data and Cyber Security (B.Sc. DCS) programs.

Program Webpage:

[Click Here](#)

Graduate Career Opportunities:

The Diploma in Information Systems (Dip. IS) an applied program with learning outcomes closely linked to the labor market. A wide range of career opportunities in the field currently exist, and include, but are not limited to, the following:

- Junior Information Systems Administrator
- MIS Systems Support Specialist
- System Architect Support Technician
- Information Systems Specialist
- Junior Information System Analyst
- Government Data System Support Specialist

Diploma in Information Technology (Dip. IT)



Program Description:

The Diploma in Information Technology (Dip. IT) is a two year program that prepares graduates with the knowledge, skills and competencies needed to enter an exciting career in Information Technology. After completing this hands-on diploma program, graduates will possess a foundation in information technology (IT) and evolving computing practices and methods.

The Dip. IT program enables students to:

- Build a strong foundation in information technology
- Develop skills applicable to the rapidly changing computing industry
- Learn through integrating applied real-world experiences
- Build knowledge, skills and capabilities aligned to the requirements of leading international IT bodies

Graduates are well positioned to support of Information Technology processes. Students engage in hands-on experiential learning through applied assignments and a required IT work placement. Graduates are well positioned to launch their career in IT.

Program Duration:

Two years

Admission Requirements:

High School or Academic Requirement:

1. High school graduation certificate or equivalent approved by the Ministry of Education and Higher Education with a minimum average of 60%, plus two courses: one final year Mathematics, and one final year Science (Biology, Physics, Chemistry) or Technology (Algorithms, Programming, Network, Computer Science, or equivalent).

English Language Requirement:

1. The required score on the University English Placement Test or a passing score from another approved internationally recognized English language test, as validated by the Admissions & Registration Department; OR
2. A valid (within two years) IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, and listening) below 5.0; OR
3. Successful completion of Foundation Program requirements.

Mathematics Requirement:

1. Must achieve the required score on the University Math Placement Test; OR
2. A valid SAT Report Form with minimum score of 480.

Additional Admission Criteria:

1. Admission is competitive. Eligible applicants are ranked based on their overall final year (Grade 12 or equivalent) high school percentage, placement tests rankings, and admission priority category.

Diploma in Information Technology (Dip. IT)

Program Educational Objectives:

Program educational objectives (PEOs) describe the knowledge, skills, and competencies a graduate can demonstrate within 2-3 years of graduation.

Within a few years of graduation from the Diploma in Information Technology (Dip. IT) program, graduates will be able to:

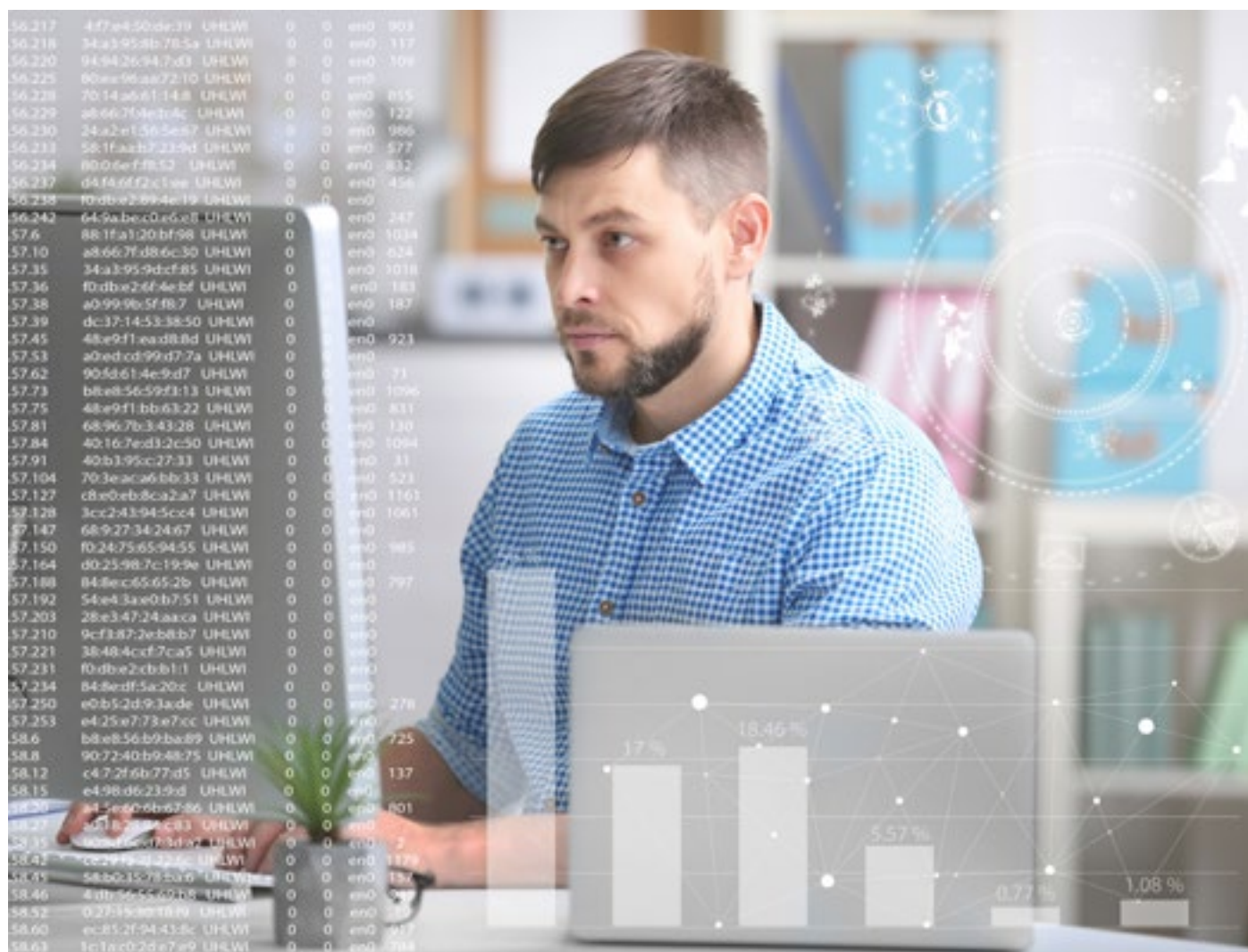
- PEO01. Integrate Information Technology solutions
- PEO02. Apply policies and procedures approved by executive officials to ensure adherence to best practice in information technology and data protection
- PEO03. Utilize current and emerging safeguards to ensure the safety and authenticity of organizational data
- PEO04. Implement innovative information technology solutions to provide added value to the organization
- PEO05. Engage in lifelong learning, professional development, and ethical practices

Student Learning Outcomes:

Student Learning Outcomes (SLOs) describe the knowledge, skills, and competencies a graduate can demonstrate immediately upon graduation.

Upon successful completion of the Diploma in Information Technology (Dip. IT) program, graduates will be prepared to:

- SLO01. Integrate Information Technology solutions
- SLO02. Apply current computing principles and practices to maintain effective information technology operations
- SLO03. Utilize current and emerging information technology safeguards to ensure the safety and authenticity of organizational infrastructure
- SLO04. Implement innovative information technology solutions to provide added value to the organization
- SLO05. Engage in lifelong learning, professional development, and ethical practices



Diploma in Information Technology (Dip. IT)

Study Plan:

Year 1

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 1	COMM1010	English Communication I	-	-	3	3	0
	INFS1101	Intro to Computing & Problem Solving	-	-	3	2	3
	INFT1201	Computer Hardware	-	-	4	3	3
	Effective & Experiential Learning Elective: Select 1 of 2						
	EFFL1001	Effective Learning	-	-	3	3	0
	EFFL1002	Applied & Experiential Learning	-	-	3	3	0
Semester 1 Total:					13	11	6
SEMESTER 2	COMM1020	English Communication II	COMM1010	-	3	3	0
	INFS1201	Computer Programming	INFS1101	-	4	3	3
	INFT2101	Networking I	INFT1201	-	4	3	3
	MATH1020	Pre-Calculus	MATH1010 OR Minimum Score on UDST Math Place- ment Test	-	3	3	0
	Semester 2 Total:					14	12
SEMESTER 3	INFT3301	IT Service Management	-	-	3	2	3
	Elective: Select 1 of 3						
	MATH1040	Statistics	-	-	3	3	1
	SCIE1001	Science & Its Applications	-	-	3	3	0
	SCIE1002	Science & the Environment	-	-	3	3	0
	Semester 3 Total:					6	5
Year 1 Total:					33	28	15

Diploma in Information Technology (Dip. IT)

Year 2

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 4	INFS2201	Database Management Systems	INFS1101	-	3	2	3
	INFT2103	Network Implementation	INFT2101	-	3	2	3
	INFT2104	System Administration	INFT2101	-	3	2	3
	INFT2202	Linux Foundations	INFT1201	-	3	2	3
	Semester 4 Total:				12	8	12
SEMESTER 5	COMP2201	Technical Project	Min 39 Credits	-	3	0	6
	DACS2201	Introduction to Data & Cyber Security	INFT2101	-	3	2	3
	INFT2203	Network Design	INFT2103	-	3	2	3
	INFT2204	Enterprise Services	INFT2104	-	3	2	3
	Semester 5 Total:				12	6	15
SEMESTER 6	COMP2301	Work Placement	COMP2201	-	9	0	40
	Semester 6 Total:				9	0	40
	Year 2 Total:				33	14	67
Dip. IT Program Total:					66	42	82

Graduate Future Pathways:

Graduates of the Diploma in Information Technology (Dip. IT) program are eligible for advanced entry into the Bachelor of Science in Information Technology (B.Sc. IT). Graduates may also apply to the Bachelor of Science in Information Systems (B.Sc. IS), the Bachelor of Science in Data Science and Artificial Intelligence (B.Sc. DSAI) or the Bachelor of Science in Data and Cyber Security (B.Sc. DCS) programs.

Program Webpage:

[Click Here](#)

Graduate Career Opportunities:

The Diploma in Information Technology (Dip. IT) is an applied program with learning outcomes closely linked to the labor market. A wide range of career opportunities in the field currently exist, and include, but are not limited to, the following:

- IT Support Specialist
- IT Systems Administration Support
- Information Technology Help Desk Specialist
- Business Development and Solutions Specialist
- Venue Technology Coordinator
- Hardware Engineering Support



Bachelor Programs



Bachelor of Science in Data and Cyber Security (B.Sc. DCS)

Program Description:

The Bachelor of Science in Data and Cyber Security (B.Sc. DCS) is a four year program which provides students with the applied knowledge and skills needed for a dynamic career in the field of Data and Cyber Security (DCS). The program includes DCS courses alongside various foundational computing discipline courses, enabling graduates to contribute to the operational context of DCS functions. The interdisciplinary area of cyber security includes elements of data security. It focuses on how hardware and software systems can be designed and operated to ensure business or institutional security by reducing the threat of unauthorized access or intervention. The B.Sc. DCS program develops students' abilities to design, implement, and maintain advanced security mechanisms, policies and procedures within information technology environments. This is supported by exposure to data security techniques offering students a solid understanding of cyber risk assessment and safe data management strategies. These skill sets, when consolidated through the completion of an industry work placement and capstone project, will prepare graduates for an exciting career in modern-day DCS.

Program Duration:

Four years

Admission Requirements:

High School or Academic Requirement:

1. High school graduation certificate or equivalent approved by the Ministry of Education and Higher Education with a minimum average of 60%, plus two courses: one final year Mathematics, and one final year Science (Biology, Physics, Chemistry) or Technology (Algorithms, Programming, Network, Computer Science, or equivalent); OR
2. Two-year Information Technology Diploma from CNA-Q, or equivalent; OR
3. One-year Advanced Information Technology Diploma from CNA-Q, or equivalent.

English Language Requirement:

1. The required score on the University English Placement Test or a passing score from another approved internationally recognized English language test, as validated by the Admissions & Registration Department; OR
2. A valid (within two years) IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, and listening) below 5.0; OR
3. Successful completion of Foundation Program requirements.

Mathematics Requirement:

1. Must achieve the required score on the University Math Placement Test; OR
2. A valid SAT Report Form with minimum score of 480.

Additional Admission Criteria:

1. Admission is competitive. Eligible applicants are ranked based on their overall final year (Grade 12 or equivalent) high school percentage, placement tests rankings, and admission priority category.

Bachelor of Science in Data and Cyber Security (B.Sc. DCS)

Program Educational Objectives:

Program educational objectives (PEOs) describe the knowledge, skills, and competencies a graduate can demonstrate within 2-3 years of graduation

Within a few years of graduation from the Bachelor of Science in Data and Cyber Security (B.Sc. DCS) program, graduates will be able to:

- PEO01. Manage information technology, data, and cyber security environments
- PEO02. Develop policies and procedures for approval by executive officials to ensure adherence to best practices in information technology and data protection
- PEO03. Evaluate current and emerging safeguards for use to ensure the safety and authenticity of an organization's data
- PEO04. Provide threat and vulnerability analyses along with security solutions and business advisory services
- PEO05. Engage in lifelong learning, professional development, and ethical practices

Student Learning Outcomes:

Student Learning Outcomes (SLOs) describe the knowledge, skills, and competencies a graduate can demonstrate immediately upon graduation

Upon successful completion of the Bachelor of Science in Data and Cyber Security (B.Sc. DCS) program, graduates will be prepared to:

- SLO01. Analyze a complex computing problem and apply principles of computing and other relevant disciplines to identify solutions
- SLO02. Develop, implement, and evaluate computing-based solutions to meet requirements in the context of the program's discipline
- SLO03. Communicate effectively in a variety of professional contexts
- SLO04. Demonstrate professional responsibilities and make informed judgments in computing practice based on legal and ethical principles
- SLO05. Function effectively as a member or leader of a team engaged in activities appropriate to the program's discipline
- SLO06. Apply security principles and practices to maintain operations in the presence of risks and threats



Bachelor of Science in Data and Cyber Security (B.Sc. DCS)

Study Plan:

Year 1

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 1	COMM1010	English Communication I	-	-	3	3	0
	INFS1101	Intro to Computing & Problem Solving	-	-	3	2	3
	MATH1030	Calculus I	MATH1020 OR Minimum score on UDST Math Placement Test	-	3	3	0
	Effective & Experiential Learning Elective: Select 1 of 2						
	EFFL1001	Effective Learning	-	-	3	3	0
	EFFL1002	Applied & Experiential Learning	-	-	3	3	0
Semester 1 Total:					12	11	3
SEMESTER 2	COMM1020	English Communication II	COMM1010	-	3	3	0
	INFS1201	Computer Programming	INFS1101	-	4	3	3
	INFT1201	Computer Hardware	-	-	4	3	3
	MATH1040	Statistics	-	-	3	3	1
	Semester 2 Total:				14	12	7
SEMESTER 3	INFS1301	Computing Ethics & Society	-	-	3	3	0
	Elective: Select 1 of 2						
	SCIE1001	Science & Its Applications	-	-	3	3	0
	SCIE1002	Science & the Environment	-	-	3	3	0
	SCIE1002	Science & the Environment	-	-	3	3	0
Semester 3 Total:					6	6	0
Year 1 Total:					32	29	10

Bachelor of Science in Data and Cyber Security (B.Sc. DCS)

Year 2

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 4	DACS2101	Discrete Structures	INFS1101	-	3	2	3
	INFS2101	Web Technologies I	INFS1201	-	3	2	3
	INFT2101	Networking I	INFT1201	-	4	3	3
	MATH1050	Linear Algebra	-	-	3	3	1
Semester 4 Total:					13	10	10
SEMESTER 5	DACS2201	Introduction to Data & Cyber Security	INFT2101	-	3	2	3
	DSAI2201	Introduction to Data Science & AI	INFS1201	-	3	2	3
	INFS2201	Database Management Systems	INFS1101	-	3	2	3
	INFT2201	Introduction to Operating Systems	INFT1201 INFS1201	-	3	2	3
Semester 5 Total:					12	8	12
SEMESTER 6	BUSG2002	Project Management	-	-	3	3	0
	Social Sciences, Humanities, & the Arts Elective: Select 1 of 6						
	SSHA1001	Islamic & Arab Civilization	-	-	3	3	0
	SSHA1002	Introduction to Sociology	-	-	3	3	0
	SSHA1003	Introductory Psychology	-	-	3	3	0
	SSHA1004	Ethical Reasoning	-	-	3	3	0
	SSHA1005	Law & Society	-	-	3	3	0
	SSHA1006	Introduction to the Arts	-	-	3	3	0
Semester 6 Total:					6	6	0
Year 2 Total:					31	24	22

Bachelor of Science in Data and Cyber Security (B.Sc. DCS)

Year 3

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 7	DACS3101	Applied Cryptography	DACS2101	-	3	2	3
	INFT3101	Networking II	INFT2101	-	3	2	3
	INFS3102	Object Oriented Programming	INFS1201	-	3	2	3
	Global Awareness and Regional Challenges Elective: Select 1 of 4						
	ECON1001	Global Economic Concepts	-	-	3	3	0
	GARC1001	Qatar History & Society	-	-	3	3	0
	GARC2001	Human Development in Qatar	-	-	3	3	0
	GARC2002	Globalization & Environment	-	-	3	3	0
	Semester 7 Total:					12	9
SEMESTER 8	DACS3201	Network Security	INFT3101	-	3	2	3
	DACS3202	Cyber Security Analytics & Visualization	DSAI2201	-	3	2	3
	DACS3203	Secure Software Development	INFS3102	-	3	2	3
	INFS3201	Web Technologies II	INFS2101	-	3	2	3
	Semester 8 Total:					12	8
SEMESTER 9	DACS3301	Privacy in the Digital Era	DACS2201	-	3	3	0
	Global Awareness and Regional Challenges Elective: Select 1 of 4						
	ECON1001	Global Economic Concepts	-	-	3	3	0
	GARC1001	Qatar History & Society	-	-	3	3	0
	GARC2001	Human Development in Qatar	-	-	3	3	0
	GARC2002	Globalization & Environment	-	-	3	3	0
	Semester 9 Total:					6	6
Year 3 Total:					30	23	21

Bachelor of Science in Data and Cyber Security (B.Sc. DCS)

Year 4

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 10	COMP4101	Practicum	Min 80 Credits	-	3	1	6
	DACS4101	Security Engineering Principles	DACS3101	-	3	2	3
	DACS4103	Scripting for Cyber Security	INFS3102	-	3	2	3
	Elective: Select 1 of 3						
	DACS4102	Web Security	INFS3201	-	3	2	3
	DACS4105	Cyber Physical Architectures & Protocols	INFT3101	-	3	2	3
	DACS4210	Cyber Security Policies, Strategies & Procedures	DACS3301	-	3	3	0
Semester 10 Total:					12	8	12
SEMESTER 11	COMP4201	Capstone Project	COMP4101	-	3	0	6
	DACS4206	Security Monitoring & Incident Response	DACS3202	-	3	2	3
	Elective: Select 2 of 6						
	DACS4202	Penetration Testing	DACS3203	-	3	2	3
	DACS4203	IoT & OT Hacking	DACS2201 INFS3102	-	3	2	3
	DACS4204	Cloud Security	DACS3201	-	3	2	3
	DACS4205	Digital Forensics	DACS3203	-	3	2	3
	DACS4208	Industrial Control Systems Security	DACS4105	-	3	2	3
	INFT4208	Governance & Management of IT	INFT3101	-	3	3	0
Semester 11 Total:					12	7	12
SEMESTER 12	COMP4301	Work Placement	COMP4201	-	9	0	40
Semester 12 Total:					9	0	40
Year 4 Total:					33	15	64
B.Sc. DCS Program Total					126	91	117

Graduate Future Pathways:

Graduates of the Bachelor of Science in Data and Cyber Security (B.Sc. DCS) program may choose to further specialize or pursue graduate studies in their area.

Graduate Career Opportunities:

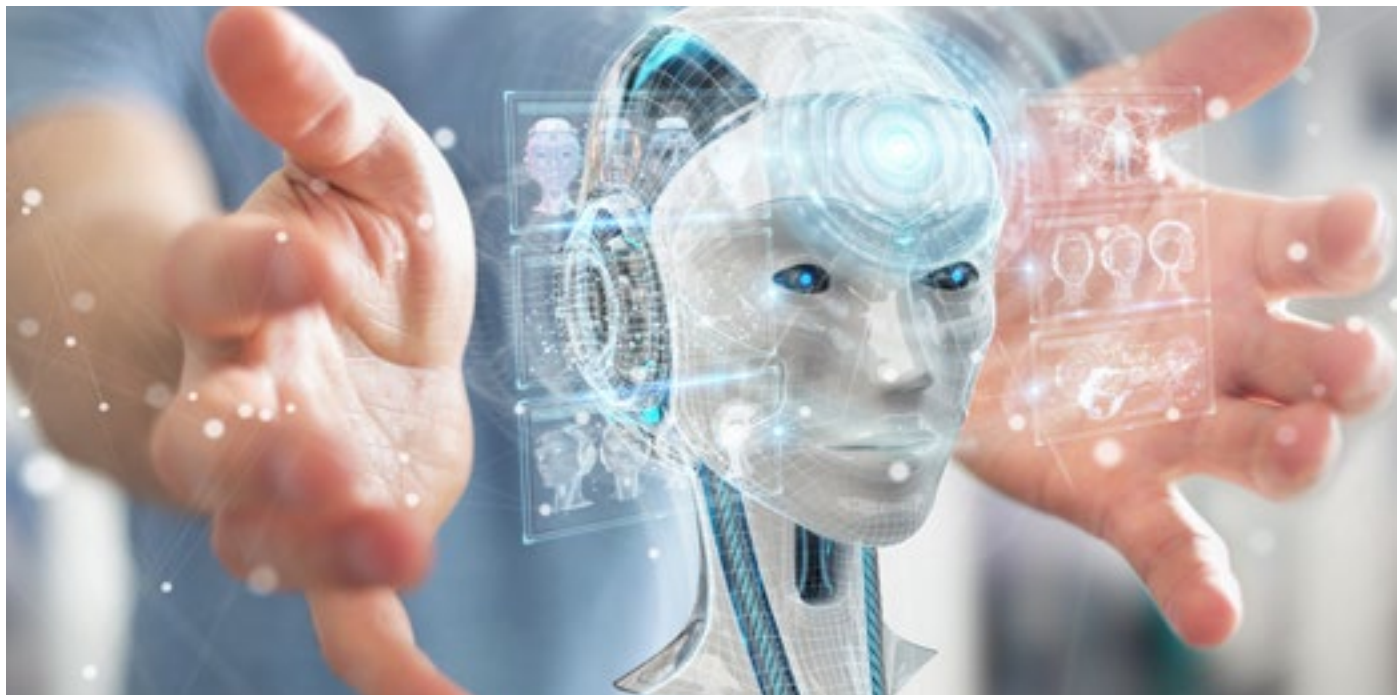
The Bachelor of Science in Data and Cyber Security (B.Sc. DCS) is an applied program with learning outcomes closely linked to the labor market. A wide range of career opportunities in the field currently exist, and include, but are not limited to, the following:

- Computer Systems Security Analyst
- Cyber Security Analyst
- Information Security Analyst
- Information Security Risk Analyst
- Data Security Manager
- IT Auditor
- Penetration and Vulnerability Tester (Ethical Hacker)
- Digital Forensic Specialist
- Governance, Risk and Compliance Officer

Program Webpage:

[Click Here](#)

Bachelor of Science in Data Science and Artificial Intelligence (B.Sc. DSAI)



Program Description:

The Bachelor of Science in Data Science and Artificial Intelligence (B.Sc. DSAI) is a four year program which provides students with the applied knowledge and skills needed for exciting careers in the field of Data Science and Artificial Intelligence (DSAI). The program includes foundational information technology (IT) courses which, in combination with DSAI courses, will enable graduates to both understand and contribute to the information technology (IT) context in which data science and artificial intelligence (AI) associated functions are performed. Students develop skills to leverage AI in the collection, analysis and interpretation of data for decision making that can be applied in any field. This is supported by data science techniques offering students a solid understanding of data management strategies. These skill sets, when consolidated through the completion of an industry work placement and capstone project, prepare graduates for an exciting career in contemporary information technology, data science and AI.

Program Duration:

Four years

Admission Requirements:

High School or Academic Requirement:

1. High school graduation certificate or equivalent approved by the Ministry of Education and Higher Education with a minimum average of 60%%, plus two courses: one final year Mathematics, and one final year Science (Biology, Physics, Chemistry) or Technology (Algorithms, Programming, Network, Computer Science, or equivalent); OR
2. Two-year Information Technology Diploma from CNA-Q, or equivalent; OR
3. One-year Advanced Information Technology Diploma from CNA-Q, or equivalent.

English Language Requirement:

1. The required score on the University Math Test or a passing score from another approved internationally recognized English language test, as validated by the Admissions & Registration Department; OR
2. A valid (within two years) IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, and listening) below 5.0; OR
3. Successful completion of Foundation Program requirements.

Mathematics Requirement:

1. Must achieve the required score on the University Math Placement Test; OR
2. A valid SAT Report Form with minimum score of 480.

Additional Admission Criteria:

1. Admission is competitive. Eligible applicants are ranked based on their overall final year (Grade 12 or equivalent) high school percentage, placement tests rankings, and admission priority category.

Bachelor of Science in Data Science and Artificial Intelligence (B.Sc. DSAI)

Program Educational Objectives:

Program educational objectives (PEOs) describe the knowledge, skills, and competencies a graduate can demonstrate within 2-3 years of graduation.

Within a few years of graduation from the Bachelor of Science in Data Science and Artificial Intelligence (B.Sc. DSAI) program, graduates will be able to:

- PEO01. Demonstrate strategic knowledge of finance that can be used in analysis and business decision-making
- PEO01. Manage information technology, data-driven environments and autonomous intelligent systems
- PEO02. Develop policies and procedures for approval by executive officials to ensure adherence to best practice in information technology, data management and governance, including data security and privacy aspects
- PEO03. Evaluate current and emerging data collection and analysis tools to optimize business processes and fuel data-driven decisions to ensure businesses sustainability and growth
- PEO04. Design digital transformation processes and systems that transform businesses and society and shape the future for the better by adhering to strict ethical principles
- PEO05. Engage in lifelong learning, professional development and ethical practices

Student Learning Outcomes:

Student Learning Outcomes (SLOs) describe the knowledge, skills, and competencies a graduate can demonstrate immediately upon graduation.

Upon successful completion of the Bachelor of Science in Data Science and Artificial Intelligence (B.Sc. DSAI) program, graduates will be prepared to:

- SLO01. Analyze a complex computing problem and apply principles of computing and other relevant disciplines to identify solutions
- SLO02. Develop, implement, and evaluate computing-based solutions to meet requirements in the context of the program's discipline
- SLO03. Communicate effectively in a variety of professional contexts, in particular present effectively and visually results of data analytics
- SLO04. Demonstrate professional responsibilities and make informed judgments in computing practice based on legal and ethical principles
- SLO05. Function effectively as a member or leader of a team engaged in activities appropriate to the program's discipline



Bachelor of Science in Data Science and Artificial Intelligence (B.Sc. DSAI)

Study Plan:

Year 1

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 1	COMM1010	English Communication I	-	-	3	3	0
	INFS1101	Intro to Computing & Problem Solving	-	-	3	2	3
	MATH1030	Calculus I	MATH1020 OR Minimum score on UDST Math Place- ment Test	-	3	3	0
	Effective & Experiential Learning Elective: Select 1 of 2						
	EFFL1001	Effective Learning	-	-	3	3	0
	EFFL1002	Applied & Experiential Learning	-	-	3	3	0
Semester 1 Total:					12	11	3
SEMESTER 2	COMM1020	English Communication II	COMM1010	-	3	3	0
	INFS1201	Computer Programming	INFS1101	-	4	3	3
	INFT1201	Computer Hardware	-	-	4	3	3
	MATH1040	Statistics	-	-	3	3	1
	Semester 2 Total:					14	12
SEMESTER 3	INFS1301	Computing Ethics & Society	-	-	3	3	0
	Elective: Select 1 of 2						
	SCIE1001	Science & Its Applications	-	-	3	3	0
	SCIE1002	Science & the Environment	-	-	3	3	0
	Semester 3 Total:					6	6
Year 1 Total:					32	29	10

Bachelor of Science in Data Science and Artificial Intelligence (B.Sc. DSAI)

Year 2

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 4	DACS2101	Discrete Structures	INFS1101	-	3	2	3
	INFS2101	Web Technologies I	INFS1201	-	3	2	3
	INFT2101	Networking I	INFT1201	-	4	3	3
	MATH1050	Linear Algebra	-	-	3	3	1
Semester 4 Total:					13	10	10
SEMESTER 5	DACS2201	Introduction to Data & Cyber Security	INFT2101	-	3	2	3
	DSAI2201	Introduction to Data Science & AI	INFS1201	-	3	2	3
	INFT2201	Introduction to Operating Systems	INFS1201 INFT1201	-	3	2	3
	INFS2201	Database Management Systems	INFS1101	-	3	2	3
Semester 5 Total:					12	8	12
SEMESTER 6	BUSG2002	Project Management	-	-	3	3	0
	Social Sciences, Humanities, & the Arts Elective: Select 1 of 6						
	SSHA1001	Islamic & Arab Civilization	-	-	3	3	0
	SSHA1002	Introduction to Sociology	-	-	3	3	0
	SSHA1003	Introductory Psychology	-	-	3	3	0
	SSHA1004	Ethical Reasoning	-	-	3	3	0
	SSHA1005	Law & Society	-	-	3	3	0
	SSHA1006	Introduction to the Arts	-	-	3	3	0
Semester 6 Total:					6	6	0
Year 2 Total:					31	24	22

Bachelor of Science in Data Science and Artificial Intelligence (B.Sc. DSAI)

Year 3

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 7	INFS3102	Object Oriented Programming	INFS1201	-	3	2	3
	INFS3104	Data Structures & Algorithms	INFS1201 & DACS2101 OR INFS1201 & INFT2102	-	3	2	3
	INFS3201	Web Technologies II	INFS2101	-	3	2	3
	Global Awareness & Regional Challenges Elective: Select 1 of 4						
	ECON1001	Global Economic Concepts	-	-	3	3	0
	GARC1001	Qatar History & Society	-	-	3	3	0
	GARC2001	Human Development in Qatar	-	-	3	3	0
	GARC2002	Globalization & Environment	-	-	3	3	0
Semester 7 Total:					12	9	9
SEMESTER 8	DSAI3201	Machine Learning	INFS3102 MATH1030 MATH1050	-	3	2	3
	DSAI3202	Parallel & Distributed Computing	INFS3104	-	3	2	3
	DSAI3203	Fundamentals of AI	DACS2101	-	3	2	3
	DSAI3204	IoT Application Development	INFS3201	-	3	2	3
Semester 8 Total:					12	8	12
SEMESTER 9	DSAI3301	Data Analysis & Visualization	DSAI2201 MATH1040	-	3	2	3
	Global Awareness & Regional Challenges Elective: Select 1 of 4						
	ECON1001	Global Economic Concepts	-	-	3	3	0
	GARC1001	Qatar History & Society	-	-	3	3	0
	GARC2001	Human Development in Qatar	-	-	3	3	0
	GARC2002	Globalization & Environment	-	-	3	3	0
Semester 9 Total:					6	5	3
Year 3 Total:					30	22	24

Bachelor of Science in Data Science and Artificial Intelligence (B.Sc. DSAI)

Year 4

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 10	COMP4101	Practicum	Min 80 Credits	-	3	1	6
	DSAI4101	Applied Deep Learning & Neural Network	DSAI3201	-	3	2	3
	DSAI4104	Fundamentals of IoT	INFT2101	-	3	2	3
	Elective: Select 1 of 2						
	DSAI4102	Applied Data Mining	DSAI3201	-	3	2	3
	DSAI4106	Embedded Systems & IoT	INFT2101	-	3	2	3
Semester 10 Total:					12	7	15
SEMESTER 11	COMP4201	Capstone Project	COMP4101	-	3	0	6
	DSAI4103	Advanced Business Analytics	MATH1040 DSAI3301	-	3	2	3
	Elective: Select 2 of 4						
	DACS4203	IoT & OT Hacking	DACS2201 INFS3102	-	3	2	3
	DSAI4201	Selected Topics in Data Science	DSAI4101	-	3	2	3
	DSAI4202	Information Retrieval	DSAI3201	-	3	2	3
SEMESTER 12	DSAI4205	Autonomous IoT	DSAI3202	-	3	2	3
	Semester 11 Total:					12	6
	COMP4301	Work Placement	COMP4201	-	9	0	40
	Semester 12 Total:					9	0
Year 4 Total:					33	13	70
B.Sc. DSAI Program Total:					126	88	126

Graduate Future Pathways:

Graduates of the Bachelor of Science in Data Science and Artificial Intelligence (B.Sc. DSAI) program may choose to further specialize or pursue graduate studies in their area.

- Business Intelligence Developer
- Data Scientist
- Data Science Trainer

Graduate Career Opportunities:

The Bachelor of Science in Data Science and Artificial Intelligence (B.Sc. DSAI) is an applied program with learning outcomes closely linked to the labor market. A wide range of career opportunities in the field currently exist, and include, but are not limited to, the following:

- Data Mining Analyst
- AI Architect
- Business Analyst
- Big Data Specialist
- New Media Storyteller
- Machine Learning Specialist

Program Webpage:

[Click Here](#)

Bachelor of Science in Digital Communication and Media Production (B.Sc. DCMP)



Program Description:

The Bachelor of Science in Digital Communication and Media Production (B.Sc. DCMP) is a four year program which prepares graduates to embark on a professional career path in digital communication, media production, and related professions. In this applied degree, students develop technical proficiency with a range of digital media. Focusing on the fundamentals of digital communication, including visual design, programming, and audio and video production students gain essential digital authoring and development skills. Graduates possess a range of digital communication skills in content creation, presentation, organisation and assessment, as well as channel development. The program includes an industry work placement and capstone project where students can gain field related practical experience providing students with the experience to launch a career in the exciting and evolving field of digital communication.

Program Duration:

Four years

Admission Requirements:

High School or Academic Requirement:

1. High school graduation certificate or equivalent approved by the Ministry of Education and Higher Education with a minimum average of 60%;
2. Two-year Digital Communication and Media Production Diploma, or equivalent; OR
3. One-year Digital Communication and Media Production Advanced Diploma, or equivalent.

English Language Requirement:

1. The required score on the University English Placement Test or a passing score from another approved internationally recognized English language test, as validated by the Admissions & Registration Department; OR
2. A valid (within two years) IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, and listening) below 5.0; OR
3. Successful completion of Foundation Program requirements.

Mathematics Requirement:

1. Must achieve the required score on the University Math Placement Test; OR
2. A valid SAT Report Form with minimum score of 480; OR
3. Successful completion of Foundation Program requirements.

Additional Admission Criteria:

1. Admission is competitive. Eligible applicants are ranked based on their overall final year (Grade 12 or equivalent) high school percentage, placement tests rankings, and admission priority category.

Bachelor of Science in Digital Communication and Media Production (B.Sc. DCMP)

Program Educational Objectives:

Program educational objectives (PEOs) describe the knowledge, skills, and competencies a graduate can demonstrate within 2-3 years of graduation.

Within a few years of graduation from the Bachelor of Science in Digital Communication and Media Production (B.Sc. DCMP) program, graduates will be able to:

- PEO01. Develop comprehensive knowledge and competence for a career in digital communication and media production
- PEO02. Communicate effectively to diverse audiences using a variety of contemporary media techniques and strategies
- PEO03. Function professionally in leadership, strategy, marketing and other management roles in the digital communication and media industry
- PEO04. Make use of personal and cognitive skills to be effective communicators, entrepreneurs, and media producers
- PEO05. Demonstrate ethical and legal responsibility in information dissemination to their society and profession

Student Learning Outcomes:

Student Learning Outcomes (SLOs) describe the knowledge, skills, and competencies a graduate can demonstrate immediately upon graduation.

Upon successful completion of the Bachelor of Science in Digital Communication and Media Production (B.Sc. DCMP) program, graduates will be prepared to:

- SLO01. Compare current digital communication and media production concepts and techniques
- SLO02. Present ideas and information accurately and creatively using written, oral, audio-visual and web-based formats
- SLO03. Demonstrate the ability to design professional level digital communication media using industry standard digital technologies
- SLO04. Produce professional quality audio, video and alternative media content
- SLO05. Integrate ethical and legal principles and skills in creating media communication content

Study Plan:

Year 1

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 1	COMM1010	English Communication I	-	-	3	3	0
	COMP1401	Introduction to Computers & Information Systems	-	-	3	3	1
	EFFL1001	Effective Learning	-	-	3	3	0
	MATH1010	Algebra & Trigonometry	-	-	3	3	1
Semester 1 Total:					12	12	2
SEMESTER 2	COMM1020	English Communication II	COMM1010	-	3	3	0
	DCMP1001	Media Theory & Practice	-	-	3	2	3
	MRKT1001	Principles of Marketing	-	-	3	2	3
	SCIE1002	Science & the Environment	-	-	3	3	0
Semester 2 Total:					12	10	6
SEMESTER 3	GARC2001	Human Development in Qatar	-	-	3	3	0
	SSHA1003	Introductory Psychology	-	-	3	2	3
Semester 3 Total:					6	5	3
Year 1 Total:					30	27	11

Bachelor of Science in Digital Communication and Media Production (B.Sc. DCMP)

Year 2

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 4	DCMP2001	Digital Communication Strategies	DCMP1001	-	3	2	3
	DCMP2010	Introduction to Journalism	-	-	3	2	3
	DCMP2020	Principles of Public Relations	-	-	3	2	3
	MRKT2003	Fundamentals of Digital Marketing	MRKT1001	-	3	2	3
	Semester 4 Total:				12	8	12
SEMESTER 5	DCMP2005	Digital Media Communication	MRKT2003	-	3	2	3
	DCMP2015	Introduction to Visual Communications	-	-	3	2	3
	DCMP2030	Newswriting Techniques	COMM1020	-	3	2	3
	DCMP2040	Future Digital Journalism & Media	DCMP1001	-	3	2	3
	DCMP2050	Strategic Storytelling	DCMP1001	-	3	2	3
Semester 5 Total:				15	10	15	
SEMESTER 6	BUSG2010	Qatar Business Law	-	-	3	2	3
	ECON1001	Global Economic Concepts	-	-	3	3	0
	Semester 6 Total:				6	5	3
Year 2 Total:				33	23	30	

Year 3

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 7	BUSG2002	Project Management	-	-	3	2	3
	DCMP2025	Graphic Design Fundamentals	MATH1010	-	3	2	3
	MGMT2010	Organizational Behavior	Min 30 Credits	-	3	2	3
	MRKT3105	Marketing Content & Media Management	MRKT1001	-	3	2	3
	Semester 7 Total:				12	8	12
SEMESTER 8	DCMP3001	Digital Media Entrepreneurship & Innovation	DCMP2001	-	3	2	3
	DCMP3011	Introduction to Visual Analytics	DCMP2015	-	3	2	3
	DCMP3021	Media Technology	DCMP1001	-	3	2	3
	DCMP3031	User Interface/User Experience (UI/UX)	DCMP2025	-	3	2	3
	MRKT3008	Digital Marketing Communications	MRKT2003	-	3	2	3
	Semester 8 Total:				15	10	15
SEMESTER 9	COMM3010	Research & Reporting	COMM1020	-	3	3	0
	DCMP3041	Media Ethics	Min 60 Credits	-	3	2	3
	Semester 9 Total:				6	5	3
Year 3 Total:					33	23	30

Bachelor of Science in Digital Communication and Media Production (B.Sc. DCMP)

Year 4

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK			
			Pre-Req	Co-Req	CR	LEC	LAB	
SEMESTER 10	DCMP4005	Audio & Radio Production	DCMP3021	-	3	2	3	
	DCMP4015	Video & Film Production	DCMP3021	-	3	2	3	
	COMP4101	Practicum	Min 80 Credits	-	3	1	6	
	Elective: Select 1 of 2							
	DCMP4035	Digital Prototyping & Manufacturing	DCMP2025	-	3	2	3	
	DCMP4045	3D Modelling & Virtual Reality	DCMP2025	-	3	2	3	
Semester 10 Total:					12	7	15	
SEMESTER 11	COMP4201	Capstone Project	COMP4101	-	3	0	6	
	DCMP4025	Digital & Alternative Media Production	DCMP3021	-	3	2	3	
	MGMT4010	Leadership & Change Management	-	-	3	2	3	
	Semester 11 Total:					9	4	12
SEMESTER 12	COMP4301	Work Placement	COMP4201	-	9	0	40	
	Semester 12 Total:					9	0	40
	Year 4 Total:					30	11	67
B.Sc. DCMP Program Total:					126	84	138	

Graduate Future Pathways:

Graduates of the Bachelor of Science in Digital Communication and Media Production (B.Sc. DCMP) program may choose to further specialize or pursue graduate studies in their area.

Graduate Career Opportunities:

The Bachelor of Science in Digital Communication and Media Production (B.Sc. DCMP) is an applied program with learning outcomes closely linked to the labor market. A wide range of career opportunities in the field currently exist, and include, but are not limited to, the following:

- Transmedia Specialist
- Media Content Creator
- Communication Specialist
- Social Media Coordinator
- New Media Storyteller
- Video Production
- Media Planner
- Video production
- Junior Marketing Production

Program Webpage:

[Click Here](#)

Bachelor of Science in Information Systems (B.Sc. IS)



Program Description:

The Bachelor of Science in Information Systems (B.Sc. IS) is a four year program which provides students with the applied knowledge and skills needed for careers in the evolving field of information systems (IS). The program includes foundational information technology (IT) and IS courses, enabling program graduates to effectively contribute to the IT context in which IS are applied. The program prepares students to design, implement, and maintain advanced software development, mobile and web development, or conduct database design and administration within IT environments. These skill sets, when consolidated through the completion of an industry work placement and final capstone project, prepare graduates for an exciting career in modern-day IS.

Program Duration:

Four years

Admission Requirements:

High School or Academic Requirement:

1. High school graduation certificate or equivalent approved by the Ministry of Education and Higher Education with a minimum average of 60%, plus two courses: one final year Mathematics, and one final year Science (Biology, Physics, Chemistry) or Technology (Algorithms, Programming, Network, Computer Science, or equivalent); OR
2. Two-year Information Technology Diploma from CNA-Q, or equivalent; OR
3. One-year Advanced Information Technology Diploma from CNA-Q, or equivalent.

English Language Requirement:

1. The required score on the University English Placement Test or a passing score from another approved internationally recognized English language test, as validated by the Admissions & Registration Department; OR
2. A valid (within two years) IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, and listening) below 5.0; OR
3. Successful completion of Foundation Program requirements.

Mathematics Requirement:

1. Must achieve the required score on the University Math Placement Test; OR
2. A valid SAT Report Form with minimum score of 480.

Additional Admission Criteria:

1. Admission is competitive. Eligible applicants are ranked based on their overall final year (Grade 12 or equivalent) high school percentage, placement tests rankings, and admission priority category.

Bachelor of Science in Information Systems (B.Sc. IS)

Program Educational Objectives:

Program educational objectives (PEOs) describe the knowledge, skills, and competencies a graduate can demonstrate within 2-3 years of graduation.

Within a few years of graduation from the Bachelor of Science in Information Systems (B.Sc. IS) program, graduates will be able to:

- PEO01. Demonstrate strategic knowledge of finance that can be used in analysis and business decision-making
- PEO01. Manage Information Technology environments
- PEO02. Develop policies and procedures for approval by executive officials to ensure adherence to best practice in information technology and data protection
- PEO03. Evaluate current and emerging safeguards to ensure the safety and authenticity of organizational data
- PEO04. Provide added value to the organization through management, development, and implementation of innovative business solutions
- PEO05. Engage in lifelong learning, professional development, and ethical practices

Student Learning Outcomes:

Student Learning Outcomes (SLOs) describe the knowledge, skills, and competencies a graduate can demonstrate immediately upon graduation.

Upon successful completion of the Bachelor of Science in Information Systems (B.Sc. IS) program, graduates will be prepared to:

- SLO01. Analyze a complex computing problem and apply principles of computing and other relevant disciplines to identify solutions.
- SLO02. Develop, implement, and evaluate computing-based solutions to meet requirements in the context of the program's discipline
- SLO03. Communicate effectively in a variety of professional contexts
- SLO04. Demonstrate professional responsibilities and make informed judgments in computing practice based on legal and ethical principles
- SLO05. Function effectively as a member or leader of a team engaged in activities appropriate to the program's discipline
- SLO06. Identify and analyze user needs and to take them into account in the selection, creation, integration, evaluation, and administration of information systems

Study Plan: Year 1

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 1	COMM1010	English Communication I	-	-	3	3	0
	INFS1101	Intro to Computing & Problem Solving	-	-	3	2	3
	MATH1020	Pre-Calculus	MATH1010 OR Min- imum Score on UDST Math Placement Test	-	3	3	0
	Effective & Experiential Learning Elective: Select 1 of 2						
	EFFL1001	Effective Learning	-	-	3	3	0
	EFFL1002	Applied & Experiential Learning	-	-	3	3	0
Semester 1 Total:					12	11	3
SEMESTER 2	COMM1020	English Communication II	COMM1010	-	3	3	0
	INFS1201	Computer Programming	INFS1101	-	4	3	3
	INFT1201	Computer Hardware	-	-	4	3	3
	MATH1030	Calculus I	MATH1020 OR Min- imum score on UDST Math Placement Test	-	3	3	0
	Semester 2 Total:					14	12
SEMESTER 3	INFS1301	Computing Ethics & Society	-	-	3	3	0
	Elective: Select 1 of 2						
	SCIE1001	Science & Its Applications	-	-	3	3	0
	SCIE1002	Science & the Environment	-	-	3	3	0
	Semester 3 Total:					6	6
Year 1 Total:					32	29	9

Bachelor of Science in Information Systems (B.Sc. IS)

Year 2

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 4	INFS2101	Web Technologies I	INFS1201	-	3	2	3
	INFT2101	Networking I	INFT1201	-	4	3	3
	INFT2102	Mathematics for IT	INFS1101	-	3	2	3
	MATH1040	Statistics	-	-	3	3	1
Semester 4 Total:					13	10	10
SEMESTER 5	DACS2201	Introduction to Data & Cyber Security	INFT2101	-	3	2	3
	DSAI2201	Introduction to Data Science & AI	INFS1201	-	3	2	3
	INFS2201	Database Management Systems	INFS1101	-	3	2	3
	INFT2202	Linux Foundations	INFT1201	-	3	2	3
Semester 5 Total:					12	8	12
SEMESTER 6	BUSG2002	Project Management	-	-	3	3	0
	Social Sciences, Humanities, & the Arts Elective: Select 1 of 6						
	SSHA1001	Islamic & Arab Civilization	-	-	3	3	0
	SSHA1002	Introduction to Sociology	-	-	3	3	0
	SSHA1003	Introductory Psychology	-	-	3	3	0
	SSHA1004	Ethical Reasoning	-	-	3	3	0
	SSHA1005	Law & Society	-	-	3	3	0
	SSHA1006	Introduction to the Arts	-	-	3	3	0
Semester 6 Total:					6	6	0
Year 2 Total:					31	24	22

Bachelor of Science in Information Systems (B.Sc. IS)

Year 3

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 7	INFS3102	Object Oriented Programming	INFS1201	-	3	2	3
	INFS3103	Systems Analysis & Design	INFS2201	-	3	2	3
	INFS3104	Data Structures & Algorithms	INFS1201 & DACS2101 OR INFS1201 & INFT2102	-	3	2	3
	Global Awareness & Regional Challenges Elective: Select 1 of 4						
	ECON1001	Global Economic Concepts	-	-	3	3	0
	GARC1001	Qatar History & Society	-	-	3	3	0
	GARC2001	Human Development in Qatar	-	-	3	3	0
	GARC2002	Globalization & Environment	-	-	3	3	0
	Semester 7 Total:				12	9	9
SEMESTER 8	INFS3201	Web Technologies II	INFS2101	-	3	2	3
	INFS3202	IT Systems Integration	INFS3103	-	3	2	3
	INFS3203	Systems Deployment & Implementation	INFS3103	-	3	2	3
	INFT3203	Web Server Management	INFS2101 INFT2202	-	3	2	3
	Semester 8 Total:				12	8	12
SEMESTER 9	INFS3301	Human Computer Interaction	INFS1201	-	3	2	3
	Global Awareness & Regional Challenges Elective: Select 1 of 4						
	ECON1001	Global Economic Concepts	-	-	3	3	0
	GARC1001	Qatar History & Society	-	-	3	3	0
	GARC2001	Human Development in Qatar	-	-	3	3	0
	GARC2002	Globalization & Environment	-	-	3	3	0
	Semester 9 Total:				6	5	3
	Year 3 Total:				30	22	24

Bachelor of Science in Information Systems (B.Sc. IS)

Year 4

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 10	COMP4101	Practicum	Min 80 Credits	-	3	1	6
	INFS4202	Software Testing & Quality Assurance	INFS3103	-	3	2	3
	INFS4104	Mobile App Technologies	INFS3201	-	3	2	3
	Elective: Select 1 of 3						
	INFS4102	Desktop Application Development	INFS3102	-	3	2	3
	INFS4105	Database Administration	INFS2201	-	3	2	3
	DACS4102	Web Security	INFS3201	-	3	2	3
Semester 10 Total:					12	7	15
SEMESTER 11	COMP4201	Capstone Project	COMP4101	-	3	0	6
	INFS4101	IS Management & Strategy	INFS3103	-	3	3	0
	Elective: Select 2 of 5						
	DACS3203	Secure Software Development	INFS3102	-	3	2	3
	DSAI3301	Data Analysis & Visualization	DSAI2201 MATH1040	-	3	2	3
	INFS4103	UI/UX Design	INFS3201	-	3	2	3
	INFS4205	Selected Topics in Information Systems	INFS4104	-	3	2	3
SEMESTER 12	INFS4206	Native App Technologies	INFS4104	-	3	2	3
	Semester 11 Total:					12	7
	COMP4301	Work Placement	COMP4201	-	9	0	40
Semester 12 Total:					9	0	40
Year 4 Total:					33	14	67
B.Sc. IS Program Total:					126	89	122

Graduate Future Pathways:

Graduates of the Bachelor of Science in Information Systems (B.Sc. IS) program may choose to further specialize or pursue graduate studies in their area.

Program Webpage:

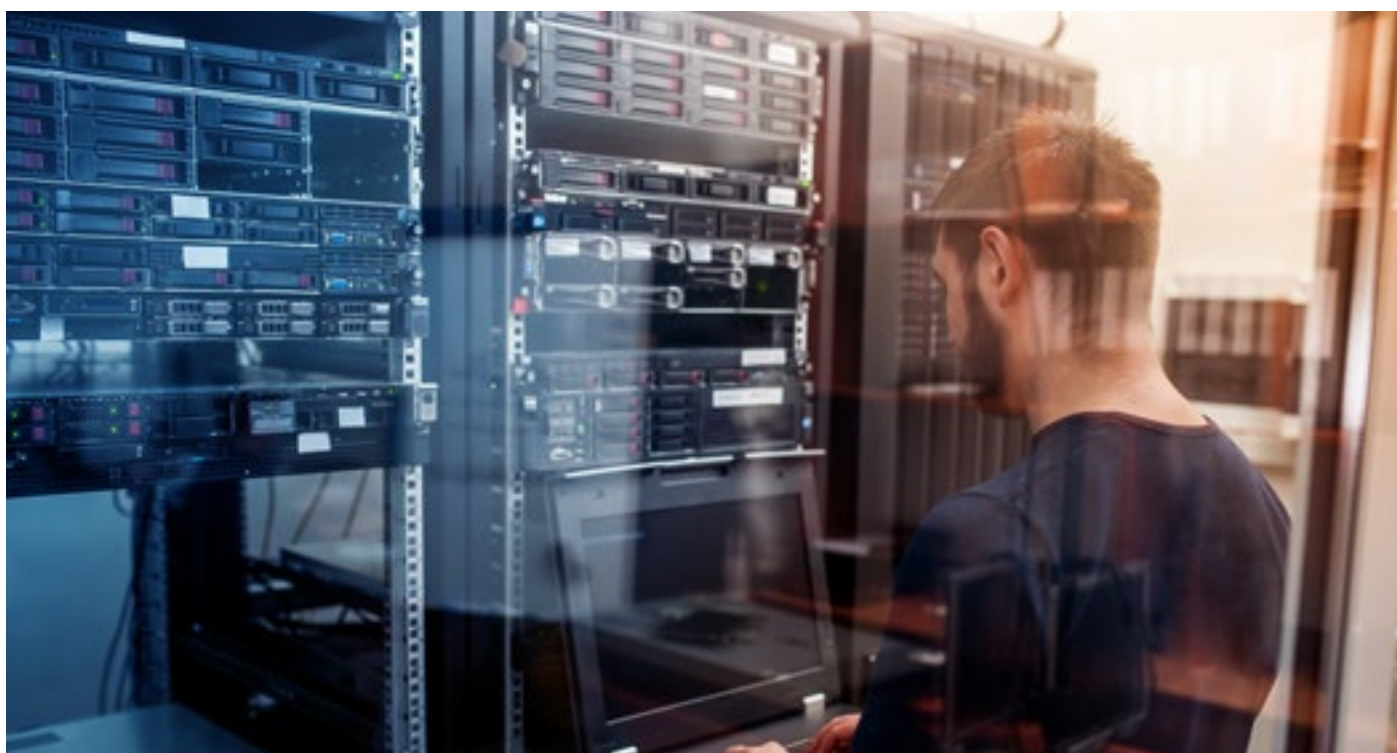
[Click Here](#)

Graduate Career Opportunities:

The Bachelor of Science in Information Systems (B.Sc. IS) is an applied program with learning outcomes closely linked to the labor market. A wide range of career opportunities in the field currently exist, and include, but are not limited to, the following:

- Application Programmer
- Computer Game Developer
- Computer Programmer
- Web Developer
- Multimedia Developer
- Operating Systems Programmer
- Programmer Analyst
- Software Developer
- Software Programmer

Bachelor of Science in Information Technology (B.Sc. IT)



Program Description:

The Bachelor of Science in Information Technology (B.Sc. IT) is a four year program which provides students with the applied knowledge and skills needed for careers in the field of information technology (IT). The program includes foundational IT courses, which enable graduates to contribute to the organizational context in which IT functions are performed. The interdisciplinary area of IT, which includes elements of hardware and programming, focuses on how hardware and software systems can be designed, operated, and maintained in support of business or institutional goals. The program prepares students to design, implement, and maintain advanced computing systems within business environments. Theoretical knowledge is supported by the hands-on manipulation of physical and virtualized hardware offering students a solid understanding of system design. These skill sets, when consolidated through the completion of an industry work placement and capstone project, will prepare graduates for an exciting career in modern-day IT.

Program Duration:

Four years

Admission Requirements:

High School or Academic Requirement:

1. High school graduation certificate or equivalent approved by the Ministry of Education and Higher Education with a minimum average of 60%, plus two courses: one final year Mathematics, and one final year Science (Biology, Physics, Chemistry) or Technology (Algorithms, Programming, Network, Computer Science, or equivalent); OR
2. Two-year Information Technology Diploma from CNA-Q, or equivalent; OR
3. One-year Advanced Information Technology Diploma from CNA-Q, or equivalent.

English Language Requirement:

1. The required score on the University English Placement Test or a passing score from another approved internationally recognized English language test, as validated by the Admissions & Registration Department; OR
2. A valid (within two years) IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, and listening) below 5.0; OR
3. Successful completion of Foundation Program requirements.

Mathematics Requirement:

1. Must achieve the required score on the University Math Placement Test; OR
2. A valid SAT Report Form with minimum score of 480.

Additional Admission Criteria:

1. Admission is competitive. Eligible applicants are ranked based on their overall final year (Grade 12 or equivalent) high school percentage, placement tests rankings, and admission priority category.

Bachelor of Science in Information Technology (B.Sc. IT)

Program Educational Objectives:

Program educational objectives (PEOs) describe the knowledge, skills, and competencies a graduate can demonstrate within 2-3 years of graduation.

Within a few years of graduation from the Bachelor of Science in Information Technology (B.Sc. IT) program, graduates will be able to:

- PEO01. Manage information technology computer resources and associated network infrastructure
- PEO02. Develop policies and procedures for approval by executive officials to ensure adherence to best practice in information technology and data protection
- PEO03. Evaluate current and emerging safeguards for use to ensure the safety and authenticity of an organizations data
- PEO04. Provide added value to the organization through the management, development, and implementation of innovative business solutions
- PEO05. Engage in lifelong learning, professional development, and ethical practices

Student Learning Outcomes:

Student Learning Outcomes (SLOs) describe the knowledge, skills, and competencies a graduate can demonstrate immediately upon graduation.

Upon successful completion of the Bachelor of Science in Information Technology (B.Sc. IT) program, graduates will be prepared to:

- SLO01. Analyze a complex computing problem and apply principles of computing and other relevant disciplines to identify solutions
- SLO02. Develop, implement, and evaluate computing-based solutions to meet requirements in the context of the program's discipline
- SLO03. Communicate effectively in a variety of professional contexts
- SLO04. Demonstrate professional responsibilities and make informed judgments in computing practice based on legal and ethical principles
- SLO05. Function effectively as a member or leader of a team engaged in activities appropriate to the program's discipline
- SLO06. Identify and analyze user needs and to take them into account in the selection, creation, integration, evaluation, and administration of information technology computing-based systems

Study Plan: Year 1

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 1	COMM1010	English Communication I	-	-	3	3	0
	INFS1101	Intro to Computing and Problem Solving	-	-	3	2	3
	MATH1020	Pre-Calculus	MATH1010 OR Min- imum Score on UDST Math Placement Test	-	3	3	0
	Effective and Experiential Learning Elective: Select 1 of 2						
	EFFL1001	Effective Learning	-	-	3	3	0
	EFFL1002	Applied & Experiential Learning	-	-	3	3	0
Semester 1 Total:					12	11	3
SEMESTER 2	COMM1020	English Communication II	COMM1010	-	3	3	0
	INFS1201	Computer Programming	INFS1101	-	4	3	3
	INFT1201	Computer Hardware	-	-	4	3	3
	MATH1030	Calculus I	MATH1020 OR Min- imum score on UDST Math Placement Test	-	3	3	0
	Semester 2 Total:					14	12
SEMESTER 3	INFS1301	Computing Ethics & Society	-	-	3	3	0
	Elective: Select 1 of 2						
	SCIE1001	Science & Its Applications	-	-	3	3	0
	SCIE1002	Science & the Environment	-	-	3	3	0
	Semester 3 Total:					6	6
Year 1 Total:					32	29	9

Bachelor of Science in Information Technology (B.Sc. IT)

Year 2

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 4	INFS2101	Web Technologies I	INFS1201	-	3	2	3
	INFT2101	Networking I	INFT1201	-	4	3	3
	INFT2102	Mathematics for IT	INFS1101	-	3	2	3
	MATH1040	Statistics	-	-	3	3	1
Semester 4 Total:					13	10	10
SEMESTER 5	DACS2201	Introduction to Data & Cyber Security	INFT2101	-	3	2	3
	DSAI2201	Introduction to Data Science & AI	INFS1201	-	3	2	3
	INFS2201	Database Management Systems	INFS1101	-	3	2	3
	INFT2202	Linux Foundations	INFT1201	-	3	2	3
Semester 5 Total:					12	8	12
SEMESTER 6	BUSG2002	Project Management	-	-	3	3	0
	Social Sciences, Humanities, and the Arts Elective: Select 1 of 6						
	SSHA1001	Islamic & Arab Civilization	-	-	3	3	0
	SSHA1002	Introduction to Sociology	-	-	3	3	0
	SSHA1003	Introductory Psychology	-	-	3	3	0
	SSHA1004	Ethical Reasoning	-	-	3	3	0
	SSHA1005	Law & Society	-	-	3	3	0
	SSHA1006	Introduction to the Arts	-	-	3	3	0
Semester 6 Total:					6	6	0
Year 2 Total:					31	24	22



Bachelor of Science in Information Technology (B.Sc. IT)

Year 3

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 7	DSAI4104	Fundamentals of IoT	INFT2101	-	3	2	3
	INFT3101	Networking II	INFT2101	-	3	2	3
	INFT3102	Network Programming	INFS1201 INFT2202	-	3	2	3
	Global Awareness and Regional Challenges Elective: Select 1 of 4						
	ECON1001	Global Economic Concepts	-	-	3	3	0
	GARC1001	Qatar History & Society	-	-	3	3	0
	GARC2001	Human Development in Qatar	-	-	3	3	0
	GARC2002	Globalization & Environment	-	-	3	3	0
	Semester 7 Total:					12	9
SEMESTER 8	DACS3201	Network Security	INFT3101	-	3	2	3
	INFT3201	System Integration & Administration	INFT1201 INFT2202	-	3	2	3
	INFT3202	Cloud Computing	INFT2101 INFT2202	-	3	2	3
	INFT3203	Web Server Management	INFS2101 INFT2202	-	3	2	3
	Semester 8 Total:					12	8
SEMESTER 9	INFT3301	IT Service Management	-	-	3	2	3
	Global Awareness and Regional Challenges Elective: Select 1 of 4						
	ECON1001	Global Economic Concepts	-	-	3	3	0
	GARC1001	Qatar History & Society	-	-	3	3	0
	GARC2001	Human Development in Qatar	-	-	3	3	0
	GARC2002	Globalization & Environment	-	-	3	3	0
	Semester 9 Total:					6	5
Year 3 Total:					30	22	24

Bachelor of Science in Information Technology (B.Sc. IT)

Year 4

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 10	COMP4101	Practicum	Min 80 Credits	-	3	1	6
	INFT4105	Wireless Networks	INFT3101	-	3	2	3
	INFT4107	Virtualization Technologies	INFT3101 INFT3102 INFT3202	-	3	2	3
	Elective: Select 1 of 3						
	DSAI4106	Embedded Systems & IoT	INFT2101	-	3	2	3
	INFT4106	Computer Network Protocols	INFT3101	-	3	2	3
	INFT4108	Cloud Automation & Orchestration	INFT3102 INFT3202 INFT3203	-	3	2	3
Semester 10 Total:					12	7	15
SEMESTER 11	COMP4201	Capstone Project	COMP4101	-	3	0	6
	INFT4203	Network Management	INFT3101	-	3	2	3
	Elective: Select 2 of 5						
	DACS4204	Cloud Security	DACS3201	-	3	2	3
	INFT4103	Software Defined Networking	INFT3101 INFT3202 INFT3203	-	3	2	3
	INFT4104	Selected Topics in IT	INFT3101	-	3	2	3
	INFT4201	Enterprise Technology	INFT3101	-	3	2	3
SEMESTER 12	INFT4208	Governance & Management of IT	INFT3101	-	3	3	0
	Semester 11 Total:					12	7
	Semester 12 Total:					9	0
Year 4 Total:					33	14	67
B.Sc. IT Program Total:					126	89	122

Graduate Future Pathways:

Graduates of the Bachelor of Science in Information Technology (B.Sc. IT) program may choose to further specialize or pursue graduate studies in their area.

Graduate Career Opportunities:

The Bachelor of Science in Information Technology (B.Sc. IT) is an applied program with learning outcomes closely linked to the labor market. A wide range of career opportunities in the field currently exist, and include, but are not limited to, the following:

- Information Technology Infrastructure Auditor
- Network Administrator
- Systems Administrator (Cloud Operations)
- Network Analyst
- Website Administrator
- Network Infrastructure Solutions Analyst
- Network Implementation Specialist
- Systems Administrator (Computers)
- Computer Systems Support Manager

Program Webpage:

[Click Here](#)



College of Engineering Technology (CET)



Engineers, Engineering Technologists, and Engineering Technicians persistently strive to improve the quality of human lives through innovations, developments, and improvements. They are continuously engaged in solving problems by applying creative thinking and systematic reasoning in a sustainable manner.

Learning in state-of-the-art facilities, with experienced faculty members, and solid program curricula, Graduates acquire the knowledge, skills, and competencies required to excel in the job market from day one of their employment. College of the Engineering Technology (CET) programs involve practical applied courses delivered in on-campus industrial settings such as industrial pilot plants, laboratories, and workshops, which employ the latest technologies. CET program students build practical and theoretical skills and competencies to become distinctive assets to any future employer.

World class teaching staff equipped with educational and hands-on industrial experience guide students throughout their learning journey. CET programs shape the future of graduate engineers, technologists, and technicians to become community leaders.

CET's engineering programs serve the increasing demand of a growing economy within the State of Qatar. CET Programs are designed to serve the local, regional, and international need for skilled Engineers, Technologists, and Technicians.



كلية تكنولوجيا الهندسة
College of
Engineering Technology

جامعة الدوحة
للعلوم والتكنولوجيا
UNIVERSITY OF DOHA
FOR SCIENCE & TECHNOLOGY



Diploma Programs



Diploma in Automation and Control Engineering Technology (Dip. ACET)

Program Description:

The Diploma in Automation and Control Engineering Technology (Dip. ACET) is an applied two year program which provides students with the skills and knowledge necessary to become competent and effective members of engineering teams comprised of engineers, technologists, technicians and tradespersons. The program enables students to earn technical knowledge of the operation of automation and control systems. In addition, students develop hands-on skills in the installation, trouble shooting, analysis, repair and maintenance of a variety of these systems, including microprocessor-based process field instrumentation and programmable control systems.

Program Duration:

Two years

Admission Requirements:

High School or Academic Requirement:

1. High school graduation certificate or equivalent approved by the Ministry of Education and Higher Education with a minimum average of 60%, plus two courses: one Mathematics, and one final year Physics or Chemistry;

English Language Requirement:

1. The required score on the University English Placement Test or a passing score from another approved internationally recognized English language test, as validated by the Admissions & Registration Department; OR
2. A valid (within two years) IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, and listening) below 5.0; OR
3. Successful completion of Foundation Program requirements.

Mathematics Requirement:

1. A minimum of 60% on the University Math Placement Test; OR
2. A valid SAT Report Form with minimum score of 480; OR
3. Successful completion of Foundation Program requirements.

Additional Admission Criteria:

1. Admission is competitive. Eligible applicants are ranked based on their overall final year (Grade 12 or equivalent) high school percentage, placement tests rankings, and admission priority category.

Diploma in Automation and Control Engineering Technology (Dip. ACET)

Program Educational Objectives:

Program educational objectives (PEOs) describe the knowledge, skills, and competencies a graduate can demonstrate within 2-3 years of graduation.

Within a few years of graduation from the Diploma in Automation and Control Engineering Technology (Dip. ACET) program, graduates will be able to:

- PEO01a. Contribute to problem-solving in automation and system control-related environments and activities
- PEO02a. Display efficient writing and oral communication skills in Automation and Control Engineering
- PEO03a. Exhibit knowledge in the automation and system control engineering standards and ethical values in addressing problems related to the practice of the profession
- PEO04a. Recognize the importance of professional development and continued learning and will engage in discipline-specific organizations that foster these opportunities

Student Learning Outcomes:

Student Learning Outcomes (SLOs) describe the knowledge, skills, and competencies a graduate can demonstrate immediately upon graduation.

Upon successful completion of the Diploma in Automation and Control Engineering Technology (Dip. ACET) program, graduates will be prepared to:

- SLO01a. Apply knowledge, techniques, skills, and modern tools of mathematics, science, engineering, and technology to solve well-defined automation and control system problems
- SLO02a. Design solutions for well-defined technical problems and assist with the engineering design of systems, components, or processes
- SLO03a. Apply written, oral and graphical communication in technical and non-technical environments, and identify and use appropriate technical literature and other technical documents to appropriate engineering standards
- SLO04a. Conduct standard tests, measurements, and experiments and analyze and interpret the results
- SLO05a. Function effectively as a member of a technical team
- SLO06a. Apply hands-on skills needed to assist in the operation and troubleshooting of automation and control systems and equipment



Diploma in Automation and Control Engineering Technology (Dip. ACET)

Study Plan:

Year 1

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 1	AECH1201	Basic Engineering Calculations	-	-	1	0	3
	AEEL1101	Fundamentals of Electricity I	-	-	3	3	0
	AEEL1201	Fundamentals of Electricity I (Lab)	-	AEEL1101	1	0	2
	COMM1010	English Communication I	-	-	3	3	0
	EFFL1002	Applied & Experiential Learning	-	-	3	3	0
	MATH1010	Algebra & Trigonometry	-	-	3	3	1
	PHYS1020	General Physics	-	PHYS1021	3	3	0
	PHYS1021	General Physics (Lab)	-	PHYS1020	1	0	3
	Semester 1 Total:					18	15
SEMESTER 2	AEEL1102	Fundamentals of Electricity II	AEEL1101	-	3	3	0
	AEEL1202	Fundamentals of Electricity II (Lab)	AEEL1201	AEEL1102	1	0	2
	AETN1102	Network Fundamentals	-	AETN1202	3	3	0
	AETN1202	Network Fundamentals (Lab)	-	AETN1102	1	0	3
	AETN1112	Digital Electronics	AEEL1101	AETN1212	3	3	0
	AETN1212	Digital Electronics (Lab)	AEEL1201	AETN1112	1	0	2
	COMM1020	English Communication II	COMM1010	-	3	3	0
	MATH1020	Pre-Calculus	MATH1010 OR Min- imum score on UDST Math Place- ment Test	-	3	3	0
	Semester 2 Total:					18	15
SEMESTER 3	AECH1100	Environmental Awareness & Ethics	-	-	2	2	0
	AEMA1312	Engineering Graphics	AECH1201	-	3	1	4
	AEPC1203	Basic Instrumentation	AEEL1100 & AEEL1200 OR AEEL1101 & AEEL1201	-	2	0	5
	Semester 3 Total:					7	3
Year 1 Total:					43	33	25

Diploma in Automation and Control Engineering Technology (Dip. ACET)

Year 2

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 4	AEAC2101	Industrial Processes, Measurement & Control	AEPC1203	-	3	3	0
	AEAC2201	Industrial Processes, Measurement & Control (Lab)	AEPC1203	AEAC2101	1	0	2
	AEEP2111	Electrical Machines	AEEL1102	-	3	3	0
	AEEP2211	Electrical Machines (Lab)	AEEL1202	AEEP2111	1	0	2
	AETN2101	Analog Electronics	AEEL1102	-	3	3	0
	AETN2201	Analog Electronics (Lab)	AEEL1202	AETN2101	1	0	2
Semester 4 Total:					12	9	6
SEMESTER 5	AEAC2102	Industrial Instrumentation	AETN2101	-	2	2	0
	AEAC2202	Industrial Instrumentation Practices	AETN2201	AEAC2102	1	0	2
	AEEP2122	Motor Controls & Drives	AEEP2111 AETN2101	-	3	3	0
	AEEP2222	Motor Controls & Drives (Lab)	AEEP2211 AETN2201	AEEP2122	1	0	3
	AEEP2301	Applied Programming	AEEL1101 MATH1020	-	2	1	2
	CHEM1010	General Chemistry I	-	CHEM1011	3	3	0
	CHEM1011	General Chemistry I (Lab)	-	CHEM1010	1	0	3
Semester 5 Total:					13	9	10
SEMESTER 6	AEAC2103	Control Strategies	AEAC2101	-	2	2	0
	AEAC2203	Control Strategies (Lab)	AEAC2201	AEAC2103	1	0	2
	AEAC2113	PLC Programming & Control	AEEP2122 AETN1102	-	2	2	0
	AEAC2213	PLC Programming & Control (Lab)	AEEP2222 AETN1202	AEAC2113	1	0	3
Semester 6 Total:					6	4	5
Year 2 Total:					31	22	21
Dip. ACET Program Total:					74	55	46

Graduate Future Pathways:

Graduates of the Diploma in Automation and Control Engineering Technology (Dip. ACET) program may choose to continue their studies and complete the Advanced Diploma in Automation and Control Engineering Technology (Adv. Dip. ACET) or the Bachelor of Science in Electrical Engineering - Automation and Control Systems Engineering (B.Sc. EE-ACSE) degree.

Graduate Career Opportunities:

The Diploma in Automation and Control Engineering Technology (Dip. ACET) is an applied two year program with learning outcomes closely linked to the labor market.

A wide range of career opportunities in the field currently exist and include, but are not limited to, the following:

- PLC Programmer
- Automation and Control Operator
- Instrumentation Technician
- Process Control Technician
- Automation Technician
- Controls Technician
- Hardware Engineering Support

Program Webpage.

[Click Here](#)

Diploma in Chemical and Processing Engineering Technology (Dip. CPET)



Program Description:

The Diploma in Chemical and Processing Engineering Technology (Dip. CPET) is an applied two year program which provides students with the knowledge and competencies needed to start a career in chemical and processing engineering. Through hands-on learning, in state-of-the-art laboratories and machine shops, students develop the knowledge and technical skills to install, operate, maintain, and troubleshoot chemical equipment, units and processes.

Program Duration:

Two years

Admission Requirements:

High School or Academic Requirement:

1. High school graduation certificate or equivalent approved by the Ministry of Education and Higher
2. Education with a minimum average of 60%, plus two courses: one final year Mathematics, and one
3. final year Science (Chemistry or Physics is preferred).

English Language Requirement:

1. The required score on the University English Placement Test or a passing score from another approved internationally recognized English language test, as validated by the Admissions & Registration Department;
OR
2. A valid (within two years) IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, and listening) below 5.0;
OR
3. Successful completion of Foundation Program requirements.

Mathematics Requirement:

1. A minimum of 60% on the University Math Placement Test;
OR
2. A valid SAT Report Form with minimum score of 480;
OR
3. Successful completion of Foundation Program requirements.

Additional Admission Criteria:

1. Admission is competitive. Eligible applicants are ranked based on their overall final year (Grade 12 or equivalent) high school percentage, placement tests rankings, and admission priority category.

Diploma in Chemical and Processing Engineering Technology (Dip. CPET)

Program Educational Objectives:

Program educational objectives (PEOs) describe the knowledge, skills, and competencies a graduate can demonstrate within 2-3 years of graduation.

Within a few years of graduation from the Diploma in Chemical and Processing Engineering Technology (Dip. CPET) program, graduates will be able to:

- PEO1a. Contribute to problem solving in chemical processing related industries and activities
- PEO2a. Distinguish themselves as effective communicators and team members in their profession
- PEO3a. Model ethical and professional attitudes and behavior
- PEO4a. Pursue credentialing and professional development opportunities to remain current and adapt to changes in the field

Student Learning Outcomes:

Student Learning Outcomes (SLOs) describe the knowledge, skills, and competencies a graduate can demonstrate immediately upon graduation.

Upon successful completion of the Diploma in Chemical and Processing Engineering Technology (Dip. CPET) program, graduates will be prepared to:

- SLO01a. Apply knowledge, techniques, skills, and modern tools of mathematics, science, engineering, and technology to solve well-defined chemical engineering problems
- SLO02a. Design solutions for well-defined technical problems and assist with the engineering design of systems, components, or processes
- SLO03a. Apply written, oral and graphical communication in technical and non-technical environments, and identify and use appropriate technical literature and other technical documents to appropriate engineering standards
- SLO04a. Conduct standard tests, measurements, and experiments and analyze and interpret the results
- SLO05a. Function effectively as a member of a technical team
- SLO06a. Apply hands-on skills needed to assist in the operation and troubleshooting of chemical processes



Diploma in Chemical and Processing Engineering Technology (Dip. CPET)

Study Plan:

Year 1

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 1	AECH1201	Basic Engineering Calculations	-	-	1	0	3
	CHEM1010	General Chemistry I	-	CHEM1011	3	3	0
	CHEM1011	General Chemistry I (Lab)	-	CHEM1010	1	0	3
	COMM1010	English Communication I	-	-	3	3	0
	EFEL1002	Applied & Experiential Learning	-	-	3	3	0
	MATH1010	Algebra & Trigonometry	-	-	3	3	1
	PHYS1020	General Physics	-	PHYS1021	3	3	0
	PHYS1021	General Physics (Lab)	-	PHYS1020	1	0	3
	Semester 1 Total:					18	15
SEMESTER 2	AECH1112	Health, Safety & Environment in the Process Industries	-	-	2	2	0
	AEEL1100	Fundamentals of Electricity	MATH1010	-	2	2	0
	AEEL1200	Fundamentals of Electricity (Lab)	-	AEEL1100	1	0	3
	AEMA1312	Engineering Graphics	AECH1201	-	3	1	4
	CHEM1020	General Chemistry II	CHEM1010 CHEM1011	CHEM1021	3	3	0
	CHEM1021	General Chemistry II (Lab)	CHEM1010 CHEM1011	CHEM1020	1	0	3
	MATH1020	Pre-Calculus	MATH1010 OR Min- imum score on UDST Math Place- ment Test	-	3	3	0
	Semester 2 Total:					15	11
SEMESTER 3	AECH1100	Environmental Awareness & Ethics	-	-	2	2	0
	AECH1103	Industrial Process Overview	CHEM1020 OR CHEM1030	-	2	2	0
	AEPC1203	Basic Instrumentation	AEEL1100 & AEEL1200 OR AEEL1101 & AEEL1201	-	2	0	5
	Semester 3 Total:					6	4
Year 1 Total:					39	30	25

Diploma in Chemical and Processing Engineering Technology (Dip. CPET)

Year 2

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 4	AECH2111	Principles of Chemical Engineering I	AECH1201 CHEM1020 MATH1010 PHYS1020	-	3	3	0
	AECH2121	Process Control Systems	AEPC1203	-	3	3	0
	AECH2241	Chemical & Processing Plant Operation	AECH1103	AECH2121	2	0	6
	AECH2251	Instrumentation & Control (Lab)	AEPC1203	AECH2121	1	0	3
	AECH2331	Process Equipment	-	AECH2111	4	3	2
Semester 4 Total:					13	9	11
SEMESTER 5	AECH2122	Principles of Chemical Engineering II	AECH2111	-	2	2	0
	AECH2142	Basic Fluid Mechanics & Heat Transfer	AECH2111 MATH1020	-	2	2	0
	AECH2332	Chemical & Processing Plant Troubleshooting	AECH2241	-	2	1	2
	CHEM3010	Petrochemistry	CHEM1020	CHEM3011	2	2	0
	CHEM3011	Petrochemistry (Lab)	CHEM1021	CHEM3010	1	0	3
	COMM1020	English Communication II	COMM1010	-	3	3	0
Semester 5 Total:					12	10	5
SEMESTER 6	AECH2103	Leadership & Management Principles	AECH1100 COMM1020	-	2	2	0
	AECH2112	Sustainability & Renewable Energy	AECH1100	-	3	3	0
	AECH2113	Quality Assurance	COMM1020	-	2	2	0
Semester 6 Total:					7	7	0
Year 2 Total:					32	26	16
Dip. CPET Program Total:					71	56	41

Graduate Future Pathways:

Graduates of the Diploma in Chemical and Processing Engineering Technology (Dip. CPET) program may choose to continue their studies and complete the Advanced Diploma in Chemical and Processing Engineering Technology (Adv. Dip. CPET) or the Bachelor of Science in Chemical Engineering - Processing Engineering (B.Sc. CE-PE) degree.

- Chemical Operator
- Chemical Technician
- Control System Technician
- Utility Operator
- Treatment Technician
- Technician in Product Development

Graduate Career Opportunities:

The Diploma in Chemical and Processing Engineering Technology is an applied two year program with learning outcomes closely linked to the labor market. A wide range of career opportunities in the field currently exist and include, but are not limited to, the following:

Program Webpage:

[Click Here](#)

Diploma in Construction Engineering Technology (Dip. CET)



Program Description:

The Diploma in Construction Engineering Technology (Dip. CET) is an applied two year program which provides students with the knowledge and competencies needed to start a career in construction industry. Specific areas of study include: documentation, estimation, interpretation, building methods and safety. Through hands-on learning, in state-of-the-art laboratories and machine shops, students develop the knowledge and technical skills to construct and maintain structures and infrastructures.

Program Duration:

Two years

Admission Requirements:

High School or Academic Requirement:

High school graduation certificate or equivalent approved by the Ministry of Education and Higher Education with a minimum average of 60%, plus two courses: one Mathematics, and one final year Physics or Chemistry;

English Language Requirement:

The required score on the University English Placement Test or a passing score from another approved internationally recognized English language test, as validated by the Admissions & Registration Department;

OR

A valid (within two years) IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, and listening) below 5.0;

OR

Successful completion of Foundation Program requirements.

Mathematics Requirement:

A minimum of 60% on the University Math Placement Test;

OR

A valid SAT Report Form with minimum score of 480;

OR

Successful completion of Foundation Program requirements.

Additional Admission Criteria:

Admission is competitive. Eligible applicants are ranked based on their overall final year (Grade 12 or equivalent) high school percentage, placement tests rankings, and Admission Priority Category.

Diploma in Construction Engineering Technology (Dip. CET)

Program Educational Objectives:

Program educational objectives (PEOs) describe the knowledge, skills, and competencies a graduate can demonstrate within 2-3 years of graduation.

Within a few years of graduation from the Diploma in Construction Engineering Technology (Dip. CET) program, graduates will be able to:

- PEO1a. Contribute to problem solving in construction engineering environments and activities
- PEO2a. Communicate and collaborate successfully, individually and within a team, in both professional and social settings
- PEO3a. Consider legal, ethical, and social implications related to the practice of construction engineering
- PEO4a. Engage in professional development, while applying principles of continuous learning to adapt to new engineering technologies and career challenges

Student Learning Outcomes:

Student Learning Outcomes (SLOs) describe the knowledge, skills and competencies a graduate can demonstrate immediately upon graduation.

Upon successful completion of Diploma in Construction Engineering Technology (Dip. CET) program, graduates will be prepared to:

- SLO01a. Apply knowledge, techniques, skills, and modern tools of mathematics, science, engineering, and technology to solve well-defined construction engineering problems
- SLO02a. Design solutions for well-defined technical problems and assist with the engineering design of systems, components, or processes
- SLO03a. Apply written, oral and graphical communication in technical and non-technical environments, and identify and use appropriate technical literature and other technical documents to appropriate engineering standards
- SLO04a. Conduct standard tests, measurements, and experiments and analyze and interpret the results
- SLO05a. Function effectively as a member of a technical team
- SLO06a. Apply hands-on skills needed to assist in the operation and troubleshooting of construction processes



Diploma in Construction Engineering Technology (Dip. CET)

Study Plan:

Year 1

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 1	AECH1201	Basic Engineering Calculations	-	-	1	0	3
	COMM1010	English Communication I	-	-	3	3	0
	EFFL1002	Applied & Experiential Learning	-	-	3	3	0
	MATH1010	Algebra & Trigonometry	-	-	3	3	1
	PHYS1020	General Physics	-	PHYS1021	3	3	0
	PHYS1021	General Physics (Lab)	-	PHYS1020	1	0	3
Semester 1 Total:					14	12	7
SEMESTER 2	AECE1200	Introduction to Construction Engineering, Materials & Methods	-	CHEM1010	3	3	0
	AECE1230	Mechanical & Electrical Systems in Construction	-	AECE1200 AEEL1100	3	3	0
	AECH1100	Environmental Awareness & Ethics	-	-	2	2	0
	AEEL1100	Fundamentals of Electricity	MATH1010	-	2	2	0
	AEEL1200	Fundamentals of Electricity (Lab)	-	AEEL1100	1	0	3
	CHEM1010	General Chemistry I	-	CHEM1011	3	3	0
	CHEM1011	General Chemistry I (Lab)	-	CHEM1010	1	0	3
SEMESTER 3	MATH1020	Pre-Calculus	MATH1010 OR Minimum score on UDST Math Place- ment Test	-	3	3	0
	Semester 2 Total:				18	16	6
SEMESTER 3	AECE1340	Basic Construction Safety	AECE1200	-	3	3	0
	AEMA1312	Engineering Graphics	AECH1201	-	3	1	4
	AEPC1203	Basic Instrumentation	AEEL1100 & AEEL1200 OR AEEL1101 & AEEL1201	-	2	0	5
Semester 3 Total:					8	4	9
Year 1 Total:					40	32	22

Diploma in Construction Engineering Technology (Dip. CET)

Year 2

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 4	AECE2100	Construction Documents & Codes	AEMA1312	-	2	2	0
	AECE2110	Principles of Engineering Economy	MATH1020	-	2	2	0
	AECE2120	Statics	MATH1020	-	3	3	0
	AECE2130	Principles of Geomatics	AEMA1312 MATH1020	-	3	3	0
	AECE2131	Principles of Geomatics (Lab)	-	AECE2130	1	0	3
	AECE2140	Project Drawings & Graphics	AEMA1312	AECE2100	1	0	3
Semester 4 Total:					12	10	6
SEMESTER 5	AECE2210	Engineering Geology	PHYS1020 CHEM1010	-	3	3	0
	AECE2220	Construction Equipment & Machineries	AECE1200	AECE2210	3	3	0
	AECE2230	Strength of Construction Materials	AECE1200 AECE2120	-	3	3	0
	AECE2231	Strength of Construction Materials (Lab)	AECE1200	AECE2230	2	0	5
	COMM1020	English Communication II	COMM1010	-	3	3	0
Semester 5 Total:					14	12	5
SEMESTER 6	AECH2103	Leadership & Management Principles	AECH1100 COMM1020	-	2	2	0
	AETN2302	Applied Programming I	MATH1020	-	3	1	5
Semester 6 Total:					5	3	5
Year 2 Total:					31	25	16
Dip. CET Program Total:					71	57	38

Graduate Future Pathways:

Graduates of the Diploma in Construction Engineering Technology (Dip. CET) program may choose to continue their studies and complete the Advanced Diploma in Construction Engineering Technology (Adv. Dip. CET) or the Bachelor of Science in Construction Engineering (B.Sc. ConE) degree.

Program Webpage:

[Click Here](#)

Graduate Career Opportunities:

The Diploma in Construction Engineering Technology (Dip. CET) is an applied two year program with learning outcomes closely linked to the labor market. A wide range of career opportunities in the field currently exist and include, but are not limited to, the following:

- Construction Surveyor
- Quality Assurance Building Assessor
- Quality Officer
- Project Officer
- Document Controller
- Construction Forman

Diploma in Electrical Power Engineering Technology (Dip. EPET)



Program Description:

The Diploma in Electrical Power Engineering Technology (Dip. EPET) is an applied two year program which provides students with skills and knowledge necessary to become competent and effective members of an electrical engineering team. The program will enable the students to earn technical knowledge and skills in the design, construction, installation, application, operation, maintenance and troubleshooting of electrical power systems with a focus on utility, large industry, institutional and commercial facilities. The Dip. EPET stresses the application of fundamental electrical power knowledge in operation, construction, application, installation, maintenance and troubleshooting tasks.

Program Duration:

Two years

Admission Requirements:

High School or Academic Requirement:
High school graduation certificate or equivalent approved by the Ministry of Education and Higher Education with a minimum average of 60%, plus two courses: one Mathematics, and one final year Physics or Chemistry;
English Language Requirement:
The required score on the University English Placement Test or a passing score from another approved internationally recognized English language test, as validated by the Admissions & Registration Department; OR A valid (within two years) IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, and listening) below 5.0; OR Successful completion of Foundation Program requirements.
Mathematics Requirement:
A minimum of 60% on the University Math Placement Test; OR A valid SAT Report Form with minimum score of 480; OR Successful completion of Foundation Program requirements.
Additional Admission Criteria:
Admission is competitive. Eligible applicants are ranked based on their overall final year (Grade 12 or equivalent) high school percentage, placement tests rankings, and admission priority category.

Diploma in Electrical Power Engineering Technology (Dip. EPET)

Program Educational Objectives:

Program educational objectives (PEOs) describe the knowledge, skills, and competencies a graduate can demonstrate within 2-3 years of graduation.

Within a few years of graduation from the Diploma in Electrical Power Engineering Technology (Dip. EPET) program, graduates will be able to:

- PEO01a. Contribute to problem solving in electrical power related issues and activities
- PEO02a. Distinguish themselves as effective communicators and team members in their profession
- PEO03a. Model ethical and professional attitudes and behaviour
- PEO04a. Pursue credentialing and professional development opportunities to remain current and adapt to changes in the field

Student Learning Outcomes:

Student Learning Outcomes (SLOs) describe the knowledge, skills, and competencies a graduate can demonstrate immediately upon graduation.

Upon successful completion of the Diploma in Electrical Power Engineering Technology (Dip. EPET) program, graduates will be prepared to:

- SLO01a. Apply knowledge, techniques, skills, and modern tools of mathematics, science, engineering, and technology to solve well-defined electrical power problems
- SLO02a. Design solutions for well-defined technical problems and assist with the engineering design of systems, components, or processes
- SLO03a. Apply written, oral and graphical communication in technical and non-technical environments, and identify and use appropriate technical literature and other technical documents to appropriate engineering standards
- SLO04a. Conduct standard tests, measurements, and experiments and analyze and interpret the results
- SLO05a. Function effectively as a member of a technical team
- SLO06a. Apply hands-on skills needed to assist in the operation and troubleshooting of electrical power systems and processes



Diploma in Electrical Power Engineering Technology (Dip. EPET)

Study Plan:

Year 1

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 1	AECH1201	Basic Engineering Calculations	-	-	1	0	3
	AEEL1101	Fundamentals of Electricity I	-	-	3	3	0
	AEEL1201	Fundamentals of Electricity I (Lab)	-	AEEL1101	1	0	2
	COMM1010	English Communication I	-	-	3	3	0
	MATH1010	Algebra & Trigonometry	-	-	3	3	1
	EFFL1002	Applied & Experiential Learning	-	-	3	3	0
	PHYS1020	General Physics	-	PHYS1021	3	3	0
	PHYS1021	General Physics (Lab)	-	PHYS1020	1	0	3
Semester 1 Total:					18	15	9
SEMESTER 2	AEEL1102	Fundamentals of Electricity II	AEEL1101	-	3	3	0
	AEEL1202	Fundamentals of Electricity II (Lab)	AEEL1201	AEEL1102	1	0	2
	AETN1102	Network Fundamentals	-	AETN1202	3	3	0
	AETN1202	Network Fundamentals (Lab)	-	AETN1102	1	0	3
	AETN1112	Digital Electronics	AEEL1101	AETN1212	3	3	0
	AETN1212	Digital Electronics (Lab)	AEEL1201	AETN1112	1	0	2
	COMM1020	English Communication II	COMM1010	-	3	3	0
	MATH1020	Pre-Calculus	MATH1010 OR Minimum score on UDST Math Placement Test	-	3	3	0
Semester 2 Total:					18	15	7
SEMESTER 3	AECH1100	Environmental Awareness & Ethics	-	-	2	2	0
	AEMA1312	Engineering Graphics	AECH1201	-	3	1	4
	AEPC1203	Basic Instrumentation	AEEL1100 & AEEL1200 OR AEEL1101 & AEEL1201	-	2	0	5
Semester 3 Total:					7	3	9
Year 1 Total:					43	33	25

Diploma in Electrical Power Engineering Technology (Dip. EPET)

Year 2

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 4	AEEP2111	Electrical Machines	AEEL1102	-	3	3	0
	AEEP2211	Electrical Machines (Lab)	AEEL1202	AEEP2111	1	0	2
	AEEP2301	Applied Programming	AEEL1101 MATH1020	-	2	1	2
	AETN2101	Analog Electronics	AEEL1102	-	3	3	0
	AETN2201	Analog Electronics (Lab)	AEEL1202	AETN2101	1	0	2
	CHEM1010	General Chemistry I	-	CHEM1011	3	3	0
	CHEM1011	General Chemistry Lab I	-	CHEM1010	1	0	3
Semester 4 Total:					14	10	9
SEMESTER 5	AEEP2102	Power Systems I	AEEP2111	-	3	3	0
	AEEP2202	Power Systems I (Lab)	AEEP2211	AEEP2102	1	0	2
	AEEP2112	Electrical Practices	AEEP2111	-	2	2	0
	AEEP2212	Electrical Practices (Lab)	AEEP2211	AEEP2112	2	0	5
	AEEP2122	Motor Controls & Drives	AEEP2111 AETN2101	-	3	3	0
	AEEP2222	Motor Controls & Drives (Lab)	AEEP2211 AETN2201	AEEP2122	1	0	3
Semester 5 Total:					12	8	10
SEMESTER 6	AEEP2103	Facilities & Electrical Systems	AEEP2102	-	2	2	0
	AEEP2203	Facilities & Electrical Systems (Lab)	AEEP2202	AEEP2103	1	0	2
	AEEP2113	HV Equipment Testing and Maintenance	AEEP2111	-	2	2	0
	AEEP2213	HV Equipment Testing & Maintenance (Lab)	AEEP2211	AEEP2113	1	0	2
Semester 6 Total:					6	4	4
Year 2 Total:					32	22	23
Dip. EPET Program Total:					75	55	48

Graduate Future Pathways:

Graduates of the Diploma in Electrical Power Engineering Technology (Dip. EPET) program may choose to continue their studies and complete the Advanced Diploma in Electrical Power and Renewable Energy Engineering Technology (Adv. Dip. EPREET) or the Bachelor of Science in Electrical Engineering - Electrical Power and Renewable Energy Engineering (B.Sc. EE-EPREE) degree.

- Electrical Technician
- Plant Operator
- Design Assistant
- Electrical Power Transmission Engineering Technician
- Electrical Power Generation Technician
- Industrial/Commercial/Residential Electrician

Graduate Career Opportunities:

The Diploma in Electrical Power Engineering Technology is an applied two year program with learning outcomes closely linked to the labor market. A wide range of career opportunities in the field currently exist and include, but are not limited to, the following:

Program Webpage:

[Click Here](#)

Diploma in Mechanical Engineering Technology (Dip. MET)



Program Description:

The Diploma in Mechanical Engineering Technology (Dip. MET) is an applied two year program which provides students with the technical knowledge and hands-on skills needed to start a career in mechanical engineering. Specific areas of study include: rotating equipment, pumps, piping systems, hydraulics, pneumatics, preventive maintenance and non-destructive testing. Through hands-on learning in state-of-the-art laboratories and machine shops, students develop the knowledge and technical skills required to install, operate, and maintain mechanical systems.

Program Duration:

Two years

Admission Requirements:

High School or Academic Requirement:

High school graduation certificate or equivalent approved by the Ministry of Education and Higher Education with a minimum average of 60%; plus two courses: one final year Mathematics, and one final year Science (Chemistry or Physics is preferred)

English Language Requirement:

The required score on the University English Placement Test or a passing score from another approved internationally recognized English language test, as validated by the Admissions & Registration Department

OR

A valid (within two years) IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, and listening) below 5.0

OR

Successful completion of Foundation Program requirements.

Mathematics Requirement:

A minimum of 60% on the University Math Placement Test

OR

A valid SAT Report Form with minimum score of 480

OR

Successful completion of Foundation Program requirements.

Additional Admission Criteria:

Admission is competitive. Eligible applicants are ranked based on their overall final year (Grade 12 or equivalent) high school percentage, placement tests rankings, and admission priority category.

Diploma in Mechanical Engineering Technology (Dip. MET)

Program Educational Objectives::

Program educational objectives (PEOs) describe the knowledge, skills, and competencies a graduate can demonstrate within 2-3 years of graduation.

Within a few years of graduation from the Diploma in Mechanical Engineering Technology (Dip. MET) program, graduates will be able to:

- PEO01a. Contribute to problem solving in mechanical related environments and activities
- PEO01a. Distinguish themselves as effective communicators and team members in their profession
- PEO01a. Model ethical and professional attitudes and behavior
- PEO01a. Pursue credentialing and professional development opportunities to remain current and adapt to changes in the field

Student Learning Outcomes:

Student Learning Outcomes (SLOs) describe the knowledge, skills, and competencies a graduate can demonstrate immediately upon graduation.

Upon successful completion of the Diploma in Mechanical Engineering Technology (Dip. MET) program, graduates will be prepared to:

- SLO01a. Apply knowledge, techniques, skills, and modern tools of mathematics, science, engineering, and technology to solve well-defined mechanical engineering problems
- SLO02a. Design solutions for well-defined technical problems and assist with the engineering design of systems, components, or processes
- SLO03a. Apply written, oral and graphical communication in technical and non-technical environments, and identify and use appropriate technical literature and other technical documents to appropriate engineering standards
- SLO04a. Conduct standard tests, measurements, and experiments and analyze and interpret the results
- SLO05a. Function effectively as a member of a technical team
- SLO06a. Apply hands-on skills needed to assist in the operation and troubleshooting of mechanical systems and processes



Diploma in Mechanical Engineering Technology (Dip. MET)

Study Plan:

Year 1

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 1	AECH1201	Basic Engineering Calculations	-	-	1	0	3
	CHEM1010	General Chemistry I	-	CHEM1011	3	3	0
	CHEM1011	General Chemistry I (Lab)	-	CHEM1010	1	0	3
	COMM1010	English Communication I	-	-	3	3	0
	EFFL1002	Applied & Experiential Learning	-	-	3	3	0
	MATH1010	Algebra & Trigonometry	-	-	3	3	1
	PHYS1020	General Physics	-	PHYS1021	3	3	0
	PHYS1021	General Physics (Lab)	-	PHYS1020	1	0	3
Semester 1 Total:					18	15	10
SEMESTER 2	AEEL1100	Fundamentals of Electricity	MATH1010	-	2	2	0
	AEEL1200	Fundamentals of Electricity (Lab)	-	AEEL1100	1	0	3
	AECH1100	Environmental Awareness & Ethics	-	-	2	2	0
	AEMA1102	Health & Safety in the Workplace	-	-	2	2	0
	AEMA1312	Engineering Graphics	AECH1201	-	3	1	4
	COMM1020	English Communication II	COMM1010	-	3	3	0
	MATH1020	Pre-Calculus	MATH1010 OR Minimum score on UDST Math Placement Test	-	3	3	0
Semester 2 Total:					16	13	7
SEMESTER 3	AEMA1113	Materials Practices	CHEM1010 PHYS1020	-	2	2	0
	AEMA1213	Materials Practices (Lab)	AEMA1102	AEMA1113	1	0	2
	AEMA1303	Machine Shop Practices	AEMA1102	-	2	1	3
	AEPC1203	Basic Instrumentation	AEEL1100 & AEEL1200 OR AEEL1101 & AEEL1201	-	2	0	5
Semester 3 Total:					7	3	10
Year 1 Total:					41	31	27

Diploma in Mechanical Engineering Technology (Dip. MET)

Year 2

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 4	AECH2103	Leadership & Management Principles	AECH1100 COMM1020	-	2	2	0
	AEMA2101	Welding Fundamentals	-	-	1	1	0
	AEMA2201	Welding Fundamentals (Lab)	AEMA1303	AEMA2101	1	0	3
	AEMA2121	Materials & Processes	AEMA1213	-	2	2	0
	AEMA2221	Materials & Processes (Lab)	AEMA1102	AEMA2121	1	0	2
	AEMA2131	Industrial Maintenance Mechanics	-	-	2	2	0
	AEMA2231	Industrial Maintenance Mechanics (Lab)	AEMA1102	AEMA2131	1	0	3
	AEMA2311	Computer Aided Design I	AEMA1312	-	3	2	2
Semester 4 Total:					13	9	10
SEMESTER 5	AECH2112	Sustainability & Renewable Energy	AECH1100	-	3	3	0
	AEMA2102	Power Plant Components	-	-	2	2	0
	AEMA2202	Power Plant Components (Lab)	AEMA1102	AEMA2102	1	0	3
	AEMA2112	Rotating Equipment Maintenance	-	-	2	2	0
	AEMA2232	Rotating Equipment Maintenance (Lab)	AEMA1102	AEMA2112	1	0	2
	AEMA2122	Non-Destructive Testing	AEMA2221	-	2	2	0
	AEMA2222	Non-Destructive Testing (Lab)	AEMA1102	AEMA2122	1	0	2
Semester 5 Total:					12	9	7
SEMESTER 6	AEMA2103	Principles of Maintenance	AEMA2112 AEMA2131	-	2	2	0
	AEMA2203	Principles of Maintenance (Lab)	AEMA1102	AEMA2103	1	0	2
	AEMA2113	Hydraulics & Pneumatics	PHYS1020	-	2	2	0
	AEMA2213	Hydraulics & Pneumatics (Lab)	AEMA1102	AEMA2113	1	0	2
Semester 6 Total					6	4	4
Year 2 Total:					31	22	21
Dip. MET Program Total:					72	53	48

Diploma in Mechanical Engineering Technology (Dip. MET)

Graduate Future Pathways:

Graduates of the Diploma in Mechanical Engineering Technology (Dip. MET) program may choose to continue their studies and complete the Advanced Diploma in Maintenance Engineering Technology (Adv. Dip. MET) or the Bachelor of Science in Mechanical Engineering -Maintenance Engineering (B.Sc. ME-MaE) degree.

Graduate Career Opportunities:

The Diploma in Mechanical Engineering Technology is an applied two year program with learning outcomes closely linked to the labor market. A wide range of career opportunities in the field currently exist and include, but are not limited to, the following:

- Mechanical Engineering Technician
- Manufacturing Engineering Technician
- Maintenance Technologist
- Maintenance Technician
- Telecom Technician
- Service Install Technician

Program Webpage:

[Click Here](#)



Diploma in Telecommunications and Network Engineering Technology (Dip. TNET)



Program Description:

The Diploma in Telecommunications and Network Engineering Technology (Dip. TNET) is an applied two year program which provides students with the knowledge and competencies needed to start a career in the telecommunications and networking industry. Through hands-on learning, in state-of-the-art laboratories and machine shops, students develop the knowledge and technical skills required to operate, maintain and configure telecommunications devices or components, systems and equipment, in a variety of network environments and distribution centers.

Program Duration:

Two years

Admission Requirements:

High School or Academic Requirement:

High school graduation certificate or equivalent approved by the Ministry of Education and Higher Education with a minimum average of 60%, plus two courses: one final year Mathematics, and one final year Science (Chemistry or Physics is preferred).

English Language Requirement:

The required score on the University English Placement Test or a passing score from another approved internationally recognized English language test, as validated by the Admissions & Registration Department;

OR

A valid (within two years) IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, and listening) below 5.0;

OR

Successful completion of Foundation Program requirements.

Mathematics Requirement:

A minimum of 60% on the University Math Placement Test;

OR

A valid SAT Report Form with minimum score of 480;

OR

Successful completion of Foundation Program requirements

Additional Admission Criteria:

Admission is competitive. Eligible applicants are ranked based on their overall final year (Grade 12 or equivalent) high school percentage, placement tests rankings, and admission priority category.

Diploma in Telecommunications and Network Engineering Technology (Dip. TNET)

Program Educational Objectives:

Program educational objectives (PEOs) describe the knowledge, skills, and competencies a graduate can demonstrate within 2-3 years of graduation.

Within a few years of graduation from the Diploma in Telecommunications and Network Engineering Technology (Dip. TNET) program, graduates will be able to:

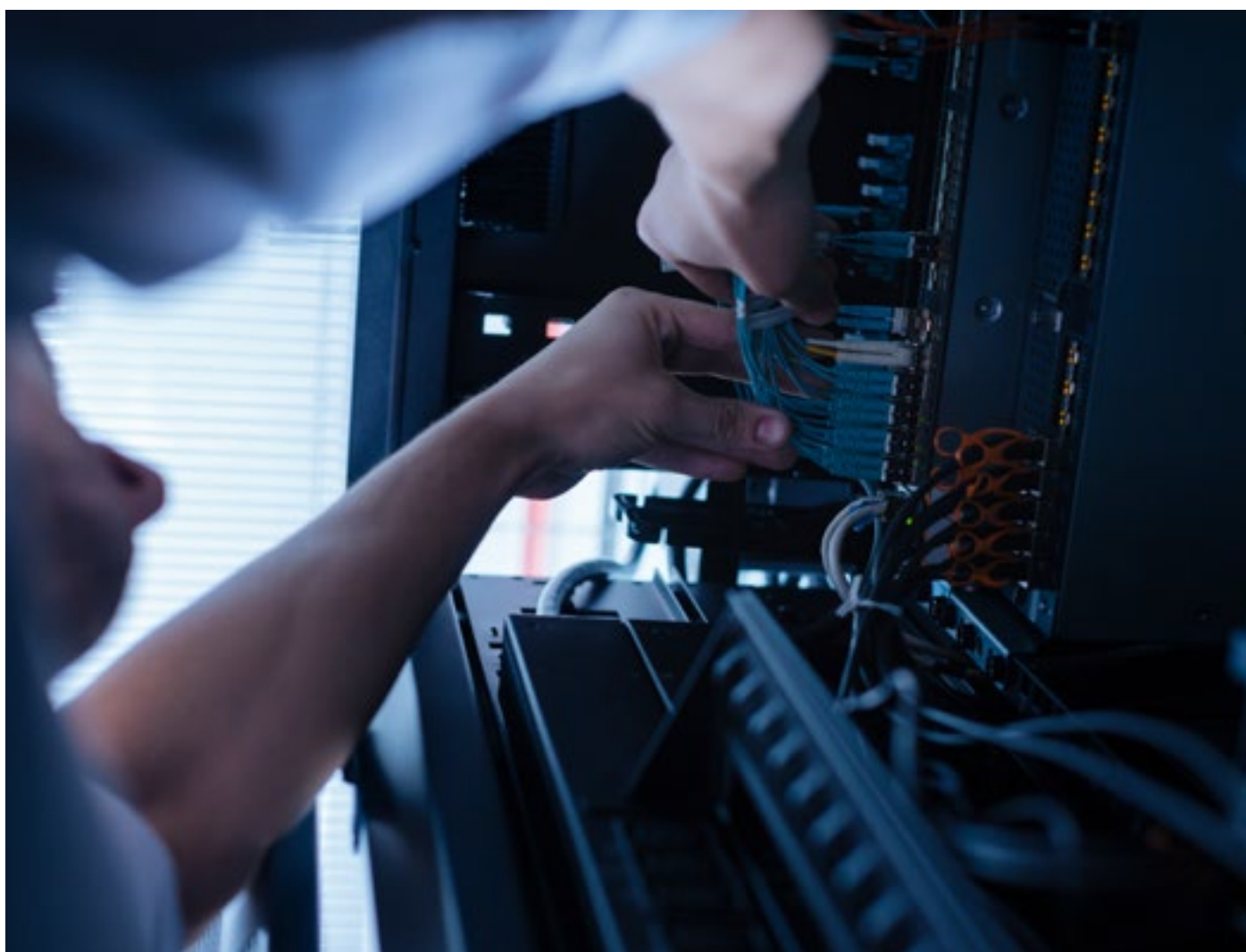
- PEO01a. Contribute to problem solving in telecommunication, networking and related industries and activities
- PEO02a. Distinguish themselves as effective communicators and team members in their profession
- PEO03a. Model ethical and professional attitudes and behavior
- PEO04a. Pursue credentialing and professional development opportunities to remain current and adapt to changes in the field

Student Learning Outcomes:

Student Learning Outcomes (SLOs) describe the knowledge, skills, and competencies a graduate can demonstrate immediately upon graduation.

Upon successful completion of the Diploma in Telecommunications and Network Engineering Technology (Dip. TNET) program, graduates will be prepared to:

- SLO01a. Apply knowledge, techniques, skills, and modern tools of mathematics, science, engineering, and technology to solve well-defined telecommunication and network engineering problems
- SLO02a. Design solutions for well-defined technical problems and assist with the engineering design of systems, components, or processes
- SLO03a. Apply written, oral and graphical communication in technical and non-technical environments, and identify and use appropriate technical literature and other technical documents to appropriate engineering standards
- SLO04a. Conduct standard tests, measurements, and experiments and analyze and interpret the results
- SLO05a. Function effectively as a member of a technical team
- SLO06a. Apply hands-on skills needed to assist in the operation and troubleshooting of network and communication processes



Diploma in Telecommunications and Network Engineering Technology (Dip. TNET)

Study Plan:

Year 1

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 1	AECH1201	Basic Engineering Calculations	-	-	1	0	3
	AEEL1101	Fundamentals of Electricity I	-	-	3	3	0
	AEEL1201	Fundamentals of Electricity I (Lab)	-	AEEL1101	1	0	2
	COMM1010	English Communication I	-	-	3	3	0
	EFFL1002	Applied & Experiential Learning	-	-	3	3	0
	MATH1010	Algebra & Trigonometry	-	-	3	3	1
	PHYS1020	General Physics	-	PHYS1021	3	3	0
	PHYS1021	General Physics (Lab)	-	PHYS1020	1	0	3
Semester 1 Total:					18	15	9
SEMESTER 2	AEEL1102	Fundamentals of Electricity II	AEEL1101	-	3	3	0
	AEEL1202	Fundamentals of Electricity II (Lab)	AEEL1201	AEEL1102	1	0	2
	AETN1102	Network Fundamentals	-	AETN1202	3	3	0
	AETN1202	Network Fundamentals (Lab)	-	AETN1102	1	0	3
	AETN1112	Digital Electronics	AEEL1101	AETN1212	3	3	0
	AETN1212	Digital Electronics (Lab)	AEEL1201	AETN1112	1	0	2
	COMM1020	English Communication II	COMM1010	-	3	3	0
	MATH1020	Pre-Calculus	MATH1010 OR Minimum score on UDST Math Placement Test	-	3	3	0
Semester 2 Total:					18	15	7
SEMESTER 3	AECH1100	Environmental Awareness & Ethics	-	-	2	2	0
	AEMA1312	Engineering Graphics	AECH1201	-	3	1	4
	AEPC1203	Basic Instrumentation	AEEL1100 & AEEL1200 OR AEEL1101 & AEEL1201	-	2	0	5
Semester 3 Total:					7	3	9
Year 1 Total:					43	33	25

Diploma in Telecommunications and Network Engineering Technology (Dip. TNET)

Year 2

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 4	AEEL2201	Electronic Fabrication Practices	AEEL1102 AEEL1202	-	2	0	4
	AETN2101	Analog Electronics	AEEL1102	-	3	3	0
	AETN2201	Analog Electronics (Lab)	AEEL1202	AETN2101	1	0	2
	AETN2111	Network Switching & Routing	AETN1102	AETN2211	3	3	0
	AETN2211	Network Switching & Routing (Lab)	AETN1202	AETN2111	1	0	3
	AETN2121	Analog & Digital Communication	AEEL1102 MATH1020	-	3	3	0
	AETN2221	Analog & Digital Communication (Lab)	AEEL1202	AETN2121	1	0	2
Semester 4 Total:					14	9	11
SEMESTER 5	AECH2103	Leadership & Management Principles	AECH1100 COMM1020	-	2	2	0
	AETN2112	Enterprise Networks	AETN2211	AETN2212	3	3	0
	AETN2212	Enterprise Networks (Lab)	AETN2121	AETN2112	1	0	3
	AETN2122	Wireless Communication Systems	AETN2121	-	2	2	0
	AETN2222	Wireless Communication Systems (Lab)	AETN2221	AETN2122	1	0	3
	AETN2302	Applied Programing I	MATH1020	-	3	1	5
Semester 5 Total:					12	8	11
SEMESTER 6	AETN2103	Microprocessors & Microcontrollers	AETN2121	AETN2203	2	2	0
	AETN2203	Microprocessors & Microcontrollers (Lab)	AETN2221	AETN2103	2	0	6
Semester 6 Total:					4	2	6
Year 2 Total:					30	19	28
Dip. TNET Program Total:					73	52	53

Diploma in Telecommunications and Network Engineering Technology (Dip. TNET)

Graduate Future Pathways:

Graduates of the Diploma in Telecommunications and Network Engineering Technology (Dip. TNET) program may choose to continue their studies and complete the Advanced Diploma in Telecommunications and Network Engineering Technology (Adv. Dip. TNET) or the Bachelor of Science in Electrical Engineering - Telecommunications and Network Engineering (B.Sc. EE-TNE) degree.

Graduate Career Opportunities:

The Diploma in Telecommunications and Network Engineering Technology is an applied two year program with learning outcomes closely linked to the labor market. A wide range of career opportunities in the field currently exist and include, but are not limited to, the following:

- Network Technician
- Network Support Technician
- Telecommunication Technician
- Field Service Technician
- Telecom Technician
- Service Install Technician

Program Webpage:

[Click Here](#)



Advanced Diploma Programs



Advanced Diploma in Automation and Control Engineering Technology (Adv. Dip. ACET)

Program Description:

The Advanced Diploma in Automation and Control Engineering Technology (Adv. Dip. ACET) is an applied program which provides students with the skills and knowledge necessary to become competent and effective members of an engineering team comprised of engineers, technologists, technicians, and tradespersons. The program enables students to earn strong technical knowledge of the design and operation of automation and control systems and hands-on skills in the repair and maintenance of a variety of these systems, including microprocessor-based process field instrumentation and programmable control systems. The advanced diploma stresses fundamental knowledge in the installation, trouble shooting, design, analysis and maintenance of automation and control systems.

Program Duration:

Three years

Admission Requirements:

High School or Academic Requirement:

High school graduation certificate or equivalent approved by the Ministry of Education and Higher Education with a minimum average of 60%, plus two courses: one Mathematics, and one final year Physics or Chemistry;
OR
Two-year Process Automation Technician Diploma from CNA-Q or Two-Year Automation and Control Engineering Technology Diploma from UDST, or equivalent;

English Language Requirement:

The required score on the University English Placement Test or a passing score from another approved internationally recognized English language test, as validated by the Admissions & Registration Department;
OR
A valid (within two years) IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, and listening) below 5.0;
OR
Successful completion of Foundation Program requirements.

Mathematics Requirement:

A minimum of 60% on the University Math Placement Test;
OR A valid SAT Report Form with minimum score of 480;
OR Successful completion of Foundation Program requirements.

Additional Admission Criteria:

Admission is competitive. Eligible applicants are ranked based on their overall final year (Grade 12 or equivalent) high school percentage, placement tests rankings, and admission priority category.

Advanced Diploma in Automation and Control Engineering Technology (Adv. Dip. ACET)

Program Educational Objectives:

Program educational objectives (PEOs) describe the knowledge, skills, and competencies a graduate can demonstrate within 2-3 years of graduation.

Within a few years of graduation from the Advanced Diploma in Automation and Control Engineering Technology (Adv. Dip. ACET) program, graduates will be able to:

- PEO01ad. Demonstrate strong problem-solving capabilities in automation and control-related industries and activities
- PEO02ad. Distinguish themselves as effective communicators, team members, and team leaders in their profession
- PEO03ad. Model ethical and professional attitudes and behavior
- PEO04ad. Pursue credentialing and professional development opportunities to remain current and adapt to changes in the field

Student Learning Outcomes:

Student Learning Outcomes (SLOs) describe the knowledge, skills, and competencies a graduate can demonstrate immediately upon graduation.

Upon successful completion of the Advanced Diploma in Automation and Control Engineering Technology (Adv. Dip. ACET) program, graduates will be prepared to:

- SLO01ad. Apply knowledge, techniques, skills, and modern tools of mathematics, science, engineering and technology to solve well-defined automation and control system problems
- SLO02ad. Design solutions for well-defined technical problems and assist with the engineering design of systems, components, or processes
- SLO03ad. Apply written, oral and graphical communication in technical and non-technical environments, and identify and use appropriate technical literature and other technical documents to appropriate engineering standards
- SLO04ad. Conduct standard tests, measurements, and experiments and analyze and interpret the results
- SLO05ad. Function effectively as a member of a technical team
- SLO06ad. Apply hands-on skills needed in the operation and troubleshooting of automation and control systems and equipment



Advanced Diploma in Automation and Control Engineering Technology (Adv. Dip. ACET)

Study Plan:

Year 1

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 1	AECH1201	Basic Engineering Calculations	-	-	1	0	3
	AEEL1101	Fundamentals of Electricity I	-	-	3	3	0
	AEEL1201	Fundamentals of Electricity I (Lab)	-	AEEL1101	1	0	2
	COMM1010	English Communication I	-	-	3	3	0
	EFFL1002	Applied & Experiential Learning	-	-	3	3	0
	MATH1010	Algebra & Trigonometry	-	-	3	3	1
	PHYS1020	General Physics	-	PHYS1021	3	3	0
	PHYS1021	General Physics (Lab)	-	PHYS1020	1	0	3
Semester 1 Total:					18	15	9
SEMESTER 2	AEEL1102	Fundamentals of Electricity II	AEEL1101	-	3	3	0
	AEEL1202	Fundamentals of Electricity II (Lab)	AEEL1201	AEEL1102	1	0	2
	AETN1102	Network Fundamentals	-	AETN1202	3	3	0
	AETN1202	Network Fundamentals (Lab)	-	AETN1102	1	0	3
	AETN1112	Digital Electronics	AEEL1101	AETN1212	3	3	0
	AETN1212	Digital Electronics (Lab)	AEEL1201	AETN1112	1	0	2
	COMM1020	English Communication II	COMM1010	-	3	3	0
	MATH1020	Pre-Calculus	MATH1010 OR Minimum score on UDST Math Placement Test	-	3	3	0
Semester 2 Total:					18	15	7
SEMESTER 3	AECH1100	Environmental Awareness & Ethics	-	-	2	2	0
	AEMA1312	Engineering Graphics	AECH1201	-	3	1	4
	AEPC1203	Basic Instrumentation	AEEL1100 & AEEL1200 OR AEEL1101 & AEEL1201	-	2	0	5
Semester 3 Total:					7	3	9
Year 1 Total:					43	33	25

Advanced Diploma in Automation and Control Engineering Technology (Adv. Dip. ACET)

Year 2

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 4	AEAC2101	Industrial Processes, Measurement & Control	AEPC1203	-	3	3	0
	AEAC2201	Industrial Processes, Measurement & Control (Lab)	AEPC1203	AEAC2101	1	0	2
	AEEP2111	Electrical Machines	AEEL1102	-	3	3	0
	AEEP2211	Electrical Machines (Lab)	AEEL1202	AEEP2111	1	0	2
	AETN2101	Analog Electronics	AEEL1102	-	3	3	0
	AETN2201	Analog Electronics (Lab)	AEEL1202	AETN2101	1	0	2
	MATH1030	Calculus I	MATH1020 OR Minimum score on UDST Math Placement Test	-	3	3	0
Semester 4 Total:					15	12	6
SEMESTER 5	AEAC2102	Industrial Instrumentation	AETN2101	-	2	2	0
	AEAC2202	Industrial Instrumentation Practices	AETN2201	AEAC2102	1	0	2
	AEEP2301	Applied Programming	AEEL1101 MATH1020	-	2	1	2
	AEEP2122	Motor Controls & Drives	AEEP2111 AETN2101	-	3	3	0
	AEEP2222	Motor Controls & Drives (Lab)	AEEP2211 AETN2201	AEEP2122	1	0	3
	CHEM1010	General Chemistry I	-	CHEM1011	3	3	0
	CHEM1011	General Chemistry I (Lab)	-	CHEM1010	1	0	3
	MATH2010	Calculus II	MATH1030	-	3	3	0
Semester 5 Total:					16	12	10
SEMESTER 6	AEAC2103	Control Strategies	AEAC2101	-	2	2	0
	AEAC2203	Control Strategies (Lab)	AEAC2201	AEAC2103	1	0	2
	AEAC2113	PLC Programming & Control	AEEP2122 AETN1102	-	2	2	0
	AEAC2213	PLC Programming & Control (Lab)	AEEP2222 AETN1202	AEAC2113	1	0	3
Semester 6 Total:					6	4	5
Year 2 Total:					37	28	21

Advanced Diploma in Automation and Control Engineering Technology (Adv. Dip. ACET)

Year 3

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 7	AECH2112	Sustainability & Renewable Energy	AECH1100	-	3	3	0
	AEAC3101	System Automation & Embedded Systems	AEEP2301	-	3	3	0
	AEAC3201	System Automation & Embedded Systems (Lab)	AEEP2301	AEAC3101	1	0	2
	AEAC3111	Process Control Applications	AEAC2103	-	2	2	0
	AEAC3211	Process Control Applications (Lab)	AEAC2203	AEAC3111	1	0	2
	AEAC3321	Technology Capstone Project I	Min 71 Credits	-	0	1	2
	RSST3002	Probability & Statistical Analysis	MATH2010	-	3	3	0
	Mathematics & Natural Sciences Elective: Select 1 of 4						
	BIOL1001	Inquiry-Based Biology	-	-	3	3	0
	BIOL1002	Introduction to Botany	-	-	3	3	0
	BIOL1003	Fundamentals of Ecology	-	-	3	3	0
	BIOL1004	Introduction to Geology	-	-	3	3	0
Semester 7 Total:					16	15	6
SEMESTER 8	AEAC3122	Industrial Process Analysis	AEAC2101	-	2	2	0
	AEAC3222	Industrial Process Analysis (Lab)	AEAC2201	AEAC3122	1	0	2
	AEAC3102	Safety Shutdown & Instrumented Systems	AEAC3111	-	2	2	0
	AEAC3202	Safety Shutdown & Instrumented Systems (Lab)	AEAC3211	AEAC3102	1	0	2
	AEAC3112	DCS & SCADA	AEAC2113	-	3	3	0
	AEAC3212	DCS & SCADA (Lab)	AEAC2213	AEAC3112	1	0	3
	AEAC3332	Technology Capstone Project II	AEAC3321	-	3	3	0
	Semester 8 Total:					13	10
Year 3 Total:					29	25	13
Adv. Dip. ACET Program Total:					109	86	59

Advanced Diploma in Automation and Control Engineering Technology (Adv. Dip. ACET)

Graduate Future Pathways:

Graduates of the Advanced Diploma in Automation and Control Engineering Technology (Adv. Dip. ACET) program may choose to continue their studies and complete the Bachelor of Science in Electrical Engineering - Automation Control and Systems Engineering (B.Sc. EE-ACSE) degree.

Graduate Career Opportunities:

The Advanced Diploma in Automation and Control Engineering Technology (Adv. Dip. ACET) is an applied three year diploma with learning outcomes closely linked to the labor market. A wide range of career opportunities in the field currently exist and these include, but are not limited to, the following:

- Associate Automation and Control Engineer
- PLC Programmer/Systems Associate
- Automation Technologist
- Control Engineering Technologist
- Instrumentation and Control Technician
- Automation and Instrumentation Maintenance Coordinator

Program Webpage:

[Click Here](#)



Advanced Diploma in Chemical and Processing Engineering Technology (Adv. Dip. CPET)



Program Description:

The Advanced Diploma in Chemical and Processing Engineering Technology (Adv. Dip. CPET) is an applied program which provides students with the knowledge, skills, and competencies needed for a career in chemical industries. Through the program students develop skills to install, operate, maintain, and troubleshoot chemical processes. Through experiential learning students engage in hands-on skill development in the operation and troubleshooting of chemical equipment, units, and processes.

Program Duration:

Three years

Admission Requirements:

High School or Academic Requirement:

High school graduation certificate or equivalent approved by the Ministry of Education and Higher Education with a minimum average of 60%, plus two courses: one final year Mathematics, and one final year Science (Chemistry or Physics is preferred);
OR
Two -year Chemical Processing Engineering Technician Diploma from UDST, or equivalent;

English Language Requirement:

The required score on the University English Placement Test or a passing score from another approved internationally recognized English language test, as validated by the Admissions & Registration Department;
OR
A valid (within two years) IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, and listening) below 5.0;
OR
Successful completion of Foundation Program requirements.

Mathematics Requirement:

A minimum of 60% on the University Math Placement Test;
OR
A valid SAT Report Form with minimum score of 480;
OR
Successful completion of Foundation Program requirements.

Additional Admission Criteria:

Admission is competitive. Eligible applicants are ranked based on their overall final year (Grade 12 or equivalent) high school percentage, placement tests rankings, and admission priority category.

Advanced Diploma in Chemical and Processing Engineering Technology (Adv. Dip. CPET)

Program Educational Objectives:

Program educational objectives (PEOs) describe the knowledge, skills, and competencies a graduate can demonstrate within 2-3 years of graduation.

Within a few years of graduation from the Advanced Diploma in Chemical and Processing Engineering Technology (Adv. Dip. CPET) program, graduates will be able to:

- PEO01ad. Contribute to problem solving in industries and activities appropriate to the discipline
- PEO02ad. Distinguish themselves as effective communicators and team members in their profession
- PEO03ad. Model ethical and professional attitudes and behaviour
- PEO04ad. Pursue credentialing and professional development opportunities to remain current and adapt to changes in the field

Student Learning Outcomes:

Student Learning Outcomes (SLOs) describe the knowledge, skills, and competencies a graduate can demonstrate immediately upon graduation.

Upon successful completion of the Advanced Diploma in Chemical and Processing Engineering Technology (Adv. Dip. CPET) program, graduates will be prepared to:

- SLO01ad. Apply knowledge, techniques, skills, and modern tools of mathematics, science, engineering and technology to solve well-defined chemical problems
- SLO02ad. Design solutions for well-defined technical problems and assist with the engineering design of systems, components, or processes
- SLO03ad. Apply written, oral and graphical communication in technical and non-technical environments, and identify and use appropriate technical literature and other technical documents to appropriate engineering standards
- SLO04ad. Conduct standard tests, measurements, and experiments and analyze and interpret the results
- SLO05ad. Function effectively as a member of a technical team
- SLO06ad. Apply hands-on skills needed in the operation and troubleshooting of chemical processes



Advanced Diploma in Chemical and Processing Engineering Technology (Adv. Dip. CPET)

Study Plan:

Year 1

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 1	AECH1201	Basic Engineering Calculations	-	-	1	0	3
	CHEM1010	General Chemistry I	-	CHEM1011	3	3	0
	CHEM1011	General Chemistry I (Lab)	-	CHEM1010	1	0	3
	COMM1010	English Communication I	-	-	3	3	0
	EFFL1002	Applied & Experiential Learning	-	-	3	3	0
	MATH1010	Algebra & Trigonometry	-	-	3	3	1
	PHYS1020	General Physics	-	PHYS1021	3	3	0
	PHYS1021	General Physics (Lab)	-	PHYS1020	1	0	3
Semester 1 Total:					18	15	10
SEMESTER 2	AECH1112	Health, Safety & Environment in the Process Industries	-	-	2	2	0
	AEEL1100	Fundamentals of Electricity	MATH1010	-	2	2	0
	AEEL1200	Fundamentals of Electricity (Lab)	-	AEEL1100	1	0	3
	AEMA1312	Engineering Graphics	AECH1201		3	1	4
	CHEM1020	General Chemistry II	CHEM1010 CHEM1011	CHEM1021	3	3	0
	CHEM1021	General Chemistry II (Lab)	CHEM1010 CHEM1011	CHEM1020	1	0	3
	MATH1020	Pre-Calculus	MATH1010 OR Minimum score on UDST Math Placement Test	-	3	3	0
Semester 2 Total:					15	11	10
SEMESTER 3	AECH1100	Environmental Awareness & Ethics	-	-	2	2	0
	AECH1103	Industrial Process Overview	CHEM1020 OR CHEM1030	-	2	2	0
	AEPC1203	Basic Instrumentation	AEEL1100 & AEEL1200 OR AEEL1101 & AEEL1201	-	2	0	5
Semester 3 Total:					6	4	5
Year 1 Total:					39	30	25

Advanced Diploma in Chemical and Processing Engineering Technology (Adv. Dip. CPET)

Year 2

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 4	AECH2111	Principles of Chemical Engineering I	AECH1201 CHEM1020 MATH1010 PHYS1020	-	3	3	0
	AECH2121	Process Control Systems	AEPC1203	-	3	3	0
	AECH2241	Chemical & Processing Plant Operation	AECH1103	AECH2121	2	0	6
	AECH2251	Instrumentation & Control (Lab)	AEPC1203	AECH2121	1	0	3
	AECH2331	Process Equipment	-	AECH2111	4	3	2
	MATH1030	Calculus I	MATH1020 OR Minimum score on UDST Math Place- ment Test	-	3	3	0
Semester 4 Total:					16	12	11
SEMESTER 5	AECH2122	Principles of Chemical Engineering II	AECH2111		2	2	0
	AECH2142	Basic Fluid Mechanics & Heat Transfer	AECH2111 MATH1020		2	2	0
	AECH2332	Chemical & Processing Plant Troubleshooting	AECH2241	-	2	1	2
	CHEM3010	Petrochemistry	CHEM1020	CHEM3011	2	2	0
	CHEM3011	Petrochemistry (Lab)	CHEM1021	CHEM3010	1	0	3
	COMM1020	English Communication II	COMM1010	-	3	3	0
	MATH2010	Calculus II	MATH1030	-	3	3	0
Semester 5 Total:					15	13	5
SEMESTER 6	AECH2103	Leadership & Management Principles	AECH1100 COMM1020	-	2	2	0
	AECH2112	Sustainability & Renewable Energy	AECH1100	-	3	3	0
	AECH2113	Quality Assurance	COMM1020	-	2	2	0
Semester 6 Total:					7	7	0
Year 2 Total:					38	32	16

Advanced Diploma in Chemical and Processing Engineering Technology (Adv. Dip. CPET)

Year 3

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 7	AECH3132	Chemical Reaction Engineering	AECH2122	-	3	3	0
	AECH3101	Applied Fluid Mechanics	AECH2142	-	3	3	0
	AECH3321	Process Unit Design	AECH2122	-	4	3	2
	AECH3331	Technology Capstone I	AECH2142	-	0	0	2
	RSST3002	Probability & Statistical Analysis	MATH2010	-	3	3	0
Semester 7 Total:					13	12	4
SEMESTER 8	AECH3302	Applied Thermodynamics	MATH1020 PHYS1020	-	3	2	2
	AECH3332	Technology Capstone II	AECH3331	-	3	3	0
	AECH4221	Chemical Reaction Engineering (Lab)	AECH3132	-	1	0	3
	AECH4232	Materials & Corrosion	CHEM3010	-	4	3	0
	AEMA3142	Applied Heat Transfer	AECH2142	-	2	2	0
Semester 8 Total:					13	10	5
SEMESTER 9	AECH3222	Fluid Mechanics & Heat Transfer (Lab)	AECH3101 AEMA3142	-	1	0	3
	AETN2302	Applied Programming I	MATH1020	-	3	1	5
Semester 9 Total:					4	1	8
Year 3 Total:					30	23	17
Adv. Dip. CPET Program Total:					107	85	58

Graduate Future Pathways:

Graduates of the Advanced Diploma in Chemical and Processing Engineering Technology (Adv. Dip. CPET) program may choose to continue their studies and complete the Bachelor of Science in Chemical Engineering – Chemical and Processing Engineering (B.Sc. CE-PE) degree.

Program Webpage:

[Click Here](#)

Graduate Career Opportunities:

The Advanced Diploma in Chemical and Processing Engineering Technology (Adv. Dip. CPET) is an applied three year program with learning outcomes closely linked to the labor market. A wide range of career opportunities in the field currently exist and include, but are not limited to, the following:

- Chemical Engineering Technologist
- Chemical Engineering Research & Development Technician
- Refinery Process Technologist
- Quality Control Technologist
- Chemical Operation Technician
- Production Technologist

Advanced Diploma in Construction Engineering Technology (Adv. Dip. CET)



Program Description:

The Advanced Diploma in Construction Engineering Technology (Adv. Dip. CET) is an applied program which provides students with the knowledge, skills and competencies needed for a career in the construction industry. Through the program students develop skills to install, operate, test and maintain processes in a construction environment. Students engage in hands-on experiential learning through the operation of equipment in a state-of-the-art laboratory and machine shop environment.

Program Duration:

Three years

Admission Requirements:

High School or Academic Requirement:

High school graduation certificate or equivalent approved by the Ministry of Education and Higher Education with a minimum average of 60%, plus two courses: one Mathematics, and one final year Physics or Chemistry;
OR
Two -year Construction Engineering Technician Diploma from CNA-Q, or equivalent;

English Language Requirement:

The required score on the University English Placement Test or a passing score from another approved internationally recognized English language test, as validated by the Admissions & Registration Department;
OR
A valid (within two years) IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, and listening) below 5.0;
OR
Successful completion of Foundation Program requirements.

Mathematics Requirement:

A minimum of 60% on the University Math Placement Test;
OR
A valid SAT Report Form with minimum score of 480;
OR
Successful completion of Foundation Program requirements.

Additional Admission Criteria:

Admission is competitive. Eligible applicants are ranked based on their overall final year (Grade 12 or equivalent) high school percentage, placement tests rankings, and admission priority category.

Advanced Diploma in Construction Engineering Technology (Adv. Dip. CET)

Program Educational Objectives:

Program educational objectives (PEOs) describe the knowledge, skills, and competencies a graduate can demonstrate within 2-3 years of graduation.

Within a few years of graduation from the Advanced Diploma in Construction Engineering Technology (Adv. Dip. CET) program, graduates will be able to:

- PEO01ad. Demonstrate strong problem-solving capabilities in automation and control-related industries and activities
- PEO02ad. Distinguish themselves as effective communicators, team members, and team leaders in their profession
- PEO03ad. Model ethical and professional attitudes and behavior
- PEO04ad. Pursue credentialing and professional development opportunities to remain current and adapt to changes in the field

Student Learning Outcomes:

Student Learning Outcomes (SLOs) describe the knowledge, skills, and competencies a graduate can demonstrate immediately upon graduation.

Upon successful completion of the Advanced Diploma in Construction Engineering Technology (Adv. Dip. CET) program, graduates will be prepared to:

- SLO01ad. Apply knowledge, techniques, skills, and modern tools of mathematics, science, engineering and technology to solve well-defined construction problems
- SLO02ad. Design solutions for well-defined technical problems and assist with the engineering design of systems, components, or processes
- SLO03ad. Apply written, oral and graphical communication in technical and non-technical environments, and identify and use appropriate technical literature and other technical documents to appropriate engineering standards
- SLO04ad. Conduct standard tests, measurements, and experiments and analyze and interpret the results
- SLO05ad. Function effectively as a member of a technical team
- SLO06ad. Apply hands-on skills needed in the operation and troubleshooting of chemical processes



Advanced Diploma in Construction Engineering Technology (Adv. Dip. CET)

Study Plan:

Year 1

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 1	AECH1201	Basic Engineering Calculations	-	-	1	0	3
	COMM1010	English Communication I	-	-	3	3	0
	EFFL1002	Applied & Experiential Learning	-	-	3	3	0
	MATH1010	Algebra & Trigonometry	-	-	3	3	1
	PHYS1020	General Physics	-	PHYS1021	3	3	0
	PHYS1021	General Physics (Lab)	-	PHYS1020	1	0	3
Semester 1 Total:					14	12	7
SEMESTER 2	AECE1200	Introduction to Construction Engineering, Materials & Methods	-	CHEM1010	3	3	0
	AECE1230	Mechanical & Electrical Systems in Construction	-	AECE1200 AEEL1100	3	3	0
	AECH1100	Environmental Awareness & Ethics	-	-	2	2	0
	AEEL1100	Fundamentals of Electricity	MATH1010	-	2	2	0
	AEEL1200	Fundamentals of Electricity (Lab)	-	AEEL1100	1	0	3
	CHEM1010	General Chemistry I	-	CHEM1011	3	3	0
	CHEM1011	General Chemistry I (Lab)	-	CHEM1010	1	0	3
	MATH1020	Pre-Calculus	MATH1010 OR Minimum score on UDST Math Placement Test	-	3	3	0
Semester 2 Total:					18	16	6
SEMESTER 3	AECE1340	Basic Construction Safety	AECE1200	-	3	3	0
	AEMA1312	Engineering Graphics	AECH1201	-	3	1	4
	AEPC1203	Basic Instrumentation	AEEL1100 & AEEL1200 OR AEEL1101 & AEEL1201	-	2	0	5
Semester 3 Total:					8	4	9
Year 1 Total:					40	32	22

Advanced Diploma in Construction Engineering Technology (Adv. Dip. CET)

Year 2

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 4	AECE2100	Construction Documents & Codes	AEMA1312	-	2	2	0
	AECE2110	Principles of Engineering Economy	MATH1020	-	2	2	0
	AECE2120	Statics	MATH1020	-	3	3	0
	AECE2130	Principles of Geomatics	AEMA1312 MATH1020	-	3	3	0
	AECE2131	Principles of Geomatics (Lab)	-	AECE2130	1	0	3
	AECE2140	Project Drawings & Graphics	AEMA1312	AECE2100	1	0	3
	MATH1030	Calculus I	MATH1020 OR Minimum score on UDST Math Placement Test	-	3	3	0
Semester 4 Total:					15	13	6
SEMESTER 5	AECE2210	Engineering Geology	PHYS1020 CHEM1010	-	3	3	0
	AECE2220	Construction Equipment & Machineries	AECE1200	AECE2210	3	3	0
	AECE2230	Strength of Construction Materials	AECE1200 AECE2120	-	3	3	0
	AECE2231	Strength of Construction Materials (Lab)	AECE1200	AECE2230	2	0	5
	COMM1020	English Communication II	COMM1010	-	3	3	0
	MATH2010	Calculus II	MATH1030	-	3	3	0
Semester 5 Total:					17	15	5
SEMESTER 6	AECH2103	Leadership & Management Principles	AECH1100 COMM1020	-	2	2	0
	AETN2302	Applied Programming I	MATH1020	-	3	1	5
Semester 6 Total:					5	3	5
Year 2 Total:					37	31	16

Advanced Diploma in Construction Engineering Technology (Adv. Dip. CET)

Year 3

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 7	AECE3100	Soil Mechanics	AECE2210 AECE2230	-	3	3	0
	AECE3101	Soil Mechanics (Lab)	-	AECE3100	1	0	3
	AECE3120	Construction Planning & Scheduling	AECE1200 AECE1230 AECE2220	-	3	3	0
	AECE3321	Technology Capstone Project I	AECE2230	RSST3002	0	0	2
	AEMA3121	Applied Fluid Mechanics	MATH1020 PHYS1020	-	2	2	0
	AEMA3221	Applied Fluid Mechanics (Lab)	AEMA1102 OR AECE1340	AEMA3121	1	0	2
	RSST3002	Probability & Statistical Analysis	MATH2010	-	3	3	0
	Mathematics & Natural Sciences Elective: Select 1 of 4						
	BIOL1001	Inquiry-Based Biology	-	-	3	3	0
	BIOL1002	Introduction to Botany	-	-	3	3	0
	BIOL1003	Fundamentals of Ecology	-	-	3	3	0
	BIOL1004	Introduction to Geology	-	-	3	3	0
	Semester 7 Total:					16	14
SEMESTER 8	AECE3210	Construction Cost Estimation	AECE1200 AECE1230 AECE2220	-	3	3	0
	AECE3332	Technology Capstone Project II	AECE3321	-	3	3	9
	AECE3220	Built-Facility Maintenance & Repair	AECE2100 AECE2230	AECE3230	3	3	0
	AECE3230	Structural Engineering	AECE2230 MATH1030 MATH2010	-	3	3	0
	AECH2112	Sustainability & Renewable Energy	AECH1100	-	3	3	0
	AECH2113	Quality Assurance	COMM1020	-	2	2	0
	Semester 8 Total:					17	17
Year 3 Total:					33	31	16
Adv. Dip. CET Program Total:					110	94	54

Advanced Diploma in Construction Engineering Technology (Adv. Dip. CET)

Graduate Future Pathways:

Graduates of the Advanced Diploma in Construction Engineering Technology (Adv. Dip. CET) program may choose to continue their studies and complete the Bachelor of Science in Construction Engineering (B.Sc. ConE) degree.

Graduate Career Opportunities:

The Advanced Diploma in Construction Engineering Technology (Adv. Dip. CET) is an applied three year diploma with learning outcomes closely linked to the labor market. A wide range of career opportunities in the field currently exist and include, but are not limited to, the following:

- Construction Engineering Technologist
- Construction Supervisor
- Junior Construction Process Designer
- Project Superintendent
- Engineering Asset Officer
- Junior Construction Cost Estimator

Program Webpage:

[Click Here](#)



Advanced Diploma in Electrical Power and Renewable Energy Engineering Technology (Adv. Dip. EPREET)



Program Description:

The Advanced Diploma in Electrical Power and Renewable Energy Engineering Technology (Adv. Dip. EPREET) is an applied program which provides students with skills and knowledge necessary to become competent and effective members of an electrical engineering team. The program enables students to earn technical knowledge and skills in design, construction, installation, application, operation, maintenance and troubleshooting of electrical power systems with a focus on power utility, large industry, institutional and commercial facilities, and renewable energy sources. Students engage in hands-on experiential learning through the operation of equipment in state-of-the art on-campus laboratories and machine shops.

Program Duration:

Three years

Admission Requirements:

High School or Academic Requirement:

High school graduation certificate or equivalent approved by the Ministry of Education and Higher Education with a minimum average of 60%, plus two courses: one Mathematics, and one final year Physics or Chemistry
OR

Two-year Electrical Power Systems Technician Diploma from CNA-Q or Two-Year Electrical Power Engineering Technology Diploma from UDST, or equivalent;

English Language Requirement:

The required score on the University English Placement Test or a passing score from another approved internationally recognized English language test, as validated by the Admissions & Registration Department;

OR

A valid (within two years) IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, and listening) below 5.0;

OR

Successful completion of Foundation Program requirements.

Mathematics Requirement:

A minimum of 60% on the University Math Placement Test;

OR

A valid SAT Report Form with minimum score of 480;

OR

Successful completion of Foundation Program requirements.

Additional Admission Criteria:

Admission is competitive. Eligible applicants are ranked based on their overall final year (Grade 12 or equivalent) high school percentage, placement tests rankings, and admission priority category.

Advanced Diploma in Electrical Power and Renewable Energy Engineering Technology (Adv. Dip. EPREET)

Program Educational Objectives:

Program educational objectives (PEOs) describe the knowledge, skills, and competencies a graduate can demonstrate within 2-3 years of graduation.

Within a few years of graduation from the Advanced Diploma in Electrical Power and Renewable Energy Engineering Technology (Adv. Dip. EPREET) program, graduates will be able to:

- PEO01ad. Contribute to problem solving in electrical power and renewable energy related industries and activities
- PEO02ad. Distinguish themselves as effective communicators and team members in their profession
- PEO03ad. Model ethical and professional attitudes and behavior
- PEO04ad. Pursue credentialing and professional development opportunities to remain current and adapt to changes in the field

Student Learning Outcomes:

Student Learning Outcomes (SLOs) describe the knowledge, skills, and competencies a graduate can demonstrate immediately upon graduation.

Upon successful completion of the Advanced Diploma in Electrical Power and Renewable Energy Engineering Technology (Adv. Dip. EPREET) program, graduates will be prepared to:

- SLO01ad. Apply knowledge, techniques, skills, and modern tools of mathematics, science, engineering and technology to solve well-defined electrical power problems
- SLO02ad. Design solutions for well-defined technical problems and assist with the engineering design of systems, components, or processes
- SLO03ad. Apply written, oral and graphical communication in technical and non-technical environments, and identify and use appropriate technical literature and other technical documents to appropriate engineering standards
- SLO04ad. Conduct standard tests, measurements, and experiments and analyze and interpret the results
- SLO05ad. Function effectively as a member of a technical team
- SLO06ad. Apply hands-on skills needed in the operation and troubleshooting of electrical power systems and processes



Advanced Diploma in Electrical Power and Renewable Energy Engineering Technology (Adv. Dip. EPREET)

Study Plan:

Year 1

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 1	AECH1201	Basic Engineering Calculations	-	-	1	0	3
	AEEL1101	Fundamentals of Electricity I	-	-	3	3	0
	AEEL1201	Fundamentals of Electricity I (Lab)	-	AEEL1101	1	0	2
	COMM1010	English Communication I	-	-	3	3	0
	MATH1010	Algebra & Trigonometry	-	-	3	3	1
	EFFL1002	Applied & Experiential Learning	-	-	3	3	0
	PHYS1020	General Physics	-	PHYS1021	3	3	0
	PHYS1021	General Physics (Lab)	-	PHYS1020	1	0	3
Semester 1 Total:					18	15	9
SEMESTER 2	AEEL1102	Fundamentals of Electricity II	AEEL1101	-	3	3	0
	AEEL1202	Fundamentals of Electricity II (Lab)	AEEL1201	AEEL1102	1	0	2
	AETN1102	Network Fundamentals	-	AETN1202	3	3	0
	AETN1202	Network Fundamentals (Lab)	-	AETN1102	1	0	3
	AETN1112	Digital Electronics	AEEL1101	AETN1212	3	3	0
	AETN1212	Digital Electronics (Lab)	AEEL1201	AETN1112	1	0	2
	COMM1020	English Communication II	COMM1010	-	3	3	0
	MATH1020	Pre-Calculus	MATH1010 OR Minimum score on UDST Math Placement Test	-	3	3	0
Semester 2 Total:					18	15	7
SEMESTER 3	AECH1100	Environmental Awareness & Ethics	-	-	2	2	0
	AEMA1312	Engineering Graphics	AECH1201	-	3	1	4
	AEPC1203	Basic Instrumentation	AEEL1100 & AEEL1200 OR AEEL1101 & AEEL1201	-	2	0	5
Semester 3 Total:					7	3	9
Year 1 Total:					43	33	25

Advanced Diploma in Electrical Power and Renewable Energy Engineering Technology (Adv.Dip. EPREET)

Year 2

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 4	AEEP2111	Electrical Machines	AEEL1102	-	3	3	0
	AEEP2211	Electrical Machines (Lab)	AEEL1202	AEEP2111	1	0	2
	AEEP2301	Applied Programming	AEEL1101 MATH1020	-	2	1	2
	AETN2101	Analog Electronics	AEEL1102	-	3	3	0
	AETN2201	Analog Electronics (Lab)	AEEL1202	AETN2101	1	0	2
	CHEM1010	General Chemistry I	-	CHEM1011	3	3	0
	CHEM1011	General Chemistry I (Lab)	-	CHEM1010	1	0	3
	MATH1030	Calculus I	MATH1020 OR Minimum score on UDST Math Place- ment Test	-	3	3	0
Semester 4 Total:					17	13	9
SEMESTER 5	AEEP2102	Power Systems I	AEEP2111	-	3	3	0
	AEEP2202	Power Systems I (Lab)	AEEP2211	AEEP2102	1	0	2
	AEEP2112	Electrical Practices	AEEP2111	-	2	2	0
	AEEP2212	Electrical Practices (Lab)	AEEP2211	AEEP2112	2	0	5
	AEEP2122	Motor Controls & Drives	AEEP2111 AETN2101	-	3	3	0
	AEEP2222	Motor Controls & Drives (Lab)	AEEP2211 AETN2201	AEEP2122	1	0	3
	MATH2010	Calculus II	MATH1030	-	3	3	0
Semester 5 Total:					15	11	10
SEMESTER 6	AEEP2103	Facilities & Electrical Systems	AEEP2102	-	2	2	0
	AEEP2203	Facilities & Electrical Systems (Lab)	AEEP2202	AEEP2103	1	0	2
	AEEP2113	HV Equipment Testing and Maintenance	AEEP2111	-	2	2	0
	AEEP2213	HV Equipment Testing & Maintenance (Lab)	AEEP2211	AEEP2113	1	0	2
Semester 6 Total:					6	4	4
Year 2 Total:					38	28	23

Advanced Diploma in Electrical Power and Renewable Energy Engineering Technology (Adv.Dip. EPREET)

Year 3

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 7	AECH2112	Sustainability & Renewable Energy	AECH1100	-	3	3	0
	AEAC2113	PLC Programming & Control	AEEP2122 AETN1102	-	2	2	0
	AEAC2213	PLC Programming & Control (Lab)	AEEP2222 AETN1202	AEAC2113	1	0	3
	AEEP3101	Introduction to Embedded Systems	AEEP2301	-	2	2	0
	AEEP3201	Introduction to Embedded Systems (Lab)	AEEP2301	AEEP3101	2	0	6
	AEEP3111	Power Systems II	AEEP2102	-	3	3	0
	AEEP3211	Power Systems II (Lab)	AEEP2202	AEEP3111	1	0	2
	AEEP3321	Technology Capstone Project I	Min 71 Credits	-	0	1	2
Semester 7 Total:					14	11	13
SEMESTER 8	AEEP3102	Power Electronics	AEEP2122 AETN2101	-	3	3	0
	AEEP3202	Power Electronics (Lab)	AEEP2222 AETN2201	AEEP3102	1	0	2
	AEEP3122	Renewable Energy Conversion I	AECH2112	-	3	3	0
	AEEP3222	Renewable Energy Conversion I (Lab)	AECH2112	AEEP3122	1	0	2
	AEEP3312	Technology Capstone Project II	AEEP3321	-	3	3	0
	RSST3002	Probability & Statistical Analysis	MATH2010	-	3	3	0
Semester 8 Total:					14	12	4
Year 3 Total:					28	23	17
Adv. Dip. EPREET Program Total:					109	84	65

Graduate Future Pathways:

Graduates of the Advanced Diploma in Electrical Power and Renewable Energy Engineering Technology (Adv. Dip. EPREET) program may choose to continue their studies and complete the Bachelor of Science in Electrical Engineering -Electrical Power and Renewable Energy Engineering (B.Sc. EE-EPREE) degree.

Graduate Career Opportunities:

The Advanced Diploma in Electrical Power and Renewable Energy Engineering Technology (Adv. Dip. EPREET) is an applied three year diploma with learning outcomes closely linked to the labor market. A wide range of career opportunities in the field currently exist and include, but are not limited to, the following:

- Associate Electrical Engineer
- Sustainable Energy Technologist
- Utility Specialist
- Electrical System Technologist
- Junior Renewable Energy Engineer
- Electrical Technologist

Program Webpage:

[Click Here](#)

Advanced Diploma in Maintenance Engineering Technology (Adv. Dip. MET)



Program Description:

The Advanced Diploma in Maintenance Engineering Technology (Adv. Dip. MET) is an applied program which provides students with the knowledge, skills and competencies needed for a career in maintenance engineering. Through the program, students develop the knowledge and technical skills required to install, operate, and maintain mechanical systems. Students engage in hands-on experiential learning through the operation of equipment in state-of-the-art on-campus laboratories and machine shops.

Program Duration:

Three years

Admission Requirements:

High School or Academic Requirement:

High school graduation certificate or equivalent approved by the Ministry of Education and Higher Education with a minimum average of 60%, plus two courses: one final year Mathematics, and one final year Science (Chemistry or Physics is preferred);
OR
Two-year Mechanical Engineering Technician Diploma from CNA-Q, or equivalent;

English Language Requirement:

The required score on the University English Placement Test or a passing score from another approved internationally recognized English language test, as validated by the Admissions & Registration Department;
OR
A valid (within two years) IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, and listening) below 5.0;
OR
Successful completion of Foundation Program requirements.

Mathematics Requirement:

A minimum of 60% on the University Math Placement Test;
OR
A valid SAT Report Form with minimum score of 480;
OR
Successful completion of Foundation Program requirements.

Additional Admission Criteria:

Admission is competitive. Eligible applicants are ranked based on their overall final year (Grade 12 or equivalent) high school percentage, placement tests rankings, and admission priority category.

Advanced Diploma in Maintenance Engineering Technology (Adv. Dip. MET)

Program Educational Objectives:

Program educational objectives (PEOs) describe the knowledge, skills, and competencies a graduate can demonstrate within 2-3 years of graduation.

Within a few years of graduation from the Advanced Diploma in Maintenance Engineering Technology (Adv. Dip. MET) program, graduates will be able to:

- PEO1ad: Contribute to problem solving in industries and activities appropriate to the discipline
- PEO2ad: Distinguish themselves as effective communicators and team members in their profession
- PEO3ad: Model ethical and professional attitudes and behaviour
- PEO4ad: Pursue credentialing and professional development opportunities to remain current and adapt to changes in the field

Student Learning Outcomes:

Student Learning Outcomes (SLOs) describe the knowledge, skills, and competencies a graduate can demonstrate immediately upon graduation.

Upon successful completion of the Advanced Diploma in Maintenance Engineering Technology (Adv. Dip. MET) program, graduates will be prepared to:

- SLO01ad. Apply knowledge, techniques, skills, and modern tools of mathematics, science, engineering and technology to solve well-defined mechanical engineering problems
- SLO02ad. Design solutions for well-defined technical problems and assist with the engineering design of systems, components, or processes
- SLO03ad. Apply written, oral and graphical communication in technical and non-technical environments, and identify and use appropriate technical literature and other technical documents to appropriate engineering standards
- SLO04ad. Conduct standard tests, measurements, and experiments and analyze and interpret the results
- SLO05ad. Function effectively as a member of a technical team
- SLO06ad. Apply hands-on skills needed in the operation and troubleshooting of mechanical systems and processes



Advanced Diploma in Maintenance Engineering Technology (Adv. Dip. MET)

Study Plan:

Year 1

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 1	AECH1201	Basic Engineering Calculations	-	-	1	0	3
	CHEM1010	General Chemistry I	-	CHEM1011	3	3	0
	CHEM1011	General Chemistry I (Lab)	-	CHEM1010	1	0	3
	COMM1010	English Communication I	-	-	3	3	0
	EFFL1002	Applied & Experiential Learning	-	-	3	3	0
	MATH1010	Algebra & Trigonometry	-	-	3	3	1
	PHYS1020	General Physics	-	PHYS1021	3	3	0
	PHYS1021	General Physics (Lab)	-	PHYS1020	1	0	3
Semester 1 Total:					18	15	10
SEMESTER 2	AEEL1100	Fundamentals of Electricity	MATH1010	-	2	2	0
	AEEL1200	Fundamentals of Electricity (Lab)	-	AEEL1100	1	0	3
	AECH1100	Environmental Awareness & Ethics	-	-	2	2	0
	AEMA1102	Health & Safety in the Workplace	-	-	2	2	0
	AEMA1312	Engineering Graphics	AECH1201	-	3	1	4
	COMM1020	English Communication II	COMM1010	-	3	3	0
	MATH1020	Pre-Calculus	MATH1010 OR Minimum score on UDST Math Placement Test	-	3	3	0
Semester 2 Total:					16	13	7
SEMESTER 3	AEMA1113	Materials Practices	CHEM1010 PHYS1020	-	2	2	0
	AEMA1213	Materials Practices (Lab)	AEMA1102	AEMA1113	1	0	2
	AEMA1303	Machine Shop Practices	AEMA1102	-	2	1	3
	AEPC1203	Basic Instrumentation	AEEL1100 & AEEL1200 OR AEEL1101 & AEEL1201	-	2	0	5
Semester 3 Total:					7	3	10
Year 1 Total:					41	31	27

Advanced Diploma in Maintenance Engineering Technology (Adv. Dip. MET)

Year 2

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 4	AECH2103	Leadership & Management Principles	AECH1100 COMM1020	-	2	2	0
	AEMA2101	Welding Fundamentals	-	-	1	1	0
	AEMA2201	Welding Fundamentals (Lab)	AEMA1303	AEMA2101	1	0	3
	AEMA2121	Materials & Processes	AEMA1213	-	2	2	0
	AEMA2221	Materials & Processes (Lab)	AEMA1102	AEMA2121	1	0	2
	AEMA2131	Industrial Maintenance Mechanics	-	-	2	2	0
	AEMA2231	Industrial Maintenance Mechanics (Lab)	AEMA1102	AEMA2131	1	0	3
	AEMA2311	Computer Aided Design I	AEMA1312	-	3	2	2
	MATH1030	Calculus I	MATH1020 OR Minimum score on UDST Math Place- ment Test	-	3	3	0
Semester 4 Total:					16	12	10
SEMESTER 5	AECH2112	Sustainability & Renewable Energy	AECH1100	-	3	3	0
	AEMA2102	Power Plant Components	-	-	2	2	0
	AEMA2202	Power Plant Components (Lab)	AEMA1102	AEMA2102	1	0	3
	AEMA2112	Rotating Equipment Maintenance	-	-	2	2	0
	AEMA2232	Rotating Equipment Maintenance (Lab)	AEMA1102	AEMA2112	1	0	2
	AEMA2122	Non-Destructive Testing	AEMA2221	-	2	2	0
	AEMA2222	Non-Destructive Testing (Lab)	AEMA1102	AEMA2122	1	0	2
	MATH2010	Calculus II	MATH1030	-	3	3	0
Semester 5 Total:					15	12	7
SEMESTER 6	AEMA2103	Principles of Maintenance	AEMA2112 AEMA2131	-	2	2	0
	AEMA2203	Principles of Maintenance (Lab)	AEMA1102	AEMA2103	1	0	2
	AEMA2113	Hydraulics & Pneumatics	PHYS1020	-	2	2	0
	AEMA2213	Hydraulics & Pneumatics (Lab)	AEMA1102	AEMA2113	1	0	2
Semester 6 Total:					6	4	4
Year 2 Total:					37	28	21

Advanced Diploma in Maintenance Engineering Technology (Adv. Dip. MET)

Year 3

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 7	AEMA3301	Mechanics, Statics & Dynamics	AEMA1102 MATH1020 PHYS1021	-	3	2	2
	AEMA3311	Computer Aided Design II	AEMA2311	-	3	2	2
	AEMA3321	Technology Capstone Project I	-	COMM3010 RSST3002	0	1	2
	COMM3010	Research & Reporting	COMM1020	-	3	3	0
	RSST3002	Probability & Statistical Analysis	MATH2010	-	3	3	0
Semester 7 Total:					12	11	6
SEMESTER 8	AECH3302	Applied Thermodynamics	MATH1020 PHYS1020	-	3	2	2
	AEMA3121	Applied Fluid Mechanics	MATH1020 PHYS1020	-	2	2	0
	AEMA3221	Applied Fluid Mechanics (Lab)	AEMA1102 OR AECE1340	AEMA3121	1	0	2
	AEMA3302	Strength of Materials	AEMA3301	MATH2010	3	2	2
	AEMA3332	Technology Capstone Project II	AEMA3321	-	3	3	0
Semester 8 Total:					12	9	6
SEMESTER 9	AECH2113	Quality Assurance	COMM1020	-	2	2	0
	AEMA3322	Maintenance Engineering	AEMA2203	-	3	3	1
	AEMA4312	Applied CNC & CAM	AEMA2221 AEMA3311	-	3	2	3
Semester 9 Total:					8	7	4
Year 3 Total:					32	27	16
Adv. Dip. MET Program Total:					110	86	64

Advanced Diploma in Maintenance Engineering Technology (Adv. Dip. MET)

Graduate Future Pathways:

Graduates of the Advanced Diploma in Maintenance Engineering Technology (Adv. Dip. MET) program may choose to continue their studies and complete the Bachelor of Science in Mechanical Engineering -Maintenance Engineering (B.Sc. ME-MaE) degree.

Graduate Career Opportunities:

The Advanced Diploma in Maintenance Engineering Technology (Adv. Dip. MET) is an applied three year diploma with learning outcomes closely linked to the labor market. A wide range of career opportunities in the field currently exist and include, but are not limited to, the following:

- Maintenance Technologist
- Shop Supervisor
- Field Service Technologist
- Maintenance Coordinator
- Mechanical Technician
- Building Operator

Program Webpage:

[Click Here](#)



Advanced Diploma in Telecommunications and Network Engineering Technology (Adv. Dip. TNET)



Program Description:

The Advanced Diploma in Telecommunications and Network Engineering Technology (Adv. Dip. TNET) program provides students with the knowledge, skills and competencies needed for a career in the telecommunications and networking industry. Through the program, students develop the knowledge and technical skills required to install, operate, maintain and troubleshoot telecommunications and networking systems. Students engage in hands-on experiential learning through the operation of equipment in state-of-the-art on-campus laboratories and machine shops.

Program Duration:

Three years

Admission Requirements:

High School or Academic Requirement:

High school graduation certificate or equivalent approved by the Ministry of Education and Higher Education with a minimum average of 60%, plus two courses: one final year Mathematics, and one final year Science (Chemistry or Physics is preferred);
OR
Telecommunications and Network Engineering Technician Diploma from UDST, or equivalent;

English Language Requirement:

The required score on the University English Placement Test or a passing score from another approved internationally recognized English language test, as validated by the Admissions & Registration Department;
OR
A valid (within two years) IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, and listening) below 5.0;
OR
Successful completion of Foundation Program requirements.

Mathematics Requirement:

A minimum of 60% on the University Math Placement Test;
OR
A valid SAT Report Form with minimum score of 480;
OR
Successful completion of Foundation Program requirements.

Additional Admission Criteria:

Admission is competitive. Eligible applicants are ranked based on their overall final year (Grade 12 or equivalent) high school percentage, placement tests rankings, and admission priority category.

Advanced Diploma in Telecommunications and Network Engineering Technology (Adv. Dip. TNET)

Program Educational Objectives:

Program educational objectives (PEOs) describe the knowledge, skills, and competencies a graduate can demonstrate within 2-3 years of graduation.

Within a few years of graduation from the Advanced Diploma in Telecommunications and Network Engineering Technology (Adv. Dip. TNET) program, graduates will be able to:

- PEO1ad: Contribute to problem solving in industries and activities appropriate to the discipline
- PEO2ad: Distinguish themselves as effective communicators and team members in their profession
- PEO3ad: Model ethical and professional attitudes and behaviour
- PEO4ad: Pursue credentialing and professional development opportunities to remain current and adapt to changes in the field

Student Learning Outcomes:

Student Learning Outcomes (SLOs) describe the knowledge, skills, and competencies a graduate can demonstrate immediately upon graduation.

Upon successful completion of the Advanced Diploma in Telecommunications and Network Engineering Technology (Adv. Dip. TNET) program, graduates will be prepared to:

- SLO01ad. Apply knowledge, techniques, skills, and modern tools of mathematics, science, engineering and technology to solve well-defined telecommunications and network problems
- SLO02ad. Design solutions for well-defined technical problems and assist with the engineering design of systems, components, or processes
- SLO03ad. Apply written, oral and graphical communication in technical and non-technical environments, and identify and use appropriate technical literature and other technical documents to appropriate engineering standards
- SLO04ad. Conduct standard tests, measurements, and experiments and analyze and interpret the results
- SLO05ad. Function effectively as a member of a technical team
- SLO06ad. Apply hands-on skills needed in the operation and troubleshooting of network and communication processes



Advanced Diploma in Telecommunications and Network Engineering Technology (Adv. Dip. TNET)

Study Plan:

Year 1

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 1	AECH1201	Basic Engineering Calculations	-	-	1	0	3
	AEEL1101	Fundamentals of Electricity I	-	-	3	3	0
	AEEL1201	Fundamentals of Electricity I (Lab)	-	AEEL1101	1	0	2
	COMM1010	English Communication I	-	-	3	3	0
	EFFL1002	Applied & Experiential Learning	-	-	3	3	0
	MATH1010	Algebra & Trigonometry	-	-	3	3	1
	PHYS1020	General Physics	-	PHYS1021	3	3	0
	PHYS1021	General Physics (Lab)	-	PHYS1020	1	0	3
Semester 1 Total:					18	15	9
SEMESTER 2	AEEL1102	Fundamentals of Electricity II	AEEL1101	-	3	3	0
	AEEL1202	Fundamentals of Electricity II (Lab)	AEEL1201	AEEL1102	1	0	2
	AETN1102	Network Fundamentals	-	AETN1202	3	3	0
	AETN1202	Network Fundamentals (Lab)	-	AETN1102	1	0	3
	AETN1112	Digital Electronics	AEEL1101	AETN1212	3	3	0
	AETN1212	Digital Electronics (Lab)	AEEL1201	AETN1112	1	0	2
	COMM1020	English Communication II	COMM1010	-	3	3	0
	MATH1020	Pre-Calculus	MATH1010 OR Minimum score on UDST Math Placement Test	-	3	3	0
Semester 2 Total:					18	15	7
SEMESTER 3	AECH1100	Environmental Awareness & Ethics	-	-	2	2	0
	AEMA1312	Engineering Graphics	AECH1201	-	3	1	4
	AEPC1203	Basic Instrumentation	AEEL1100 & AEEL1200 OR AEEL1101 & AEEL1201	-	2	0	5
Semester 3 Total:					7	3	9
Year 1 Total:					43	33	25

Advanced Diploma in Telecommunications and Network Engineering Technology (Adv. Dip. TNET)

Year 2

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 4	AEEL2201	Electronic Fabrication Practices	AEEL1102 AEEL1202	-	2	0	4
	AETN2101	Analog Electronics	AEEL1102	-	3	3	0
	AETN2201	Analog Electronics (Lab)	AEEL1202	AETN2101	1	0	2
	AETN2111	Network Switching & Routing	AETN1102	AETN2211	3	3	0
	AETN2211	Network Switching & Routing (Lab)	AETN1202	AETN2111	1	0	3
	AETN2121	Analog & Digital Communication	AEEL1102 MATH1020	-	3	3	0
	AETN2221	Analog & Digital Communication (Lab)	AEEL1202	AETN2121	1	0	2
	MATH1030	Calculus I	MATH1020 or Minimum score on UDST Math Placement Test	-	3	3	0
Semester 4 Total:					17	12	11
SEMESTER 5	AECH2103	Leadership & Management Principles	AECH1100 COMM1020	-	2	2	0
	AETN2112	Enterprise Networks	AETN2211	AETN2212	3	3	0
	AETN2212	Enterprise Networks (Lab)	AETN2121	AETN2112	1	0	3
	AETN2122	Wireless Communication Systems	AETN2121	-	2	2	0
	AETN2222	Wireless Communication Systems (Lab)	AETN2221	AETN2122	1	0	3
	AETN2302	Applied Programming I	MATH1020	-	3	1	5
	MATH2010	Calculus II	MATH1030	-	3	3	0
Semester 5 Total:					15	11	11
SEMESTER 6	AETN2103	Microprocessors & Microcontrollers	AETN2121	AETN2203	2	2	0
	AETN2203	Microprocessors & Microcontrollers (Lab)	AETN2221	AETN2103	2	0	6
Semester 6 Total:					4	2	6
Year 2 Total:					36	25	28

Advanced Diploma in Telecommunications and Network Engineering Technology (Adv. Dip. TNET)

Year 3

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 7	AETN3101	Cyber Security	AETN2112	AETN3201	3	3	0
	AETN3201	Cyber Security (Lab)	AETN2212	-	1	0	3
	AETN3111	Applied Electromagnetics	MATH1020	-	3	3	0
	AETN3222	Applied Programming II	AETN2302	-	2	0	5
	AETN3331	Technology Capstone I	AETN2103 AETN2203	COMM3010	0	1	2
	COMM3010	Research & Reporting	COMM1020	-	3	3	0
Semester 7 Total:					12	10	10
SEMESTER 8	AECH2112	Sustainability & Renewable Energy	AECH1100	-	3	3	0
	AETN3102	Antennas & Wave Propagation	AETN3111	AETN3202	2	2	0
	AETN3202	Antennas & Wave Propagation (Lab)	AETN2222	AETN3102	1	0	3
	AETN3332	Technology Capstone II	AETN3331	-	3	1	2
	AETN4112	Enterprise Unified Communications	AETN2112	AETN4212	3	3	0
	AETN4212	Enterprise Unified Communications (Lab)	AETN2212	AETN4112	1	0	3
Semester 8 Total:					13	9	8
Year 3 Total:					25	19	18
Adv. Dip. TNET Program Total:					104	77	71

Graduate Future Pathways:

Graduates of the Advanced Diploma in Telecommunications and Network Engineering Technology (Adv. Dip. TNET) program may choose to continue their studies and complete the Bachelor of Science in Electrical Engineering -Telecommunications and Network Engineering (B.Sc. EE-TNE) degree.

Program Webpage:

[Click Here](#)

Graduate Career Opportunities:

The Advanced Diploma in Telecommunications and Network Engineering Technology (Adv. Dip. TNET) is an applied three year program with learning outcomes closely linked to the labor market. A wide range of career opportunities in the field currently exist and include, but are not limited to, the following:

- Telecommunications Technician
- Telecommunications Project Coordinator
- Assistant Field Representative
- Network Technologist
- Technical Deployment
- Infrastructure Support





Bachelor Programs



Bachelor of Science in Chemical Engineering - Processing Engineering (B.Sc. CE-PE)

Program Description:

The Bachelor of Science in Chemical Engineering – Processing Engineering (B.Sc. CE-PE) degree program provides students with the knowledge, skills, and competencies needed for a career in the chemical or petroleum industry. After completion of the B.Sc. CE-PE program, graduates will be able to design, implement, operate, maintain, and troubleshoot chemical and processing units and plants. Students gain an in-depth knowledge of process operation, process control and techniques, and equipment design.

In the third year of studies students engage in an in-field training experience. In their final year, students conduct an in-depth study of a complex chemical and processing engineering technology-based problem, design, or technological application. The consolidation of the skill set developed in the B.Sc. CE-PE program through the completion of a capstone project and an in-field work placement prepares graduates for exciting careers in the chemical or petroleum industry.

Program Duration:

Four years

Admission Requirements:

High School or Academic Requirement:

High school graduation certificate or equivalent approved by the Ministry of Education and Higher Education with a minimum average of 60%, plus two courses: one Mathematics, and one final year Physics or Chemistry;
OR
Two-year Chemical Processing Technology from CNA-Q or Two-Year Chemical Processing Technology Diploma from UDST, or equivalent;
OR
Three-year Chemical Processing Technology Diploma from CNA-Q or Three- Chemical Processing Technology Advanced Diploma from UDST, or equivalent.

English Language Requirement:

The required score on the University English Placement Test or a passing score from another approved internationally recognized English language test, as validated by the Admissions & Registration Department;
OR
A valid (within two years) IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, and listening) below 5.0;
OR
Successful completion of Foundation Program requirements.

Mathematics Requirement:

A minimum of 60% on the University Math Placement Test;
OR
A valid SAT Report Form with minimum score of 480;
OR
Successful completion of Foundation Program requirements.

Additional Admission Criteria:

Admission is competitive. Eligible applicants are ranked based on their overall final year (Grade 12 or equivalent) high school percentage, placement tests rankings, and admission priority category

Bachelor of Science in Chemical Engineering - Processing Engineering (B.Sc. CE-PE)

Program Educational Objectives:

Program educational objectives (PEOs) describe the knowledge, skills, and competencies a graduate can demonstrate within 2-3 years of graduation.

Within a few years of graduation from the Bachelor of Science in Chemical Engineering - Processing Engineering (B.Sc. CE-PE) program, graduates will be able to:

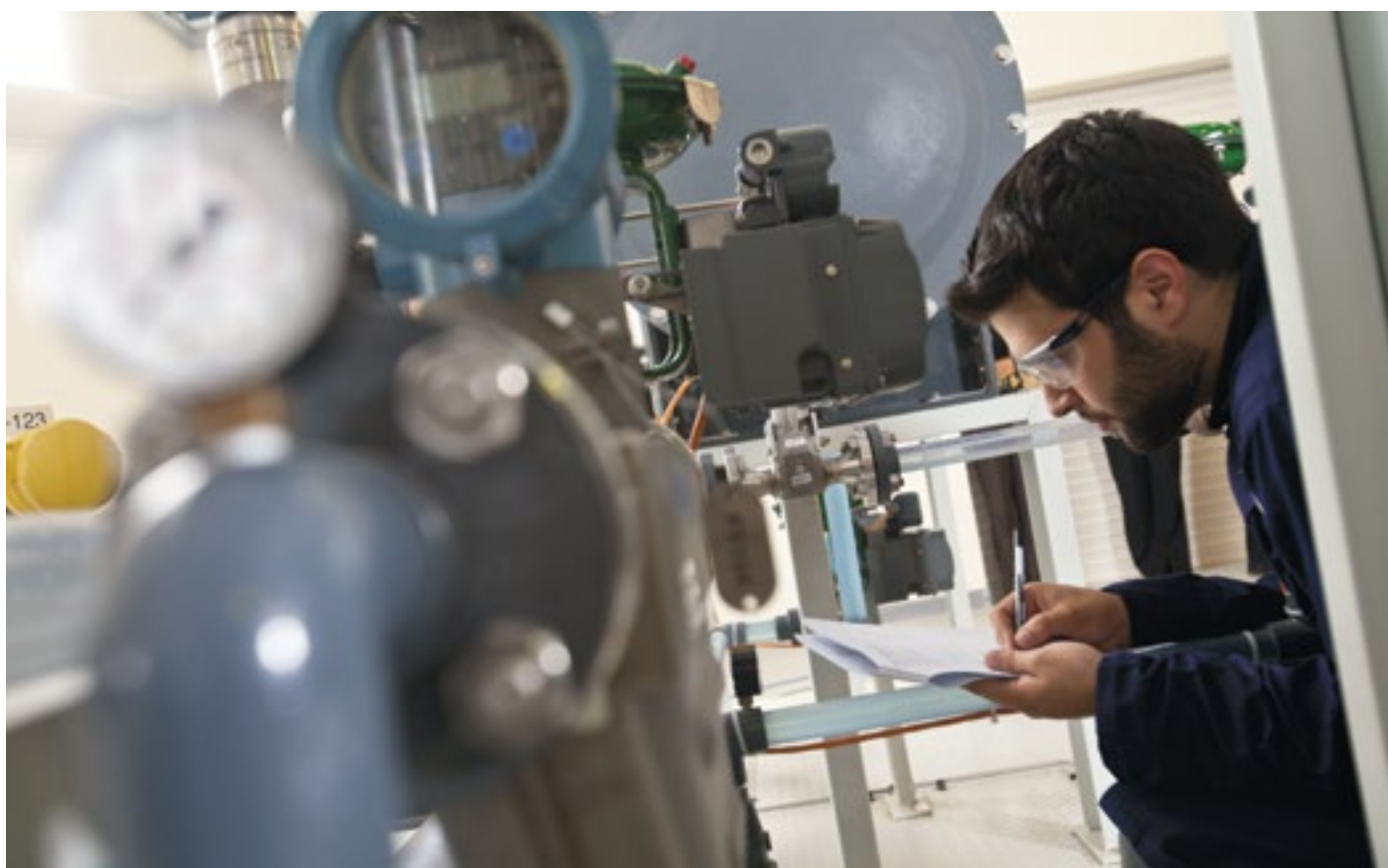
- PEO1b. Demonstrate a strong foundation in scientific and technical knowledge
- PEO2b. Display problem solving, critical-thinking, teamwork, and communication skills
- PEO3b. Display success in various chemical engineering technology careers
- PEO4b. Integrate ethical and social codes, environmental regulations, and safety issues actively within professional careers
- PEO5b. Demonstrate leadership within their chosen fields
- PEO6b. Participate in identifying contemporary challenges and/or proposing action plans as solutions to tackle them

Student Learning Outcomes:

Student Learning Outcomes (SLOs) describe the knowledge, skills and competencies a graduate can demonstrate immediately upon graduation.

Upon successful completion of the Bachelor of Science in Chemical Engineering - Processing Engineering (B.Sc. CE-PE) program, graduates will be prepared to:

- SLO01b. Identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
- SLO02b. Apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
- SLO03b. Communicate effectively with a range of audiences
- SLO04b. Recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts
- SLO05b. Function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
- SLO06b. Develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to conclude
- SLO07b. Acquire and apply new knowledge as needed, using appropriate learning strategies



Bachelor of Science in Chemical Engineering - Processing Engineering (B.Sc. CE-PE)

Study Plan:

Year 1

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 1	AECH1201	Basic Engineering Calculations	-	-	1	0	3
	CHEM1010	General Chemistry I	-	CHEM1011	3	3	0
	CHEM1011	General Chemistry I (Lab)	-	CHEM1010	1	0	3
	COMM1010	English Communication I	-	-	3	3	0
	EFFL1002	Applied & Experiential Learning	-	-	3	3	0
	MATH1010	Algebra & Trigonometry	-	-	3	3	1
	PHYS1020	General Physics	-	PHYS1021	3	3	0
	PHYS1021	General Physics (Lab)	-	PHYS1020	1	0	3
Semester 1 Total:					18	15	10
SEMESTER 2	AECH1112	Health, Safety & Environment in the Process Industries	-	-	2	2	0
	AEEL1100	Fundamentals of Electricity	MATH1010	-	2	2	0
	AEEL1200	Fundamentals of Electricity (Lab)	-	AEEL1100	1	0	3
	AEMA1312	Engineering Graphics	AECH1201	-	3	1	4
	CHEM1020	General Chemistry II	CHEM1010 CHEM1011	CHEM1021	3	3	0
	CHEM1021	General Chemistry II (Lab)	CHEM1010 CHEM1011	CHEM1020	1	0	3
	MATH1020	Pre-Calculus	MATH1010 OR Minimum score on UDST Math Placement Test	-	3	3	0
Semester 2 Total:					15	11	10
SEMESTER 3	AECH1100	Environmental Awareness & Ethics	-	-	2	2	0
	AECH1103	Industrial Process Overview	CHEM1020 OR CHEM1030	-	2	2	0
	AEPC1203	Basic Instrumentation	AEEL1100 & AEEL1200 OR AEEL1101 & AEEL1201	-	2	0	5
Semester 3 Total:					6	4	5
Year 1 Total:					39	30	25

Bachelor of Science in Chemical Engineering - Processing Engineering (B.Sc. CE-PE)

Year 2

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 4	AECH2111	Principles of Chemical Engineering I	AECH1201 CHEM1020 MATH1010 PHYS1020	-	3	3	0
	AECH2121	Process Control Systems	AEPC1203	-	3	3	0
	AECH2241	Chemical & Processing Plant Operation	AECH1103	AECH2121	2	0	6
	AECH2251	Instrumentation & Control (Lab)	AEPC1203	AECH2121	1	0	3
	AECH2331	Process Equipment	-	AECH2111	4	3	2
	MATH1030	Calculus I	MATH1020 OR Minimum score on UDST Math Placement Test	-	3	3	0
Semester 4 Total:					16	12	11
SEMESTER 5	AECH2122	Principles of Chemical Engineering II	AECH2111	-	2	2	0
	AECH2142	Basic Fluid Mechanics & Heat Transfer	AECH2111 MATH1020	-	2	2	0
	AECH2332	Chemical & Processing Plant Troubleshooting	AECH2241	-	2	1	2
	CHEM3010	Petrochemistry	CHEM1020	CHEM3011	2	2	0
	CHEM3011	Petrochemistry (Lab)	CHEM1021	CHEM3010	1	0	3
	COMM1020	English Communication II	COMM1010	-	3	3	0
	MATH2010	Calculus II	MATH1030	-	3	3	0
Semester 5 Total:					15	13	5
SEMESTER 6	AECH2103	Leadership & Management Principles	AECH1100 COMM1020	-	2	2	0
	AECH2112	Sustainability & Renewable Energy	AECH1100	-	3	3	0
	AECH2113	Quality Assurance	COMM1020	-	2	2	0
Semester 6 Total:					7	7	0
Year 2 Total:					38	32	16

Bachelor of Science in Chemical Engineering - Processing Engineering (B.Sc. CE-PE)

Year 3

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK			
			Pre-Req	Co-Req	CR	LEC	LAB	
SEMESTER 7	AECH3101	Applied Fluid Mechanics	AECH2142	-	3	3	0	
	AEMA3142	Applied Heat Transfer	AECH2142	-	2	2	0	
	AECH3132	Chemical Reaction Engineering	AECH2122	-	3	3	0	
	AECH3321	Process Unit Design	AECH2122	-	4	3	2	
	RSST3002	Probability & Statistical Analysis	MATH2010	-	3	3	0	
	Semester 7 Total:					15	14	2
SEMESTER 8	AECH3222	Fluid Mechanics & Heat Transfer (Lab)	AECH3101 AEMA3142	-	1	0	3	
	AECH3302	Applied Thermodynamics	MATH1020 PHYS1020	-	3	2	2	
	AECH4210	Mass Transfer & Separation Processes	AECH2331 AECH3321	-	3	3	0	
	AECH4221	Chemical Reaction Engineering (Lab)	AECH3132	-	1	0	3	
	AECH4232	Materials & Corrosion	CHEM3010	-	4	3	0	
	AETN2302	Applied Programming I	MATH1020	-	3	1	5	
Semester 8 Total:					15	9	13	
SEMESTER 9	AECH3000	Work Placement	Min 85 Credits	-	9	360 Total HRs		
	Semester 9 Total:					9	0	0
	Year 3 Total:					39	23	15

Bachelor of Science in Chemical Engineering - Processing Engineering (B.Sc. CE-PE)

Year 4

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 10	AECH4301	Capstone Project I	AECH3321	AEMA4100 COMM3010	0	0	2
	AECH4102	Applied Differential Equations	MATH2010	-	3	3	0
	AECH4211	Plant Design & Economics	AECH3321	-	3	2	3
	AEMA4100	Project Management	AECH2103	-	3	3	0
	COMM3010	Research & Reporting	COMM1020	-	3	3	0
Semester 10 Total:					12	11	5
SEMESTER 11	AECH4112	Process Safety Management	AECH1112 AECH2122 AECH2331	-	2	2	0
	AECH4122	Chemical Industries & Technology	AECH1103 CHEM3010	-	2	2	0
	AECH4302	Capstone Project II	AECH4301	-	3	3	0
	Social Science, Humanities, & the Arts Elective: SELECT 1 OF 7						
	BUSG2001	Introduction to Entrepreneurship	-	-	3	3	0
	SSHA1001	Islamic & Arab Civilization	-	-	3	3	0
	SSHA1002	Introduction to Sociology	-	-	3	3	0
	SSHA1003	Introductory Psychology	-	-	3	3	0
	SSHA1004	Ethical Reasoning	-	-	3	3	0
	SSHA1005	Law & Society	-	-	3	3	0
	SSHA1006	Introduction to the Arts	-	-	3	3	0
Semester 11 Total:					10	10	0
Year 4 Total:					22	21	5
B.Sc. CE-PE Program Total:					138	106	61

Graduate Future Pathways:

Graduates of the Bachelor of Science in Chemical Engineering - Processing Engineering (B.Sc. CE-PE) degree program are equipped to pursue further specialization in their field or graduate research.

Graduate Career Opportunities:

The Bachelor of Science in Chemical Engineering - Processing Engineering (B.Sc. CE-PE) is an applied degree with learning outcomes closely linked to the labor market. A wide range of career opportunities in the field currently exist and include, but are not limited to, the following:

- Chemical Engineer
- Research & Development Engineer

- Refinery Process Engineer
- Process Engineer
- Chemical Operation Engineer
- Production Engineer
- Quality Control Engineer
- Chemical and Process Engineer
- Utilities Engineer

Program Webpage:

[Click Here](#)

Bachelor of Science in Construction Engineering (B.Sc. ConE)



Program Description:

The Bachelor of Engineering in Construction Engineering (B.Sc. ConE) degree program provides students with the knowledge, skills, and competencies needed for a career in the construction industry. After completing the B.Sc. ConE degree program, students will be able to plan, design, implement, and manage the construction process including the maintenance and rebuild of infrastructure facilities. Students gain a strong foundation in engineering design and management combined with construction engineering mechanics.

In the third year of studies students engage in a semester long in-field training experience. In their final year, students conduct an in-depth study of a complex construction engineering technology-based problem, design, or technological application. The consolidation of the skill set developed in the B.Sc. ConE program through the completion of a capstone project and an in-field work placement prepares graduates for exciting careers in the construction engineering industry.

Program Duration:

Four years

Admission Requirements:

High School or Academic Requirement:

High school graduation certificate or equivalent approved by the Ministry of Education and Higher Education with a minimum average of 60%, plus two courses: one Mathematics, and one final year Physics or Chemistry;
OR
Two-Year Construction Engineering Technology Diploma from UDST, or equivalent;
OR
Three-year Construction Engineering Technology Diploma from UDST, or equivalent.

English Language Requirement:

The required score on the University English Placement Test or a passing score from another approved internationally recognized English language test, as validated by the Admissions & Registration Department;
OR
A valid (within two years) IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, and listening) below 5.0;
OR
Successful completion of Foundation Program requirement.

Mathematics Requirement:

A minimum of 60% on the University Math Placement Test;
OR
A valid SAT Report Form with minimum score of 480;
OR
Successful completion of Foundation Program requirements.

Additional Admission Criteria:

Admission is competitive. Eligible applicants are ranked based on their overall final year (Grade 12 or equivalent) high school percentage, placement tests rankings, and admission priority category.

Bachelor of Science in Construction Engineering (B.Sc. ConE)

Program Educational Objectives:

Program educational objectives (PEOs) describe the knowledge, skills, and competencies a graduate can demonstrate within 2-3 years of graduation.

Within a few years of graduation from the Bachelor of Science in Construction Engineering (B.Sc. ConE) program, graduates will be able to:

- PEO01b. Demonstrate a strong foundation in scientific and technical knowledge
- PEO02b. Display problem solving, critical thinking, teamwork, and communication skills
- PEO03b. Establish a successful career in various construction engineering professions
- PEO04b. Integrate ethical and social codes, environmental regulations, and safety issues actively within professional careers
- PEO05b. Demonstrate leadership within their chosen fields
- PEO06b. Participate in identifying contemporary challenges and/or proposing action plans as solutions to tackle them

Student Learning Outcomes:

Student Learning Outcomes (SLOs) describe the knowledge, skills, and competencies a graduate can demonstrate immediately upon graduation.

Upon successful completion of the Bachelor of Science in Construction Engineering (B.Sc. ConE) program, graduates will be prepared to:

- SLO01b. Identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
- SLO02b. Apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
- SLO03b. Communicate effectively with a range of audiences
- SLO04b. Recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts
- SLO05b. Function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
- SLO06b. Develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to conclude
- SLO07b. Acquire and apply new knowledge as needed, using appropriate learning strategies



Bachelor of Science in Construction Engineering (B.Sc. ConE)

Study Plan:

Year 1

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 1	AECH1201	Basic Engineering Calculations	-	-	1	0	3
	COMM1010	English Communication I	-	-	3	3	0
	EFFL1002	Applied & Experiential Learning	-	-	3	3	0
	MATH1010	Algebra & Trigonometry	-	-	3	3	1
	PHYS1020	General Physics	-	PHYS1021	3	3	0
	PHYS1021	General Physics (Lab)	-	PHYS1020	1	0	3
Semester 1 Total:					14	12	7
SEMESTER 2	AECE1200	Introduction to Construction Engineering, Materials & Methods	-	CHEM1010	3	3	0
	AECE1230	Mechanical & Electrical Systems in Construction	-	AECE1200 AEEL1100	3	3	0
	AECH1100	Environmental Awareness & Ethics	-	-	2	2	0
	AEEL1100	Fundamentals of Electricity	MATH1010	-	2	2	0
	AEEL1200	Fundamentals of Electricity (Lab)	-	AEEL1100	1	0	3
	CHEM1010	General Chemistry I	-	CHEM1011	3	3	0
	CHEM1011	General Chemistry I (Lab)	-	CHEM1010	1	0	3
	MATH1020	Pre-Calculus	MATH1010 OR Minimum score on UDST Math Placement Test	-	3	3	0
Semester 2 Total:					18	16	6
SEMESTER 3	AECE1340	Basic Construction Safety	AECE1200	-	3	3	0
	AEMA1312	Engineering Graphics	AECH1201	-	3	1	4
	AEPC1203	Basic Instrumentation	AEEL1100 & AEEL1200 OR AEEL1101 & AEEL1201	-	2	0	5
Semester 3 Total:					8	4	9
Year 1 Total:					40	32	22

Bachelor of Science in Construction Engineering (B.Sc. ConE)

Year 2

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 4	AECE2100	Construction Documents & Codes	AEMA1312	-	2	2	0
	AECE2110	Principles of Engineering Economy	MATH1020	-	2	2	0
	AECE2120	Statics	MATH1020	-	3	3	0
	AECE2130	Principles of Geomatics	AEMA1312 MATH1020	-	3	3	0
	AECE2131	Principles of Geomatics (Lab)	-	AECE2130	1	0	3
	AECE2140	Project Drawings & Graphics	AEMA1312	AECE2100	1	0	3
	MATH1030	Calculus I	MATH1020 OR Minimum score on UDST Math Place- ment Test	-	3	3	0
Semester 4 Total:					15	13	6
SEMESTER 5	AECE2210	Engineering Geology	PHYS1020 CHEM1010	-	3	3	0
	AECE2220	Construction Equipment & Machineries	AECE1200	AECE2210	3	3	0
	AECE2230	Strength of Construction Materials	AECE1200 AECE2120	-	3	3	0
	AECE2231	Strength of Construction Materials (Lab)	AECE1200	AECE2230	2	0	5
	COMM1020	English Communication II	COMM1010	-	3	3	0
	MATH2010	Calculus II	MATH1030	-	3	3	0
Semester 5 Total:					17	15	5
SEMESTER 6	AECH2103	Leadership & Management Principles	AECH1100 COMM1020	-	2	2	0
	AETN2302	Applied Programming I	MATH1020	-	3	1	5
Semester 6 Total:					5	3	5
Year 2 Total:					37	31	16

Bachelor of Science in Construction Engineering (B.Sc. ConE)

Year 3

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK			
			Pre-Req	Co-Req	CR	LEC	LAB	
SEMESTER 7	AECE3100	Soil Mechanics	AECE2210 AECE2230	-	3	3	0	
	AECE3101	Soil Mechanics (Lab)	-	AECE3100	1	0	3	
	AECE3120	Construction Planning & Scheduling	AECE1200 AECE1230 AECE2220	-	3	3	0	
	AEMA3121	Applied Fluid Mechanics	MATH1020 PHYS1020	-	2	2	0	
	AEMA3221	Applied Fluid Mechanics (Lab)	AEMA1102 OR AECE1340	AEMA3121	1	0	2	
	RSST3002	Probability & Statistical Analysis	MATH2010	-	3	3	0	
	Mathematics & Natural Sciences Elective: Select 1 of 4							
	BIOL1001	Inquiry-Based Biology	-	-	3	3	0	
	BIOL1002	Introduction to Botany	-	-	3	3	0	
	BIOL1003	Fundamentals of Ecology	-	-	3	3	0	
	BIOL1004	Introduction to Geology	-	-	3	3	0	
	Semester 7 Total:					16	14	5
SEMESTER 8	AECE3210	Construction Cost Estimation	AECE1200 AECE1230 AECE2220	-	3	3	0	
	AECE3220	Built-Facility Maintenance & Repair	AECE2100 AECE2230	AECE3230	3	3	0	
	AECE3230	Structural Engineering	AECE2230 MATH1030 MATH2010	-	3	3	0	
	AECH2112	Sustainability & Renewable Energy	AECH1100	-	3	3	0	
	AECH2113	Quality Assurance	COMM1020	-	2	2	0	
	Semester 8 Total:					14	14	0
SEMESTER 9	AECE3000	Work Placement	Min 85 Credits	-	9	360 Total HRs		
	Semester 9 Total:					9	0	0
	Year 3 Total:					39	28	5

Bachelor of Science in Construction Engineering (B.Sc. ConE)

Year 4

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 10	AECE4100	Capstone Project I	AECE3230	-	0	0	2
	AECE4101	Applied Differential Equations	MATH2010	-	3	3	0
	AECE4110	Construction Contract Administration	AECE2100	-	3	3	0
	AECE4111	Concrete Testing (Lab)	AECE3230	AECE4120	1	0	3
	AECE4120	Concrete & Structural Systems Design & Behavior	AECE3230	-	3	3	0
	AECE4130	Site Operations Management & Control	AECE1200 AECE2220	-	3	3	0
	COMM3010	Research & Reporting	COMM1020	-	3	3	0
Semester 10 Total:					16	15	5
SEMESTER 11	AECE4200	Capstone Project II	AECE4100	-	3	0	9
	AECE4210	Highway & Pavement Engineering	AECE2130 AECE2230 AEMA1312	-	3	3	0
	AECE4220	Facility & Infrastructure Asset Management	AECE2210 AECE3220	-	2	2	0
	AECE4230	Construction Project Management	AECE3120	-	3	3	0
	Mathematics & Natural Sciences Elective: Select 1 of 4						
	BIOL1001	Inquiry-Based Biology	-	-	3	3	0
	BIOL1002	Introduction to Botany	-	-	3	3	0
	BIOL1003	Fundamentals of Ecology	-	-	3	3	0
	BIOL1004	Introduction to Geology	-	-	3	3	0
Semester 11 Total:					14	11	9
Year 4 Total:					30	26	14
B.Sc. ConE Program Total:					146	117	57

Graduate Future Pathways:

Graduates of the Bachelor of Science in Construction Engineering (B.Sc. ConE) degree program are equipped to pursue further specialization in their field or graduate research.

Graduate Career Opportunities:

The Bachelor of Science in Construction Engineering (B.Sc. ConE) is an applied degree with learning outcomes closely linked to the labor market. A wide range of career opportunities in the field currently exist and include, but are not limited to the following:

- Construction Engineer
- Construction Contract Administrator
- Civil Engineer

- Construction Manager
- Planning and Scheduling Engineer
- Project Engineer
- Project Manager
- Maintenance Engineer
- Highway Infrastructure Engineer

Program Webpage:

[Click Here](#)

Bachelor of Science in Electrical Engineering – Automation and Control Systems Engineering (B.Sc. EE-ACSE)



Program Description:

The Bachelor of Electrical Engineering - Automation and Control Systems Engineering (B.Sc. EE-ACSE) is appropriate for students who wish to focus on automation and control systems in electrical engineering. This applied degree program is closely linked to the labor market and emphasizes automation, controls, robotics, artificial intelligence, and related fields. Students in this concentration receive a solid theoretical and practical background in a variety of topics, including: theory, design, development and implementation of automation and control systems, embedded systems; PLCs, DCS and SCADA systems, Cyber Security, and machine learning. Students are exposed to emerging state-of-the-art theories and implementations related to automation, control, human-machine interaction, and robotic applications and technologies.

In the third year of studies students engage in an in-field training experience. In their final year, students conduct and in-depth research study of a complex automation and control systems engineering problem, utilizing a systems approach in the design and presentation of innovative engineering solutions. The consolidation of the skill set developed in the B.Sc. EE-ACSE program through the completion of a capstone project and work placement prepares graduates for exciting careers in the automation and control systems industry.

Program Duration:

Four years

Admission Requirements:

High School or Academic Requirement:

High school graduation certificate or equivalent approved by the Ministry of Education and Higher Education with a minimum average of 60%, plus two courses: one Mathematics, and one final year Physics or Chemistry;
OR
Two-year Process Automation Technician Diploma from CNA-Q or Two-Year Automation and Control Engineering Technology Diploma from UDST, or equivalent;
OR
Three-year Process Automation Engineering Technology Diploma from CNA-Q or Three-year Automation and Control Engineering Technology Advanced Diploma from UDST, or equivalent.

English Language Requirement:

The required score on the University English Placement Test or a passing score from another approved internationally recognized English language test, as validated by the Admissions & Registration Department;
OR
A valid (within two years) IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, and listening) below 5.0;
OR
Successful completion of Foundation Program requirements.

Mathematics Requirement:

A minimum of 60% on the University Math Placement Test;
OR
A valid SAT Report Form with minimum score of 480;
OR
Successful completion of Foundation Program requirements.

Additional Admission Criteria:

Admission is competitive. Eligible applicants are ranked based on their overall final year (Grade 12 or equivalent) high school percentage, placement tests rankings, and admission priority category.

Bachelor of Science in Electrical Engineering – Automation and Control Systems Engineering (B.Sc. EE-ACSE)

Program Educational Objectives:

Program educational objectives (PEOs) describe the knowledge, skills, and competencies a graduate can demonstrate within 2-3 years of graduation.

Within a few years of graduation from the Bachelor of Science in Electrical Engineering – Automation and Control Systems Engineering (B.Sc. EE-ACSE) program, graduates will be able to:

- PEO1b. Demonstrate a strong foundation in scientific and technical knowledge
- PEO2b. Display problem solving, critical-thinking, teamwork, and communication skills
- PEO3b. Display successful careers in a dynamic industry that is global, multidisciplinary, and evolving; or secure admission to, and excel in, the top graduate programs in the world
- PEO4b. Integrate ethical and social codes, environmental regulations, and safety issues actively within professional careers
- PEO5b. Demonstrate leadership qualities and commitment in their chosen field
- PEO6b. Participate in identifying contemporary challenges and/or proposing action plans as solutions to tackle them

Student Learning Outcomes:

Student Learning Outcomes (SLOs) describe the knowledge, skills, and competencies a graduate can demonstrate immediately upon graduation.

Upon successful completion of the Bachelor of Science in Electrical Engineering – Automation and Control Systems Engineering (B.Sc. EE-ACSE) program, graduates will be prepared to:

- SLO01b. Identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
- SLO02b. Apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
- SLO03b. Communicate effectively with a range of audiences
- SLO04b. Recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts
- SLO05b. Function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
- SLO06b. Develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to conclude
- SLO07b. Acquire and apply new knowledge as needed, using appropriate learning strategies



Bachelor of Science in Electrical Engineering – Automation and Control Systems Engineering (B.Sc. EE-ACSE)

Study Plan:

Year 1

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 1	AECH1201	Basic Engineering Calculations	-	-	1	0	3
	AEEL1101	Fundamentals of Electricity I	-	-	3	3	0
	AEEL1201	Fundamentals of Electricity I (Lab)	-	AEEL1101	1	0	2
	COMM1010	English Communication I	-	-	3	3	0
	EFFL1002	Applied & Experiential Learning	-	-	3	3	0
	MATH1010	Algebra & Trigonometry	-	-	3	3	1
	PHYS1020	General Physics	-	PHYS1021	3	3	0
	PHYS1021	General Physics (Lab)	-	PHYS1020	1	0	3
Semester 1 Total:					18	15	9
SEMESTER 2	AEEL1102	Fundamentals of Electricity II	AEEL1101	-	3	3	0
	AEEL1202	Fundamentals of Electricity II (Lab)	AEEL1201	AEEL1102	1	0	2
	AETN1102	Network Fundamentals	-	AETN1202	3	3	0
	AETN1202	Network Fundamentals (Lab)	-	AETN1102	1	0	3
	AETN1112	Digital Electronics	AEEL1101	AETN1212	3	3	0
	AETN1212	Digital Electronics (Lab)	AEEL1201	AETN1112	1	0	2
	COMM1020	English Communication II	COMM1010	-	3	3	0
	MATH1020	Pre-Calculus	MATH1010 OR Minimum score on UDST Math Placement Test	-	3	3	0
Semester 2 Total:					18	15	7
SEMESTER 3	AECH1100	Environmental Awareness & Ethics	-	-	2	2	0
	AEMA1312	Engineering Graphics	AECH1201	-	3	1	4
	AEPC1203	Basic Instrumentation	AEEL1100 & AEEL1200 OR AEEL1101 & AEEL1201	-	2	0	5
Semester 3 Total:					7	3	9
Year 1 Total:					43	33	25

Bachelor of Science in Electrical Engineering – Automation and Control Systems Engineering (B.Sc. EE-ACSE)

Year 2

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 4	AEAC2101	Industrial Processes, Measurement & Control	AEPC1203	-	3	3	0
	AEAC2201	Industrial Processes, Measurement & Control (Lab)	AEPC1203	AEAC2101	1	0	2
	AEEP2111	Electrical Machines	AEEL1102	-	3	3	0
	AEEP2211	Electrical Machines (Lab)	AEEL1202	AEEP2111	1	0	2
	AETN2101	Analog Electronics	AEEL1102	-	3	3	0
	AETN2201	Analog Electronics (Lab)	AEEL1202	AETN2101	1	0	2
	MATH1030	Calculus I	MATH1020 OR Minimum score on UDST Math Place- ment Test	-	3	3	0
Semester 4 Total:					15	12	6
SEMESTER 5	AEAC2102	Industrial Instrumentation	AETN2101	-	2	2	0
	AEAC2202	Industrial Instrumentation Practices	AETN2201	AEAC2102	1	0	2
	AEEP2301	Applied Programming	AEEL1101 MATH1020	-	2	1	2
	AEEP2122	Motor Controls & Drives	AEEP2111 AETN2101	-	3	3	0
	AEEP2222	Motor Controls & Drives (Lab)	AEEP2211 AETN2201	AEEP2122	1	0	3
	CHEM1010	General Chemistry I	-	CHEM1011	3	3	0
	CHEM1011	General Chemistry I (Lab)	-	CHEM1010	1	0	3
	MATH2010	Calculus II	MATH1030	-	3	3	0
Semester 5 Total:					16	12	10
SEMESTER 6	AEAC2103	Control Strategies	AEAC2101	-	2	2	0
	AEAC2203	Control Strategies (Lab)	AEAC2201	AEAC2103	1	0	2
	AEAC2113	PLC Programming & Control	AEEP2122 AETN1102	-	2	2	0
	AEAC2213	PLC Programming & Control (Lab)	AEEP2222 AETN1202	AEAC2113	1	0	3
Semester 6 Total:					6	4	5
Year 2 Total:					37	28	21

Bachelor of Science in Electrical Engineering – Automation and Control Systems Engineering (B.Sc. EE-ACSE)

Year 3

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK			
			Pre-Req	Co-Req	CR	LEC	LAB	
SEMESTER 7	AEAC3101	System Automation & Embedded Systems	AEEP2301	-	3	3	0	
	AEAC3201	System Automation & Embedded Sys- tems (Lab)	AEEP2301	AEAC3101	1	0	2	
	AEAC3111	Process Control Applications	AEAC2103	-	2	2	0	
	AEAC3211	Process Control Applications (Lab)	AEAC2203	AEAC3111	1	0	2	
	AECH2112	Sustainability & Renewable Energy	AECH1100	-	3	3	0	
	AEEP3121	Advanced Engineering Mathematics & Applications	MATH2010	-	3	3	0	
	RSST3002	Probability & Statistical Analysis	MATH2010	-	3	3	0	
	Semester 7 Total:					16	14	4
SEMESTER 8	AEEP3112	Control Systems Design	AEEP3121	-	3	3	0	
	AEEP3212	Control Systems Design (Lab)	AEEP3121	AEEP3112	1	0	2	
	AEAC3122	Industrial Process Analysis	AEAC2101	-	2	2	0	
	AEAC3222	Industrial Process Analysis (Lab)	AEAC2201	AEAC3122	1	0	2	
	AEAC3102	Safety Shutdown & Instrumented Sys- tems	AEAC3111	-	2	2	0	
	AEAC3202	Safety Shutdown & Instrumented Sys- tems (Lab)	AEAC3211	AEAC3102	1	0	2	
	AEAC3112	DCS & SCADA	AEAC2113	-	3	3	0	
	AEAC3212	DCS & SCADA (Lab)	AEAC2213	AEAC3112	1	0	3	
	AEEP3132	Discrete Mathematics	-	-	3	3	0	
	Semester 8 Total:					17	13	9
SEMESTER 9	AEAC3000	Work Placement	Min 85 Credits	-	9	360 Total HRs		
	Semester 9 Total:					9	0	0
	Year 3 Total:					42	27	13

Bachelor of Science in Electrical Engineering – Automation and Control Systems Engineering (B.Sc. EE-ACSE)

Year 4

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 10	AEAC4101	Robotics & Intelligent Control	AEAC3101	-	3	3	0
	AEAC4201	Robotics & Intelligent Control (Lab)	AEAC3201	AEAC4101	1	0	2
	AEAC4311	Capstone Project I	Min 80 Credits	AEEP4100	0	1	2
	AEEP4100	Project Management	-	AEEP4301 OR AEAC4311	3	3	0
	COMM3010	Research & Reporting	COMM1020	-	3	3	0
	Mathematics & Natural Sciences Elective: Select 1 of 4						
	BIOL1001	Inquiry-Based Biology	-	-	3	3	0
	BIOL1002	Introduction to Botany	-	-	3	3	0
	BIOL1003	Fundamentals of Ecology	-	-	3	3	0
	BIOL1004	Introduction to Geology	-	-	3	3	0
Semester 10 Total:					13	13	4
SEMESTER 11	AEAC4102	AI & Machine Learning for Process Control	AEAC4101 RSST3002 MATH2010	-	2	2	0
	AEAC4202	AI & Machine Learning for Process Control (Lab)	AEAC4201 RSST3002 MATH2010	AEAC4102	1	0	2
	AEAC4112	Cyber Security & Industrial IoT	AEAC3112 AEAC3101	-	2	2	0
	AEAC4212	Cyber Security & Industrial IoT (Lab)	AEAC3212 AEACE3201	AEAC4112	1	0	2
	AEAC4322	Capstone Project II	AEAC4311	-	3	3	0
	Semester 11 Total:					9	7
Year 4 Total:					22	20	8
B.Sc. EE-ACSE Program Total:					144	108	67

Graduate Future Pathways:

Graduates of Bachelor of Science in Electrical Engineering – Automation and System Control Systems Engineering (B.Sc. EE-ASCE) are equipped to pursue further specialization in their field or graduate research.

Graduate Career Opportunities:

The Bachelor of Science in Electrical Engineering – Automation and Control Systems Engineering (B.Sc. EE-ACSE) is an applied degree with learning outcomes closely linked to the labor market. A wide range of career opportunities in the field currently exist and include, but are not limited to, the following:

- Automation and Control Engineer
- SCADA and DCS Engineer
- Control Systems Engineer
- Systems Engineer
- Instrumentation and Control Engineer
- Robotics Engineer
- QA Engineer - Automation
- Field Service engineer
- System Design Engineer

Program Webpage:

[Click Here](#)

Bachelor of Science in Electrical Engineering – Electrical Power and Renewable Energy Engineering (B.Sc. EE-EPREE)



Program Description:

Electrical power and renewable energy are specializations in electrical engineering concerning the generation, transmission, and distribution of electrical power from a wide range of sources, with special emphasis on renewable energy sources. The Bachelor of Science in Electrical Engineering - Electrical Power and Renewable Energy Engineering (B.Sc. EE-EPREE) is an applied degree with learning outcomes closely linked to the labor market. The program consists of a range of core electrical power subjects, leading to in-depth studies relating to renewable energy systems. The applied nature of the program provides skills and competencies relevant to professional engineering practice along with a sound theoretical base. The program includes strong elements of practical problem solving, teamwork, project development and practical industrial experience.

In the third year of studies students engage in an in-field training experience. In their final year, students conduct an in-depth research study of a complex electrical power and /or renewable energy-based problem, utilizing a systems approach in the design and presentation of innovative engineering solutions. The consolidation of the skill set developed in the B.Sc. EE-EPREE program through the completion of a capstone project and work placement prepares graduates for exciting careers in the electrical power and renewable energy engineering.

Program Duration:

Four years

Admission Requirements:

High School or Academic Requirement:

High school graduation certificate or equivalent approved by the Ministry of Education and Higher Education with a minimum average of 60%, plus two courses: one Mathematics, and one final year Physics or Chemistry;
OR
Two-year Electrical Power Systems Technician Diploma from CNA-Q or Two-Year Electrical Power Engineering Technology Diploma from UDST, or equivalent;
OR
Three-year Electrical Engineering Technology Diploma from CNA-Q or Three-year Electrical Power and Renewable Energy Engineering Technology Advanced Diploma from UDST, or equivalent.

English Language Requirement:

The required score on the University English Placement Test or a passing score from another approved internationally recognized English language test, as validated by the Admissions & Registration Department;
OR
A valid (within two years) IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, and listening) below 5.0;
OR
Successful completion of Foundation Program requirements.

Mathematics Requirement:

A minimum of 60% on the University Math Placement Test;
OR
A valid SAT Report Form with minimum score of 480;
OR
Successful completion of Foundation Program requirements.

Additional Admission Criteria:

Admission is competitive. Eligible applicants are ranked based on their overall final year (Grade 12 or equivalent) high school percentage, placement tests rankings, and admission priority category.

Bachelor of Science in Electrical Engineering – Electrical Power and Renewable Energy Engineering (B.Sc. EE–EPREE)

Program Educational Objectives:

Program educational objectives (PEOs) describe the knowledge, skills, and competencies a graduate can demonstrate within 2-3 years of graduation.

Within a few years of graduation from the Bachelor of Science in Electrical Engineering –Electrical Power and Renewable Energy Engineering (B.Sc. EE–EPREE) program, graduates will be able to:

- PEO01b. Demonstrate a strong foundation in scientific and technical knowledge
- PEO02b. Display problem solving, critical-thinking, teamwork, and communication skills.
- PEO03b. Display success in various electrical power technology careers
- PEO04b. Integrate ethical and social codes, environmental regulations, and safety issues actively within professional careers
- PEO05b. Demonstrate leadership within their chosen fields
- PEO06b. Participate in identifying contemporary challenges and/or proposing action plans as solutions to tackle them

Student Learning Outcomes:

Student Learning Outcomes (SLOs) describe the knowledge, skills, and competencies a graduate can demonstrate immediately upon graduation.

Upon successful completion of the Bachelor of Science in Electrical Engineering –Electrical Power and Renewable Energy Engineering (B.Sc. EE–EPREE) program, graduates will be prepared to:

- SLO01b. Identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
- SLO02b. Apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
- SLO03b. Communicate effectively with a range of audiences
- SLO04b. Recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts
- SLO05b. Function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
- SLO06b. Develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions
- SLO07b. Acquire and apply new knowledge as needed, using appropriate learning strategies



Bachelor of Science in Electrical Engineering – Electrical Power and Renewable Energy Engineering (B.Sc. EE–EPREE)

Study Plan:

Year 1

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 1	AECH1201	Basic Engineering Calculations	-	-	1	0	3
	AEEL1101	Fundamentals of Electricity I	-	-	3	3	0
	AEEL1201	Fundamentals of Electricity I (Lab)	-	AEEL1101	1	0	2
	MATH1010	Algebra & Trigonometry	-	-	3	3	1
	EFFL1002	Applied & Experiential Learning	-	-	3	3	0
	PHYS1020	General Physics	-	PHYS1021	3	3	0
	PHYS1021	General Physics (Lab)	-	PHYS1020	1	0	3
	COMM1010	English Communication I	-	-	3	3	0
	Semester 1 Total:					18	15
SEMESTER 2	AEEL1102	Fundamentals of Electricity II	AEEL1101	-	3	3	0
	AEEL1202	Fundamentals of Electricity II (Lab)	AEEL1201	AEEL1102	1	0	2
	AETN1102	Network Fundamentals	-	AETN1202	3	3	0
	AETN1202	Network Fundamentals (Lab)	-	AETN1102	1	0	3
	AETN1112	Digital Electronics	AEEL1101	AETN1212	3	3	0
	AETN1212	Digital Electronics (Lab)	AEEL1201	AETN1112	1	0	2
	COMM1020	English Communication II	COMM1010	-	3	3	0
	MATH1020	Pre-Calculus	MATH 1010 OR Minimum score on UDST Math Placement Test	-	3	3	0
	Semester 2 Total:					18	15
SEMESTER 3	AECH1100	Environmental Awareness & Ethics	-	-	2	2	0
	AEMA1312	Engineering Graphics	AECH1201	-	3	1	4
	AEPC1203	Basic Instrumentation	AEEL1100 & AEEL1200 OR AEEL1101 & AEEL1201	-	2	0	5
	Semester 3 Total:					7	3
Year 1 Total:					43	33	25

Bachelor of Science in Electrical Engineering – Electrical Power and Renewable Energy Engineering (B.Sc. EE–EPREE)

Year 2

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 4	AEEP2111	Electrical Machines	AEEL1102	-	3	3	0
	AEEP2211	Electrical Machines (Lab)	AEEL1202	AEEP2111	1	0	2
	AEEP2301	Applied Programming	AEEL1101 MATH1020	-	2	1	2
	AETN2101	Analog Electronics	AEEL1102	-	3	3	0
	AETN2201	Analog Electronics (Lab)	AEEL1202	AETN2101	1	0	2
	CHEM1010	General Chemistry I	-	CHEM1011	3	3	0
	CHEM1011	General Chemistry I (Lab)	-	CHEM1010	1	0	3
	MATH1030	Calculus I	MATH1020 or Minimum score on UDST Math Placement Test	-	3	3	0
	Semester 4 Total:					17	13
SEMESTER 5	AEEP2102	Power Systems I	AEEP2111	-	3	3	0
	AEEP2202	Power Systems I (Lab)	AEEP2211	AEEP2102	1	0	2
	AEEP2112	Electrical Practices	AEEP2111	-	2	2	0
	AEEP2212	Electrical Practices (Lab)	AEEP2211	AEEP2112	2	0	5
	AEEP2122	Motor Controls & Drives	AEEP2111 AETN2101	-	3	3	0
	AEEP2222	Motor Controls & Drives (Lab)	AEEP2211 AETN2201	AEEP2122	1	0	3
	MATH2010	Calculus II	MATH1030	-	3	3	0
	Semester 5 Total:					15	11
SEMESTER 6	AEEP2103	Facilities & Electrical Systems	AEEP2102	-	2	2	0
	AEEP2203	Facilities & Electrical Systems (Lab)	AEEP2202	AEEP2103	1	0	2
	AEEP2113	HV Equipment Testing and Maintenance	AEEP2111	-	2	2	0
	AEEP2213	HV Equipment Testing & Maintenance (Lab)	AEEP2211	AEEP2113	1	0	2
	Semester 6 Total:					6	4
Year 2 Total:					38	28	23

Bachelor of Science in Electrical Engineering – Electrical Power and Renewable Energy Engineering (B.Sc. EE–EPREE)

Year 3

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 7	AEAC2113	PLC Programming & Control	AEEP2122 AETN1102	-	2	2	0
	AEAC2213	PLC Programming & Control (Lab)	AEEP2222 AETN1202	AEAC2113	1	0	3
	AECH2112	Sustainability & Renewable Energy	AECH1100	-	3	3	0
	AEEP3101	Introduction to Embedded Systems	AEEP2301	-	2	2	0
	AEEP3201	Introduction to Embedded Systems (Lab)	AEEP2301	AEEP3101	2	0	6
	AEEP3111	Power Systems II	AEEP2102	-	3	3	0
	AEEP3211	Power Systems II (Lab)	AEEP2202	AEEP3111	1	0	2
	AEEP3121	Advanced Engineering Mathematics & Applications	MATH2010	-	3	3	0
Semester 7 Total:					17	13	11
SEMESTER 8	AEEP3102	Power Electronics	AEEP2122 AETN2101	-	3	3	0
	AEEP3202	Power Electronics (Lab)	AEEP2222 AETN2201	AEEP3102	1	0	2
	AEEP3112	Control Systems Design	AEEP3121	-	3	3	0
	AEEP3212	Control Systems Design (Lab)	AEEP3121	AEEP3112	1	0	2
	AEEP3132	Discrete Mathematics	-	-	3	3	0
	AEEP3122	Renewable Energy Conversion I	AECH2112	-	3	3	0
	AEEP3222	Renewable Energy Conversion I (Lab)	AECH2112	AEEP3122	1	0	2
Semester 8 Total:					15	12	6
SEMESTER 9	AEEP3000	Work Placement	Min 85 Credits	-	9	360 HRs Total	
Semester 9 Total:					9	0	0
Year 3 Total:					41	25	17

Bachelor of Science in Electrical Engineering – Electrical Power and Renewable Energy Engineering (B.Sc. EE-EPREE)

Year 4

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK			
			Pre-Req	Co-Req	CR	LEC	LAB	
SEMESTER 10	AEEP4301	Capstone Project I	Min 80 Credits AND AEEP3102 AEEP3202 AEEP3101 AEEP3201 AEEP3111 AEEP3211 AEEP3122 AEEP3222	AEEP4100	0	1	2	
	AEEP4111	Renewable Energy Conversion II	AEEP3122	-	3	3	0	
	AEEP4211	Renewable Energy Conversion II (Lab)	AEEP3222	AEEP4111	1	0	2	
	AEEP4100	Project Management	-	AEEP4301 OR AEAC4311	3	3	0	
	COMM3010	Research & Reporting	COMM1020	-	3	3	0	
	RSST3002	Probability & Statistical Analysis	MATH2010	-	3	3	0	
	Semester 10 Total:					13	13	4
SEMESTER 11	AEEP4112	Energy Efficiency & Storage	AEEP4111	-	2	2	0	
	AEEP4212	Energy Efficiency & Storage (Lab)	AEEP4211	AEEP4112	1	0	2	
	AEEP4122	Smart Grids	AEEP3102 AEEP3202 AEEP3111 AEEP3211 AEEP3122 AEEP3222 AEEP3101 AEEP3201	-	3	3	0	
	AEEP4302	Capstone Project II	AEEP4301	-	3	3	0	
	Semester 11 Total:					9	8	2
	Year 4 Total:					22	21	6
	B.Sc. EE-EPREE Program Total:					144	107	71

Graduate Future Pathways:

Graduates of the Bachelor of Science in Electrical Engineering – Electrical Power and Renewable Energy Engineering (B.Sc. EE-EPRE) degree program are equipped to pursue further specialization in their field or graduate research.

Graduate Career Opportunities:

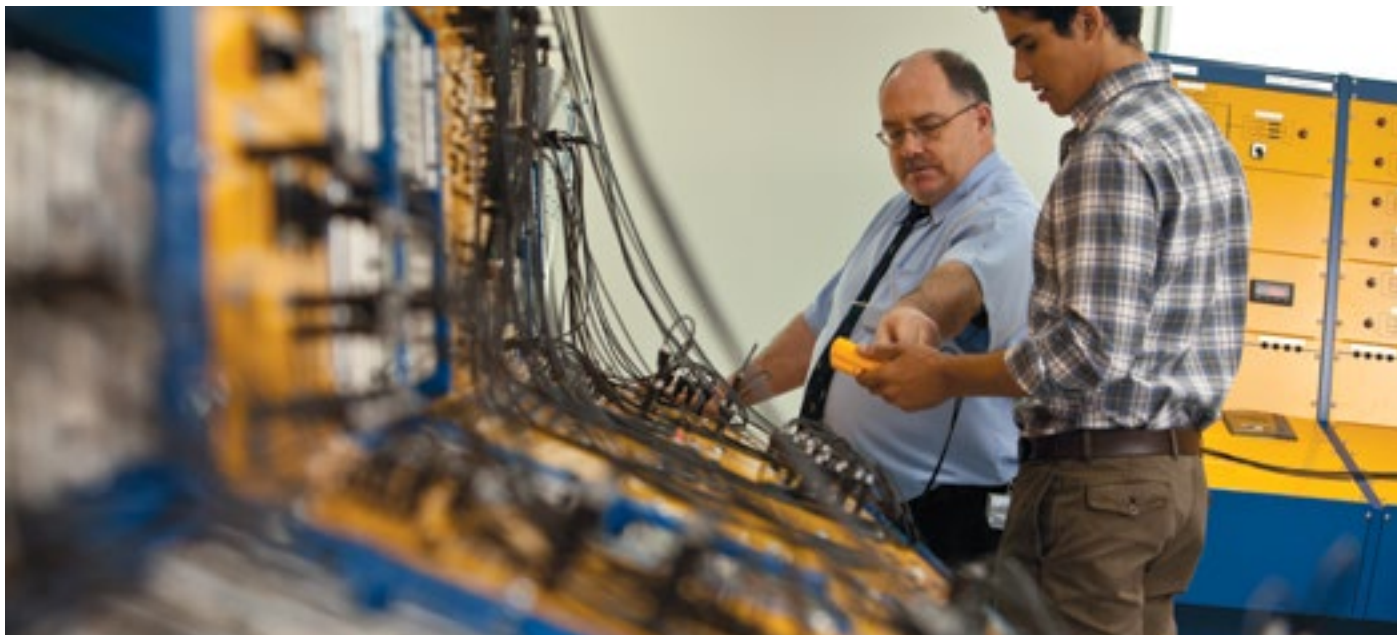
The Bachelor of Science in Electrical Engineering –Electrical Power and Renewable Energy Engineering (B.Sc. EE-PRE) is an applied degree with learning outcomes closely linked to the labor market. A wide range of career opportunities in the field currently exist and include, but are not limited to, the following:

- Electrical Engineer
- Electrical Power Systems Engineer
- Renewable Energy Engineer
- Electrical Power Systems Operator and Designer
- High Voltage (HV) and Low Voltage (LV) Engineer
- Energy Systems Planning/Design Engineer
- Field/Plant/Utility
- Solar Systems Engineer
- Wind Energy Engineer

Program Webpage:

[Click Here](#)

Bachelor of Science in Electrical Engineering - Telecommunications and Network Engineering (B.Sc. EE-TNE)



Program Description:

The Bachelor of Science in Electrical Engineering - Telecommunications and Network Engineering (B.Sc. EE-TNE) degree program provides students with the knowledge, skills, and competencies needed for a career in the telecommunications and networking industry. After completing the B.Sc. EE-TNE program, graduates will be able to design telecommunications devices, components, systems, equipment, and distribution centers. Graduates will also be able to specify production or installation methods, materials, quality and safety standards, and direct the production or installation of telecommunication and network equipment. Students gain an in-depth knowledge of developing, configuring, and implementing communications equipment through appropriate choice of hardware and software design.

In the third year of studies students engage in an in-field training experience. In their final year, students conduct an in-depth research study of a complex telecommunications and networking-based problem, design, or technological application. The consolidation of the skill set developed in the B.Sc. EE-TNE program through the completion of a capstone project and work placement prepares graduates for an exciting career in the telecommunication and networking industry.

Program Duration:

Four years

Admission Requirements:

High School or Academic Requirement:

High school graduation certificate or equivalent approved by the Ministry of Education and Higher Education with a minimum average of 60%, plus two courses: one final year Mathematics, and one final year Science (Chemistry or Physics is preferred);
OR
Two- year Telecommunications and Network Engineering Technician Diploma from UDST, or equivalent;
OR
Three-year Telecommunications and Network Engineering Technology Diploma from UDST, or equivalent.

English Language Requirement:

The required score on the University English Placement Test or a passing score from another approved internationally recognized English language test, as validated by the Admissions & Registration Department;
OR
A valid (within two years) IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, and listening) below 5.0;
OR
Successful completion of Foundation Program requirements.

Mathematics Requirement:

A minimum of 60% on the University Math Placement Test;
OR
A valid SAT Report Form with minimum score of 480;
OR
Successful completion of Foundation Program requirements.

Additional Admission Criteria:

Admission is competitive. Eligible applicants are ranked based on their overall final year (Grade 12 or equivalent) high school percentage, placement tests rankings, and admission priority category.

Bachelor of Science in Electrical Engineering - Telecommunications and Network Engineering (B.Sc. EE-TNE)

Program Educational Objectives:

Program educational objectives (PEOs) describe the knowledge, skills, and competencies a graduate can demonstrate within 2-3 years of graduation.

Within a few years of graduation from the Bachelor of Science in Electrical Engineering - Telecommunications and Network Engineering (B.Sc. EE-TNE) program, graduates will be able to:

- PEO01b. Demonstrate a strong foundation in scientific and technical knowledge
- PEO02b. Display problem solving, critical-thinking, teamwork, and communication skills
- PEO03b. Display success in various telecommunication or network engineering technology careers
- PEO04b. Integrate ethical and social codes, environmental regulations, and safety issues actively within professional careers
- PEO05b. Demonstrate leadership within their chosen fields
- PEO06b. Participate in identifying contemporary challenges and/or proposing action plans as solutions to tackle them

Student Learning Outcomes:

Student Learning Outcomes (SLOs) describe the knowledge, skills and competencies a graduate can demonstrate immediately upon graduation.

Upon successful completion of the Bachelor of Science in Electrical Engineering - Telecommunications and Network Engineering (B.Sc. EE-TNE) program, graduates will be prepared to:

- SLO01b. Identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
- SLO02b. Apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
- SLO03b. Communicate effectively with a range of audiences
- SLO04b. Recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts
- SLO05b. Function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
- SLO06b. Develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to conclude
- SLO07b. Acquire and apply new knowledge as needed, using appropriate learning strategies



Bachelor of Science in Electrical Engineering - Telecommunications and Network Engineering (B.Sc. EE-TNE)

Study Plan:

Year 1

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 1	AECH1201	Basic Engineering Calculations	-	-	1	0	3
	AEEL1101	Fundamentals of Electricity I	-	-	3	3	0
	AEEL1201	Fundamentals of Electricity I (Lab)	-	AEEL1101	1	0	2
	COMM1010	English Communication I	-	-	3	3	0
	MATH1010	Algebra & Trigonometry	-	-	3	3	1
	EFFL1002	Applied & Experiential Learning	-	-	3	3	0
	PHYS1020	General Physics	-	PHYS1021	3	3	0
	PHYS1021	General Physics (Lab)	-	PHYS1020	1	0	3
Semester 1 Total:					18	15	9
SEMESTER 2	AEEL1102	Fundamentals of Electricity II	AEEL1101	-	3	3	0
	AEEL1202	Fundamentals of Electricity II (Lab)	AEEL1201	AEEL1102	1	0	2
	AETN1102	Network Fundamentals	-	AETN1202	3	3	0
	AETN1202	Network Fundamentals (Lab)	-	AETN1102	1	0	3
	AETN1112	Digital Electronics	AEEL1101	AETN1212	3	3	0
	AETN1212	Digital Electronics (Lab)	AEEL1201	AETN1112	1	0	2
	COMM1020	English Communication II	COMM1010	-	3	3	0
	MATH1020	Pre-Calculus	MATH1010 OR Minimum score on UDST Math Placement Test	-	3	3	0
Semester 2 Total:					18	15	7
SEMESTER 3	AECH1100	Environmental Awareness & Ethics	-	-	2	2	0
	AEPC1203	Basic Instrumentation	AEEL1100 & AEEL1200 OR AEEL1101 & AEEL1201	-	2	0	5
	AEMA1312	Engineering Graphics	AECH1201	-	3	1	4
Semester 3 Total:					7	3	9
Year 1 Total:					43	33	25

Bachelor of Science in Electrical Engineering - Telecommunications and Network Engineering (B.Sc. EE-TNE)

Year 2

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 4	AEEL2201	Electronic Fabrication Practices	AEEL1102 AEEL1202	-	2	0	4
	AETN2101	Analog Electronics	AEEL1102	-	3	3	0
	AETN2201	Analog Electronics (Lab)	AEEL1202	AETN2101	1	0	2
	AETN2111	Network Switching & Routing	AETN1102	AETN2211	3	3	0
	AETN2211	Network Switching & Routing (Lab)	AETN1202	AETN2111	1	0	3
	AETN2121	Analog & Digital Communication	AEEL1102 MATH1020	-	3	3	0
	AETN2221	Analog & Digital Communication (Lab)	AEEL1202	AETN2121	1	0	2
	MATH1030	Calculus I	MATH1020 or Minimum score on UDST Math Placement Test	-	3	3	0
Semester 4 Total:					17	12	11
SEMESTER 5	AETN2302	Applied Programming I	MATH1020	-	3	1	5
	AECH2103	Leadership & Management Principles	AECH1100 COMM1020	-	2	2	0
	AETN2112	Enterprise Networks	AETN2211	AETN2212	3	3	0
	AETN2212	Enterprise Networks (Lab)	AETN2121	AETN2112	1	0	3
	AETN2122	Wireless Communication Systems	AETN2121	-	2	2	0
	AETN2222	Wireless Communication Systems (Lab)	AETN2221	AETN2122	1	0	3
	MATH2010	Calculus II	MATH1030	-	3	3	0
Semester 5 Total:					15	11	11
SEMESTER 6	AETN2103	Microprocessors & Microcontrollers	AETN2121	AETN2203	2	2	0
	AETN2203	Microprocessors & Microcontrollers (Lab)	AETN2221	AETN2103	2	0	6
Semester 6 Total:					4	2	6
Year 2 Total:					36	25	28

Bachelor of Science in Electrical Engineering - Telecommunications and Network Engineering (B.Sc. EE-TNE)

Year 3

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 7	AETN3101	Cyber Security	AETN2112	AETN3201	3	3	0
	AETN3201	Cyber Security (Lab)	AETN2212	-	1	0	3
	AETN3111	Applied Electromagnetics	MATH1020	-	3	3	0
	AETN3122	Telecommunications Networks	AETN2111	-	3	3	0
	AETN3221	Linux Operating System	AETN2302	-	2	0	5
	RSST3002	Probability & Statistical Analysis	MATH2010	-	3	3	0
	Semester 7 Total:					15	12
SEMESTER 8	AECH2112	Sustainability & Renewable Energy	AECH1100	-	3	3	0
	AETN3102	Antennas & Wave Propagation	AETN3111	AETN3202	2	2	0
	AETN3202	Antennas & Wave Propagation (Lab)	AETN2222	AETN3102	1	0	3
	AETN3112	Network Management	AETN3122	-	2	2	0
	AETN3222	Applied Programming II	AETN2302	-	2	0	5
	Social Science, Humanities, & the Arts Elective: Select 1 of 7						
	BUSG2001	Introduction to Entrepreneurship	-	-	3	3	0
	SSHA1001	Islamic & Arab Civilization	-	-	3	3	0
	SSHA1002	Introduction to Sociology	-	-	3	3	0
	SSHA1003	Introductory Psychology	-	-	3	3	0
	SSHA1004	Ethical Reasoning	-	-	3	3	0
	SSHA1005	Law & Society	-	-	3	3	0
SSHA1006	Introduction to the Arts	-	-	3	3	0	
Semester 8 Total:					13	10	8
SEMESTER 9	AETN3203	Work Placement	Min 85 Credits	-	9	360 Total HRs	
	Semester 9 Total:					9	0
Year 3 Total:					37	22	16

Bachelor of Science in Electrical Engineering - Telecommunications and Network Engineering (B.Sc. EE-TNE)

Year 4

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 10	AEMA4100	Project Management	AECH2103	-	3	3	0
	AETN4101	Continuous & Discrete-time Signals & Systems	MATH2010	-	3	3	0
	AETN4121	Microwave Engineering	AETN3111	-	2	2	0
	AETN4221	Microwave Engineering (Lab)	AETN3202	AETN4121	1	0	3
	AETN4301	Capstone Project I	AETN3102 AETN3202	AEMA4100 COMM3010	0	1	2
	COMM3010	Research & Reporting	COMM1020	-	3	3	0
Semester 10 Total:					12	12	5
SEMESTER 11	AETN4112	Enterprise Unified Communications	AETN2112	AETN4212	3	3	0
	AETN4122	Advanced Engineering Mathematics & Applications	AETN4101	-	3	3	0
	AETN4212	Enterprise Unified Communications (Lab)	AETN2212	AETN4112	1	0	3
	AETN4302	Capstone Project II	AETN4301	-	3	3	0
Semester 11 Total:					10	9	3
Year 4 Total:					22	21	8
B.Sc. EE -TNE Program Total:					138	101	77

Graduate Future Pathways:

Graduates of Bachelor of Science in Electrical Engineering - Telecommunications and Network Engineering (B.Sc. EE-TNE) degree program are equipped to pursue further specialization in their field or graduate research.

Graduate Career Opportunities:

The Bachelor of Science in Electrical Engineering - Telecommunications and Network Engineering (B.Sc. EE-TNE) is an applied degree with learning outcomes closely linked to the labor market. A wide range of career opportunities in the field currently exist and include, but are not limited to, the following:

- Linux Cloud Kernel Engineer
- Field Service Engineer
- Telecom Engineer
- Communications Research & Development Engineer
- Service Installation Engineer
- Network Security Analyst/Administrator

Program Webpage:

[Click Here](#)

Bachelor of Science in Mechanical Engineering - Maintenance Engineering (B.Sc. ME-MaE)



Program Description:

The Bachelor of Science in Mechanical Engineering - Maintenance Engineering (B.Sc. ME-MaE) degree program prepares graduates with the theoretical and technical knowledge, competencies and hands-on skills required to install, operate, maintain, troubleshoot, and manage mechanical systems in advanced manufacturing. In the first two years of study, students develop core academic competencies, practice functional skills related to subject knowledge, and develop critical thinking skills. In subsequent years, students practice applying theoretical skills and competencies related to industrial maintenance (including reliability centered maintenance, failure mode and effect analyses, and advanced functions of computerized maintenance management systems).

In the third year of studies students engage in an in-field training experience. In their final year, students conduct an in-depth research study of a mechanical/maintenance engineering-based problem, design, or technological application. The consolidation of the skill set developed in the B.Sc. ME-MaE program through the completion of a capstone project and work placement prepares graduates for exciting careers in mechanical engineering.

Program Duration:

Four years

Admission Requirements:

High School or Academic Requirement:

High school graduation certificate or equivalent approved by the Ministry of Education and Higher Education with a minimum average of 60%, plus two courses: one final year Mathematics, and one final year Science (Chemistry or Physics is preferred);
OR
Two- year Mechanical Engineering Technician Diploma from UDST, or equivalent;
OR
Three-year Mechanical Engineering Technology Diploma from UDST, or equivalent.

English Language Requirement:

The required score on the University English Placement Test or a passing score from another approved internationally recognized English language test, as validated by the Admissions & Registration Department;
OR
A valid (within two years) IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, and listening) below 5.0;
OR
Successful completion of Foundation Program requirements.

Mathematics Requirement:

A minimum of 60% on the University Math Placement Test;
OR
A valid SAT Report Form with minimum score of 480;
OR
Successful completion of Foundation Program requirements.

Additional Admission Criteria:

Admission is competitive. Eligible applicants are ranked based on their overall final year (Grade 12 or equivalent) high school percentage, placement tests rankings, and admission priority category.

Bachelor of Science in Mechanical Engineering - Maintenance Engineering (B.Sc. ME-MaE)

Program Educational Objectives:

Program educational objectives (PEOs) describe the knowledge, skills, and competencies a graduate can demonstrate within 2-3 years of graduation.

Within a few years of graduation from the Bachelor of Science in Mechanical Engineering - Maintenance Engineering (B.Sc. ME-MaE) program, graduates will be able to:

- PEO01b. Demonstrate a strong foundation in scientific and technical knowledge
- PEO02b. Display problem solving, critical-thinking, teamwork, and communication skills
- PEO03b. Display success in various maintenance engineering technology careers
- PEO04b. Integrate ethical and social codes, environmental regulations, and safety issues actively within professional careers
- PEO05b. Demonstrate leadership within their chosen fields
- PEO06b. Participate in identifying contemporary challenges and/or proposing action plans as solutions to tackle them

Student Learning Outcomes:

Student Learning Outcomes (SLOs) describe the knowledge, skills, and competencies a graduate can demonstrate immediately upon graduation.

Upon successful completion of the Bachelor of Science in Mechanical Engineering - Maintenance Engineering (B.Sc. ME-MaE) program, graduates will be prepared to:

- SLO01b. Identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
- SLO02b. Apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
- SLO03b. Communicate effectively with a range of audiences
- SLO04b. Recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts
- SLO05b. Function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
- SLO06b. Develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to conclude
- SLO07b. Acquire and apply new knowledge as needed, using appropriate learning strategies



Bachelor of Science in Mechanical Engineering - Maintenance Engineering (B.Sc. ME-MaE)

Study Plan:

Year 1

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 1	AECH1201	Basic Engineering Calculations	-	-	1	0	3
	CHEM1010	General Chemistry I	-	CHEM1011	3	3	0
	CHEM1011	General Chemistry I (Lab)	-	CHEM1010	1	0	3
	COMM1010	English Communication I	-	-	3	3	0
	EFFL1002	Applied & Experiential Learning	-	-	3	3	0
	MATH1010	Algebra & Trigonometry	-	-	3	3	1
	PHYS1020	General Physics	-	PHYS1021	3	3	0
	PHYS1021	General Physics (Lab)	-	PHYS1020	1	0	3
Semester 1 Total:					18	15	10
SEMESTER 2	AEEL1100	Fundamentals of Electricity	MATH1010	-	2	2	0
	AEEL1200	Fundamentals of Electricity (Lab)	-	AEEL1100	1	0	3
	AECH1100	Environmental Awareness & Ethics	-	-	2	2	0
	AEMA1102	Health & Safety in the Workplace	-	-	2	2	0
	AEMA1312	Engineering Graphics	AECH1201	-	3	1	4
	COMM1020	English Communication II	COMM1010	-	3	3	0
	MATH1020	Pre-Calculus	MATH1010 OR Minimum score on UDST Math Placement Test	-	3	3	0
Semester 2 Total:					16	13	7
SEMESTER 3	AEMA1113	Materials Practices	CHEM1010 PHYS1020	-	2	2	0
	AEMA1213	Materials Practices (Lab)	AEMA1102	AEMA1113	1	0	2
	AEMA1303	Machine Shop Practices	AEMA1102	-	2	1	3
	AEPC1203	Basic Instrumentation	AEEL1100 & AEEL1200 OR AEEL1101 & AEEL1201	-	2	0	5
Semester 3 Total:					7	3	10
Year 1 Total:					41	31	27

Bachelor of Science in Mechanical Engineering - Maintenance Engineering (B.Sc. ME-MaE)

Year 2

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 4	AECH2103	Leadership & Management Principles	AECH1100 COMM1020	-	2	2	0
	AEMA2101	Welding Fundamentals	-	-	1	1	0
	AEMA2201	Welding Fundamentals (Lab)	AEMA1303	AEMA2101	1	0	3
	AEMA2121	Materials & Processes	AEMA1213	-	2	2	0
	AEMA2221	Materials & Processes (Lab)	AEMA1102	AEMA2121	1	0	2
	AEMA2131	Industrial Maint. Mechanics	-	-	2	2	0
	AEMA2231	Industrial Maint. Mechanics (Lab)	AEMA1102	AEMA2131	1	0	3
	AEMA2311	Computer Aided Design I	AEMA1312	-	3	2	2
	MATH1030	Calculus I	MATH1020 OR Minimum score on UDST Math Placement Test	-	3	3	0
Semester 4 Total:					16	12	10
SEMESTER 5	AECH2112	Sustainability & Renewable Energy	AECH1100	-	3	3	0
	AEMA2102	Power Plant Components	-	-	2	2	0
	AEMA2202	Power Plant Components (Lab)	AEMA1102	AEMA2102	1	0	3
	AEMA2112	Rotating Equipment Maintenance	-	-	2	2	0
	AEMA2232	Rotating Equipment Maintenance (Lab)	AEMA1102	AEMA2112	1	0	2
	AEMA2122	Non-Destructive Testing	AEMA2221	-	2	2	0
	AEMA2222	Non-Destructive Testing (Lab)	AEMA1102	AEMA2122	1	0	2
	MATH2010	Calculus II	MATH1030	-	3	3	0
Semester 5 Total:					15	12	7
SEMESTER 6	AEMA2103	Principles of Maintenance	AEMA2112 AEMA2131	-	2	2	0
	AEMA2203	Principles of Maintenance (Lab)	AEMA1102	AEMA2103	1	0	2
	AEMA2113	Hydraulics & Pneumatics	PHYS1020	-	2	2	0
	AEMA2213	Hydraulics & Pneumatics (Lab)	AEMA1102	AEMA2113	1	0	2
Semester 6 Total:					6	4	4
Year 2 Total:					37	28	21

Bachelor of Science in Mechanical Engineering - Maintenance Engineering (B.Sc. ME-MaE)

Year 3

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK			
			Pre-Req	Co-Req	CR	LEC	LAB	
SEMESTER 7	AEMA3111	Multivariate Calculus	MATH2010		3	3	0	
	AEMA3121	Applied Fluid Mechanics	MATH1020 PHYS1020	-	2	2	0	
	AEMA3221	Applied Fluid Mechanics (Lab)	AEMA1102 OR AECE1340	AEMA3121	1	0	2	
	AEMA3301	Mechanics, Statics & Dynamics	AEMA1102 MATH1020 PHYS1021	-	3	2	2	
	AEMA3311	Computer Aided Design II	AEMA2311	-	3	2	2	
	RSST3002	Probability & Statistical Analysis	MATH2010	-	3	3	0	
	Semester 7 Total:					15	12	6
SEMESTER 8	AECH2113	Quality Assurance	COMM1020	-	2	2	0	
	AECH3302	Applied Thermodynamics	MATH1020 PHYS1020	-	3	2	2	
	AEMA3302	Strength of Materials	AEMA3301	MATH2010	3	2	2	
	AEMA3322	Maintenance Engineering	AEMA2203	-	3	3	1	
	AETN2302	Applied Programming I	MATH1020	-	3	1	5	
	Semester 8 Total:					14	10	10
SEMESTER 9	AEMA3000	Work Placement	Min 85 Credits	-	9	360 Total HRS		
	Semester 9 Total:					9	0	0
	Year 3 Total:					38	22	16

Bachelor of Science in Mechanical Engineering - Maintenance Engineering (B.Sc. ME-MaE)

Year 4

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 10	AEMA4100	Project Management	AECH2103	-	3	3	0
	AEMA4142	Applied Heat Transfer for Engineers	AEMA3121	-	3	3	0
	AEMA4121	Pipeline Protection & Maintenance	AEMA2222	-	2	2	0
	AEMA4301	Capstone Project I	RSST3002	AEMA4100 COMM3010	0	1	2
	AEMA4311	Machine Design	AEMA3302	-	3	2	3
	COMM3010	Research & Reporting	COMM1020	-	3	3	0
Semester 10 Total:					14	14	5
SEMESTER 11	AEMA4111	Applied Differential Equations	MATH2010	-	3	3	0
	AEMA4122	Quality Control	AEMA3311 RSST3002	-	2	2	0
	AEMA4302	Capstone Project II	AEMA4301	-	3	3	0
	AEMA4312	Applied CNC & CAM	AEMA2221 AEMA3311	-	3	2	3
	AEMA4332	Facilities Maintenance Management	AECH3302 AEMA2311 AEMA3322	-	2	1	3
Semester 11 Total:					13	11	6
Year 4 Total:					27	25	11
B.Sc. ME-MaE Program Total:					143	106	75

Graduate Future Pathways:

Graduates of the Bachelor of Science in Mechanical Engineering - Maintenance Engineering (B.Sc. ME-MaE) degree programs are equipped to pursue further specialization in their field or research.

Program Webpage:

[Click Here](#)

Graduate Career Opportunities:

The Bachelor of Science in Mechanical Engineering - Maintenance Engineering (B.Sc. ME-MaE) is an applied degree with learning outcomes closely linked to the labor market. A wide range of career opportunities in the field currently exist and include, but are not limited to, the following:

- Mechanical Maintenance Engineer
- Industrial Maintenance Engineer
- Industrial Operations Engineer
- Diagnostic Engineer
- Operation Engineer
- Maintenance Manager



Technician Certificate Programs (TCP)



The Technician Certificate Programs (TCP) offered by the College of Engineering and Technology (CET) are designed to prepare graduates to work as entry level maintenance and operations personnel within the energy sector of Qatar. Emphasis is placed on developing practical skills and the ability to work safely, and as part of a team. The College machine shops and laboratories provide an advanced, state-of-the-art education and training environment. These are equipped with the latest industrial class equipment, process simulation labs and pilot plant facilities. TCP program students will experience a blended learning environment, which applies advanced industrial and computer technologies, practical skills-based training, traditional learning methods, and e-learning. The TCP offers four (4) specializations: Electrical, Instrumentation, Mechanical and Process Operations. Each specialization consists of practical at-college training and on-the-job workplace learning. Students who successfully complete the program receive a Technician Certificate.

- Electrical Technician
- Instrumentation Technician
- Mechanical Technician
- Process Operations Technician

After acquiring industry experience, graduates may choose to continue their studies at the UDST and receive a specified number of transfer credits toward a diploma in the College of Engineering Technology.



Technician Certificate - Electrical (T. Cert. Elec)



Program Description:

An electrical technician installs, operates, tests and repairs electrical equipment and controls. Working in Qatar's Energy sector, an electrical technician performs routine maintenance checks, ensuring that the testing and calibration of equipment are conducted according to standard operating procedures and manufacturer's recommendations. Electrical technicians generally work in the maintenance departments of factories, plants, and other petrochemical establishments. The Technician Certificate - Electrical prepares graduates for entry into a career as technicians in the electrical field within Qatar's Energy sector. The program is competency-based, with two workplace-learning components completed within the trainees' sponsoring company: a 4-week workplace orientation in the first half of the program, and a 24-week worksite practicum at the end of Year 2. While on campus, students train in a simulated work environment in workshops and College of Engineering and Technology pilot plants, using modern industrial class equipment. Trainees receive workplace safety training at the beginning of the program, with safety principles reinforced throughout every course and technical task in the program.

The Electrical program uses a block-training schedule within three 15-week semesters and one 7-week semester.

Program Duration:

Two years

Admission Requirements:

Prospective students for the two-year Technician Certificate - Electrical must meet the following:

- High school completion with an overall average of 50% or higher;
- Qatari nationality;
- Males - born of Qatari females (mothers) or males (fathers);
- Under 26 years of age;
- Obtain the required score on the UDST English Placement Test to enter semester one of the programs;
- Take the UDST Math Placement Test;
- Clearances from the following: a. Ministry of Administrative Development, Labour and Social Affairs (ADLSA) b. Ministry of Interior (MOI) c. General Headquarters Qatar Air Force (GHQAF);
- Medical fitness as determined by Qatar Petroleum's Standard Medical Test;
- Director of Administration (DA) approval;
- Sponsored from any company within the Energy sector.

Technician Certificate - Electrical (T. Cert. Elec)

Program Educational Objectives:

Program Educational Objectives (PEOs) describe the knowledge, skills, and competencies a graduate can demonstrate within 2-3 years of graduation.

Within a few years of graduation from the Technician Certificate - Electrical (T.Cert. Elec), graduates will be able to:

- PEO01a. Contribute to problem-solving within their work area
- PEO02a. Distinguish themselves as effective communicators and team members in their profession
- PEO03a. Model ethical and professional attitudes and behaviour
- PEO04a. Pursue credentialing and professional development opportunities to remain current and adapt to changes in the field

Student Learning Outcomes:

Student Learning Outcomes (SLOs) describe the knowledge, skills, and competencies a graduate can demonstrate immediately upon graduation.

Upon successful completion of the Technician Certificate - Electrical, graduates will be able to:

- SLO01. Install, examine, replace and repair electrical equipment
- SLO02. Test electrical controls
- SLO03. Conduct routine maintenance procedures to switchgears, transformers, electric motors, generators and electrical control systems
- SLO04. Read and interpret electrical drawings
- SLO05. Work as a member of a team in a variety of technical projects and tasks
- SLO06. Apply safe work practices and personal protection



Technician Certificate - Electrical (T. Cert. Elec)

Study Plan:

Year 1

COURSE NUMBER	COURSE TITLE				HOURS/ COURSE	
		Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 1 (15 WEEKS)						
GN1002	General English I	General English I level score equivalent on the UDST English Placement Test OR FE2103 AND FE2104	-	0	225	0
MA1015	Technician Mathematics I	-	-	0	75	0
SE1005	Health, Safety, & Environment	-	-	2	18	42
TN1000	Hand Tools	-	SE1005	1	13	32
TN1005	Power Tools	-	SE1005	1	13	32
Semester 1 Total:				4	344	106
SEMESTER 2 (15 WEEKS)						
GN1003	General English II	General English II level score equivalent on the UDST English Placement Test OR GN1002	-	0	150	0
MA1020	Technician Mathematics II	MA1015	-	0	75	0
ET1145	Electrical Fundamentals I	SE1005 TN1000 TN1005	-	3	35	75
ET1155	Electrical Fundamentals II	SE1005	ET1145	3	25	60
ET1255	Hazardous Areas	SE1005	-	1	9	21
Semester 2 Total:				7	294	156
SEMESTER 3 (7 WEEKS)						
ET1205	Conductors & Cables	MA1015 MA1020 SE1005 TN1000 TN1005	-	1	15	35
ET1215	Electrical Drawings	SE1005	-	1	16	39
ET1225	Electrical Transformers	SE1005	ET1215	1	13	32
ET1266	Electromagnetic Devices	ET1145 ET1155 SE1005 TN1000 TN1005	ET1215	2	18	42
WORKPLACE FAMILIARIZATION (3 WEEKS)						
ON1000	Workplace Orientation	-	-	0	0	0
Semester 3 Total:				5	62	148
Year 1 Total:				16	700	410

Technician Certificate - Electrical (T. Cert. Elec)

Year 2

COURSE NUMBER	COURSE TITLE				HOURS/ COURSE	
		Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 4 (15 WEEKS)						
ET1300	Switchgear & Protection	SE1005	-	1	15	35
ET1312	Power Supply & UPS	SE1005 ET1155	-	1	21	49
ET1315	Electric Motors	SE1005 TN1000 TN1005	-	2	22	53
ET1320	Motor Controls & Drives	SE1005 TN1000 TN1005	ET1315	4	40	95
ET1325	PLC I	SE1005 TN1000 MA1020	-	2	18	42
ET1240	AC Generators	SE1005 TN1000 TN1005 ET1145 ET1155 ET1215 ET1266	-	1	9	21
ET1335	PLC II	SE1005 TN1000 MA1020	ET1315 ET1320 ET1325	1	9	21
WORK PLACEMENT (24 WEEKS)						
ET1330	Worksite Practicum	-	-	24	0	0
Semester 1 Total:				36	134	316
Year 2 Total:				36	134	316
T. Cert. Elec Total:				52	834	726

Graduate Future Pathways:

Graduates of the Technician Certificate – Electrical may choose to continue their studies and receive advanced entry into the Diploma in Electrical Power Engineering Technology (Dip. EPET) program.

Program Webpage:

[Click here](#)

Graduate Career Opportunities:

The two year Technician Certificate - Electrical is an applied certificate with learning outcomes closely linked to the labor market. A wide range of career opportunities in the field currently exist and they include, but are not limited to, the following:

- Electrical Technician
- Junior Power Supply Technician
- Electronic Equipment Maintenance

Technician Certificate - Instrumentation (T. Cert. Instr)



Program Description:

An instrumentation and control technician inspects and tests instruments and plant machinery to ensure optimal and safe operation. Working in Qatar's Energy sector, an instrumentation and control technician reads and interprets instrumentation drawings, installs and maintains new or existing instruments, calibrates and maintains instrument components used to control or measure level, pressure, flow, and temperature, diagnoses instrumentation faults within a Distributed Control System or Programmable Logic Controller, and consults with process operators. Instrumentation technicians generally work in the maintenance departments of factories, plants, and other petrochemical establishments. The Technician Certificate - Instrumentation prepares graduates for entry into a career as technicians in the instrumentation field within Qatar's Energy sector. The program is competency-based with two workplace-learning components completed within the trainees' sponsoring company: a 4-week workplace orientation in the first half of the program, and a 24-week worksite practicum at the end of Year 2. While on campus, students train in a simulated work environment in workshops and College of Engineering and Technology pilot plants, using modern industrial class equipment. Trainees receive workplace safety training at the beginning of the program, with safety principles reinforced throughout every course and technical task in the program.

The Instrumentation program uses a block-training scheduled within three 15-week semesters and one 7-week semester

Program Duration:

Two years

Admission Requirements:

- Students entering the Technician Certificate - Instrumentation must achieve the required score on the UDST English Language Placement Test.
- Medical fitness as determined by Qatar Petroleum's Standard Medical Test;
- Director of Administration (DA) approval.

Additional Information

Prospective students for the two-year Technician Certificate - Instrumentation must meet the following:

- High school completion with an overall average of 50% or higher;
- Qatari nationality;
- Males - born of Qatari females (mothers) or males (fathers);
- Under 26 years of age;
- Obtain the required score on the UDST English Placement Test to enter semester one of the program;
- Take the UDST Math Placement Test;
- Clearances from the following bodies: a. Ministry of Administrative Development, Labour and Social Affairs (ADLSA) b. Ministry of Interior (MOI) c. General Headquarters Qatar Air Force (GHQAF)
- Medical fitness as determined by Qatar Petroleum's Standard Medical Test;
- Director of Administration (DA) approval;
- Sponsored from a company within the Energy sector.

Technician Certificate - Instrumentation (T. Cert. Instr)

Program Educational Objectives:

Program educational objectives (PEOs) describe the knowledge, skills, and competencies a graduate can demonstrate within 2-3 years of graduation.

Within a few years of graduation from the Technician Certificate - Instrumentation (T.Cert. Instr), graduates will be able to:

- PEO01a. Contribute to problem-solving within their work area
- PEO02a. Distinguish themselves as effective communicators and team members in their profession
- PEO03a. Model ethical and professional attitudes and behaviour
- PEO04a. Pursue credentialing and professional development opportunities to remain current and adapt to changes in the field

Student Learning Outcomes:

Student Learning Outcomes (SLOs) describe the knowledge, skills, and competencies a graduate can demonstrate immediately upon graduation.

Upon successful completion of the Technician Certificate - Instrumentation, graduates will be able to:

- SLO01. Calibrate and maintain instrument components used to control or measure level, pressure, flow and temperature
- SLO02. Consult manufacturers' manuals to determine testing and maintenance procedures.
- SLO03. Program and test basic Programmable Logic Controller applications
- SLO04. Use pneumatic, electrical, and electronic testing devices to inspect and test plant instruments
- SLO05. Read and interpret instrumentation drawings
- SLO06. Configure control loops using a Distributed Control System
- SLO07. Work as a member of a team to perform a variety of technical Projects and tasks
- SLO08. Apply safe work practices and personal protection



Technician Certificate - Instrumentation (T. Cert. Instr)

Study Plan:

Year 1

COURSE NUMBER	COURSE TITLE				HOURS/ COURSE	
		Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 1 (15 WEEKS)						
GN1002	General English I	General English I level score equivalent on the UDST English Placement Test OR FE2103 AND FE2104	-	0	225	0
MA1015	Technician Mathematics I	-	-	0	75	0
SE1005	Health, Safety, & Environment	-	-	2	18	42
TN1000	Hand Tools	-	SE1005	1	13	32
TN1005	Power Tools	-	SE1005 TN1000	1	13	32
Semester 1 Total:				4	344	106
SEMESTER 2 (15 WEEKS)						
GN1003	General English II	General English II level score equivalent on the UDST English Placement Test OR GN1002	-	0	150	0
MA1020	Technician Mathematics II	MA1015	-	0	75	0
IN1141	Electrical Circuits	SE1005 TN1000	-	1	13	32
IN1122	Process Control Fundamentals	SE1005 TN1000 MA1015	-	2	18	42
IN1125	Instrumentation Drawings	SE1005 TN1000 TN1005	-	2	18	42
IN1146	Electronic Circuits	SE1005 TN1000	IN1141	2	18	42
Semester 2 Total:				7	292	158
SEMESTER 3 (7 WEEKS)						
IN1130	Instrument Air Supply System	SE1005 TN1000 TN1005 IN1125	-	1	13	32
IN1603	Pneumatic Components & Valves	SE1005 TN1000 TN1005 IN1122 IN1125	IN1130	1	13	32
IN1165	Pressure Control Loop	SE1005 TN1000 IN1125	IN1603	2	24	56
IN1210	Process Control Tuning	SE1005 TN1000 MA1020	IN1165	1	12	28
WORKPLACE FAMILIARIZATION (3 WEEKS)						
ON1000	Workplace Orientation	-	-	0	0	0
Semester 3 Total:				5	62	148
Year 1 Total:				16	698	412

Technician Certificate - Instrumentation (T. Cert. Instr)

Year 2

COURSE NUMBER	COURSE TITLE				HOURS/ COURSE	
		Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 4 (15 WEEKS)						
IN1171	Level Control Loop	SE1005 TN1000 IN1141 IN1122 IN1603 IN1125 IN1210	-	1	15	35
IN1175	Flow Control Loop	SE1005 TN1000 MA1020 IN1141 IN1122 IN1125 IN1603 IN1165 IN1210	IN1171	1	15	35
IN1180	Temperature Control Loop	SE1005 TN1000 IN1141 IN1122 IN1125 IN1603 IN1210	-	1	15	35
IN1186	Advanced Control Loops	SE1005 TN1000 IN1141 IN1122 IN1165	IN1171 IN1175 IN1180	2	24	56
IN1215	PLC I	SE1005 TN1000 IN1141 IN1146 IN1165	IN1171 IN1175 IN1180	2	22	53
IN1220	DCS & Fieldbus	SE1005 IN1165 IN1210 MA1020	IN1171 IN1175 IN1180 IN1215	2	25	60

Technician Certificate - Instrumentation (T. Cert. Instr)

Year 2

COURSE NUMBER	COURSE TITLE				HOURS/ COURSE	
		Pre-Req	Co-Req	CR	LEC	LAB
ELECTIVE I: SELECT 1 OF 3						
IN1161	Online Analytical Instruments	SE1005 TN1000 TN1005 IN1141 IN1146 MA1015	-	1	9	21
IN1162	Fire and Gas Alarm Systems	SE1005 TN1000 TN1005 IN1141 IN1146	-	1	9	21
IN1205	Rotating Machinery Vibration	SE1005 IN1125 IN1141 IN1146	-	1	9	21
ELECTIVE II: SELECT 1 OF 3						
IN1161	Online Analytical Instruments	SE1005 TN1000 TN1005 IN1141 IN1146 MA1015	-	1	9	21
IN1162	Fire and Gas Alarm Systems	SE1005 TN1000 TN1005 IN1141 IN1146	-	1	9	21
IN1205	Rotating Machinery Vibration	SE1005 IN1125 IN1141 IN1146	-	1	9	21
WORK PLACEMENT (24 WEEKS)						
IN1196	Worksite Practicum	-	-	24	0	0
Semester 4 Total:				35	134	316
Year 2 Total:				35	134	316
T. Cert. Instr Total:				51	832	728

Technician Certificate - Instrumentation (T. Cert. Instr)

Graduate Future Pathways:

Graduates of the Technician Certificate - Instrumentation may choose to continue their studies and receive advanced entry into the Diploma in Automation and Control Engineering Technology (Dip. ACET) program.

Graduate Career Opportunities:

The two year Technician Certificate - Instrumentation is an applied certificate with learning outcomes closely linked to the labor market. A wide range of career opportunities in the field currently exist and they include, but are not limited to, the following:

- Process Control Technician
- Instrumentation Technician
- Quality Assurance Inspector

Program Webpage:

[Click Here](#)



Technician Certificate - Mechanical (T. Cert. Mech)



Program Description:

A mechanical technician installs, maintains, and repairs rotating and static industrial machinery and mechanical equipment. Working in Qatar's energy sector, a mechanical technician reads and interprets technical drawings, installs, aligns, and dismantles mechanical equipment, and operates various devices and machine tools. Mechanical technicians generally work in the maintenance departments of factories, plants, and other petrochemical establishments. The Technician Certificate - Mechanical prepares graduates for entry into a career as technicians in the mechanical field within Qatar's Energy sector. The program is competency based, with two workplace-learning components completed within the trainees' sponsoring company: a 4-week workplace orientation in the first half of the program, and a 24-week worksite practicum at the end of Year 2. While on campus, students train in a simulated work environment in workshops and College of Engineering and Technology pilot plants, using modern industrial class equipment. Trainees receive workplace safety training at the beginning of the program, with safety principles reinforced throughout every course and technical task in the program.

The Mechanical program uses a block-training schedule within three 15-week semesters and one 7-week semester.

Program Duration:

Two years

Admission Requirements:

The program entrance requirements for the Technician Certificate - Mechanical are as follows:

- High school completion with an overall average of 50% or higher;
- Qatari nationality;
- Males - born of Qatari female (mothers) or males (fathers);
- Under 26 years of age;
- Obtain the required score on the UDST English Placement Test to enter semester one of the program;
- Take the UDST Math Placement Test;
- Clearances from the following bodies: a. Ministry of Administrative Development, Labour and Social Affairs (ADLSA) b. Ministry of Interior (MOI) c. General Headquarters Qatar Air Force (GHQAF)
- Medical fitness as determined by Qatar Petroleum's Standard Medical Test;
- Director of Administration (DA) approval;
- Sponsored from a company within the Energy sector.

Technician Certificate - Mechanical (T. Cert. Mech)

Program Educational Objectives:

Program educational objectives (PEOs) describe the knowledge, skills, and competencies a graduate can demonstrate within 2-3 years of graduation.

Within a few years of graduation from the Technician Certificate - Mechanical (T.Cert. Mech), graduates will be able to:

- PEO01a. Contribute to problem-solving within their work area
- PEO02a. Distinguish themselves as effective communicators and team members in their profession
- PEO03a. Model ethical and professional attitudes and behaviour
- PEO04a. Pursue credentialing and professional development opportunities to remain current and adapt to changes in the field

Student Learning Outcomes:

Student learning outcomes (SLOs) describe the knowledge, skills, and competencies a graduate can demonstrate immediately upon graduation.

Upon successful completion of the Technician Certificate - Mechanical, graduates will be able to:

- SLO01. Disassemble, reassemble, replace, repair, and maintain machinery and mechanical equipment using hand and power tools
- SLO02. Conduct maintenance procedures on rotating and static mechanical equipment
- SLO03. Read and interpret technical drawings
- SLO04. Work as a member of a team in a variety of technical projects and tasks
- SLO05. Apply safe work practices and personal protection



Technician Certificate - Mechanical (T. Cert. Mech)

Study Plan:

Year 1

COURSE NUMBER	COURSE TITLE				HOURS/ COURSE	
		Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 1 (15 WEEKS)						
GN1002	General English I	General English I level score equivalent on the UDST English Placement Test OR FE2103 AND FE2104	-	0	225	0
MA1015	Technician Mathematics I	-	-	0	75	0
SE1005	Health, Safety, & Environment	-	-	2	18	42
ME1235	Hand Tools	-	SE1005	1	13	32
ME1136	Precision Measuring Tools	SE1005	-	1	13	32
Semester 1 Total:				4	344	106
SEMESTER 2 (15 WEEKS)						
GN1003	General English II	General English II level score equivalent on the UDST English Placement Test OR GN1002	-	0	150	0
MA1020	Technician Mathematics II	MA1015	-	0	75	0
ME1145	Engineering Materials	SE1005 ME1235	-	1	15	35
ME1155	Technical Drawings	SE1005 MA1015	-	2	21	49
ME1142	Machine Tools	SE1005 ME1136	-	3	31	74
Semester 2 Total:				6	292	118
SEMESTER 3 (7 WEEKS)						
ME1240	Pipes, Gaskets & Threads	SE1005 ME1235 ME1136 ME1155	-	2	21	49
ME1170	Valves	SE1005 ME1235 ME1136 ME1155	-	2	18	42
ME1175	Heat Exchangers	SE1005 ME1235 ME1136 ME1155	ME1170	1	15	35
ME1180	Filters & Strainers	SE1005 ME1235 ME1136 ME1155	-	0	9	21
WORKPLACE FAMILIARIZATION (3 WEEKS)						
ON1000	Workplace Orientation	-	-	0	0	0
Semester 3 Total:				5	63	147
Year 1 Total:				15	699	371

Technician Certificate - Mechanical (T. Cert. Mech)

Year 2

COURSE NUMBER	COURSE TITLE				HOURS/ COURSE	
		Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 4 (15 WEEKS)						
ME1196	Bearings & Lubrication	SE1005 ME1235 ME1136 ME1155	-	1	15	35
ME1185	Couplings	SE1005 ME1235 ME1136 ME1155	-	2	18	42
ME1190	Seals	SE1005 ME1235 ME1136 ME1155	-	1	15	35
ME1211	Pumps	ME1235 ME1136 ME1155	ME1196 ME1185 ME1190	2	0	60
ME1245	Compressors	SE1005 ME1235 ME1136 ME1155	ME1185 ME1225	2	21	49
ME1220	IC Engines	SE1005 ME1235 ME1136 ME1155	ME1185	2	18	42
ME1225	Maintenance Procedures	SE1005 ME1235	-	1	9	21
ME1305	Condition Monitoring Systems	SE1005 ME1225	-	1	9	21
ELECTIVE I: SELECT 1 OF 4						
ME1127	Basic Static Equipment	SE1005 ME1155	-	1	9	21
ME1128	Turbo Expanders	SE1005 ME1155	-	1	9	21
ME1300	Gas Turbines	SE1005 ME1235 ME1136 ME1155	-	1	9	21
ME1157	Hydraulics	SE1005 ME1235 ME1136 ME1155	-	1	9	21

Technician Certificate - Mechanical (T. Cert. Mech)

Year 2

COURSE NUMBER	COURSE TITLE				HOURS/ COURSE	
		Pre-Req	Co-Req	CR	LEC	LAB
ELECTIVE II: SELECT 1 OF 4						
ME1127	Basic Static Equipment	SE1005 ME1155	-	1	9	21
ME1128	Turbo Expanders	SE1005 ME1155	-	1	9	21
ME1300	Gas Turbines	SE1005 ME1235 ME1136 ME1155	-	1	9	21
ME1157	Hydraulics	SE1005 ME1235 ME1136 ME1155	-	1	9	21
WORK PLACEMENT (24 WEEKS)						
ME1231	Worksite Practicum	-	-	24	0	0
Semester 4 Total:				38	123	347
Year 2 Total:				38	123	347
T. Cert. Mech Total:				53	822	718

Graduate Future Pathways:

Graduates of the Technician Certificate - Mechanical may choose to continue their studies and receive advanced entry into the Diploma in Mechanical Engineering Technology (Dip. MET) program.

Graduate Career Opportunities:

The two year Technician Certificate - Mechanical is an applied certificate with learning outcomes closely linked to the labor market. A wide range of career opportunities in the field currently exist and they include, but are not limited to, the following:

- Industrial Mechanic Technician
- Junior Maintenance Mechanic
- Junior Equipment Calibrator

Program Webpage:

[Click Here](#)

Technician Certificate – Process Operations (T. Cert. Proc.Op)



Program Description:

A process operator technician monitors, adjusts, operates, and maintains processing units and equipment in industrial plants. Working in Qatar's energy sector, a process operator diagnoses and solves problems related to systems operations in petroleum, natural gas processing, petrochemical, industrial, agricultural, specialty chemical, and pharmaceutical companies. The Technician Certificate - Process Operations prepares graduates for entry into a career as technicians in the process operations field within Qatar's Energy sector. The program is competency-based, with two workplace-learning components completed within the trainees' sponsoring company: a 4-week workplace orientation in the first half of the program, and a 24-week work site practicum at the end of Year 2. While on campus, students train in a simulated work environment in workshops and College of Engineering and Technology pilot plants, using modern industrial class equipment. Trainees receive workplace safety training at the beginning of the program, with safety principles reinforced throughout every course and technical task in the program.

The Process Operations program uses a block-training schedule within three 15-week semesters and one 7-week semester.

Program Duration:

Two years

Admission Requirements:

The program entrance requirements for the Technician Certificate - Process Operations are as follows:

- High school completion with an overall average of 50% or higher;
- Qatari nationality;
- Males - born of Qatari female (mothers) or males (fathers);
- Under 26 years of age;
- Obtain the required score on the UDST English Placement Test to enter semester one of the program;
- Take the UDST Math Placement Test;
- Clearances from the following bodies: a. Ministry of Administrative Development, Labour and Social Affairs (ADLSA) b. Ministry of Interior (MOI) c. General Headquarters Qatar Air Force (GHQAF)
- Medical fitness as determined by Qatar Petroleum's Standard Medical Test;
- Director of Administration (DA) approval;
- Sponsored from a company within the Energy sector.

Technician Certificate – Process Operations (T. Cert. Proc.Op)

Program Educational Objectives:

Program educational objectives (PEOs) describe the knowledge, skills, and competencies a graduate can demonstrate within 2-3 years of graduation.

Within a few years of graduation from the Technician Certificate - Process Operations (T.Cert. Proc.Op), graduates will be able to:

- PEO01a. Contribute to problem-solving within their work area
- PEO02a. Distinguish themselves as effective communicators and team members in their profession
- PEO03a. Model ethical and professional attitudes and behaviour
- PEO04a. Pursue credentialing and professional development opportunities to remain current and adapt to changes in the field

Student Learning Outcomes:

Student Learning Outcomes (SLOs) describe the knowledge, skills, and competencies a graduate can demonstrate immediately upon graduation.

Upon successful completion of the Technician Certificate – Process Operations, graduates will be able to:

- SLO01. Read and interpret process diagrams
- SLO02. Read process variables from instruments and gauges showing pressure, flow, level, temperature and other properties
- SLO03. Operate and adjust process control systems
- SLO04. Monitor and adjust static and rotary equipment, valves, pumps, and controls
- SLO05. Work as a member of a team to perform a variety of technical projects and tasks
- SLO06. Apply safe work practices and personal protection



Technician Certificate – Process Operations (T. Cert. Proc.Op)

Study Plan:

Year 1

COURSE NUMBER	COURSE TITLE				HOURS/ COURSE	
		Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 1 (15 WEEKS)						
GN1002	General English I	General English I level score equivalent on the UDST English Placement Test OR FE2103 AND FE2104	-	0	225	0
MA1015	Technician Mathematics I	-	-	0	75	0
SE1005	Health, Safety, & Environment	-	-	2	18	42
PT1120	Operator Responsibilities	SE1005	-	0	6	14
PT1160	Process Physics	MA1015	-	1	9	21
PT1151	Pipework Systems	SE1005 PT1120	-	1	12	28
Semester 1 Total:				4	345	105
SEMESTER 2 (15 WEEKS)						
GN1003	General English II	General English II level score equivalent on the UDST English Placement Test OR GN1002	-	0	150	0
MA1020	Technician Mathematics II	MA1015	-	0	75	0
PT1155	Valve Systems	SE1005 PT1120	-	1	10	25
PT1131	Process Water Systems	SE1005 PT1120	-	1	12	28
PT1135	Steam Systems	SE1005	PT1131	0	6	14
PT1146	Electricity Supply Systems	SE1005 PT1120	-	0	6	14
PT1171	Heat Exchangers	SE1005 PT1120 PT1151	PT1155	1	9	21
PT1181	Pump Operation	SE1005 PT1120 PT1151	-	1	12	28
PT1185	Prime Movers	SE1005 PT1120	-	1	12	28
Semester 2 Total:				5	292	158

Technician Certificate – Process Operations (T. Cert. Proc.Op)

Year 1

COURSE NUMBER	COURSE TITLE				HOURS/ COURSE	
		Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 3 (7 WEEKS)						
PT1010	Utility Gasses & Compressors	SE1005 PT1120 PT1160 PT1151	-	2	22	53
PT1225	Storage of Liquids and Gases	SE1005 PT1120 PT1160 PT1151	-	1	9	21
PT1125	Process Diagrams	SE1005 PT1120	-	1	9	21
PT1230	Heating Furnaces	SE1005 PT1120 PT1160 PT1151	-	1	12	28
PT1290	Pollution Control	SE1005	-	1	10	25
WORKPLACE FAMILIARIZATION (3 WEEKS)						
ON1000	Workplace Orientation	-	-	0	0	0
Semester 3 Total:				6	62	148
Year 1 Total:				15	699	411

Technician Certificate – Process Operations (T. Cert. Proc.Op)

Year 2

COURSE NUMBER	COURSE TITLE				HOURS/ COURSE	
		Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 4 (15 WEEKS)						
PT1190	Process Instrumentation	SE1005 PT1155 PT1160 PT1151	-	1	15	35
PT1195	Process Control Systems	SE1005 PT1155 PT1160 PT1151	-	1	15	35
PT1235	Reactors	SE1005 PT1155 PT1160 PT1151	PT1190 PT1195	2	18	42
PT1246	Distillation Systems	SE1005 PT1160 PT1151 PT1155 PT1181	PT1190 PT1195	1	15	35
PT1240	Gas Absorption Dehydration	SE1005 PT1155 PT1160 PT1151	PT1190 PT1195	2	18	42
PT1250	Refrigeration & Liquefaction	SE1005 PT1160 PT1151 PT1155 PT1010	PT1190 PT1195	2	18	42
PT1295	Troubleshooting Techniques	SE1005	-	2	18	42

Technician Certificate – Process Operations (T. Cert. Proc.Op)

Year 2

COURSE NUMBER	COURSE TITLE				HOURS/ COURSE	
		Pre-Req	Co-Req	CR	LEC	LAB
ELECTIVE I: SELECT 1 OF 10						
PT1220	Turbo Expanders	PT1151 PT1155	-	1	9	21
PT1260	Condensate & Tail End Gas	SE1005 PT1225 PT1230	PT1190 PT1195 PT1235	1	9	21
PT1265	Hydrogen Production	SE1005 PT1225 PT1230	PT1190 PT1195 PT1235	1	9	21
PT1270	Steam Turbine Units	SE1005 PT1225 PT1230	PT1190 PT1195 PT1235	1	9	21
PT1280	Sulphur Recovery & Tail Gas	SE1005 PT1225 PT1230	PT1190 PT1195 PT1235	1	9	21
PT1300	Gas Turbines	SE1005 PT1160 PT1151 PT1155	PT1190 PT1195	1	9	21
PT1305	LNG Plant Operations	SE1005 PT1160 PT1151 PT1155	PT1190 PT1195	1	9	21
PT1310	Gas to Liquids Operations	SE1005 PT1160 PT1151 PT1155	PT1190 PT1195	1	9	21
PT1315	Oil & Gas Separation	SE1005 PT1160 PT1151 PT1155	PT1190 PT1195	1	9	21
PT1320	Acid Gas Removal	SE1005	PT1190 PT1195 PT1240 PT1246 PT1250	1	9	21

Technician Certificate – Process Operations (T. Cert. Proc.Op)

Year 2

COURSE NUMBER	COURSE TITLE				HOURS/ COURSE	
		Pre-Req	Co-Req	CR	LEC	LAB
ELECTIVE II: SELECT 1 OF 10						
PT1220	Turbo Expanders	PT1151 PT1155	-	1	9	21
PT1260	Condensate & Tail End Gas	SE1005 PT1225 PT1230	PT1190 PT1195 PT1235	1	9	21
PT1265	Hydrogen Production	SE1005 PT1225 PT1230	PT1190 PT1195 PT1235	1	9	21
PT1270	Steam Turbine Units	SE1005 PT1225 PT1230	PT1190 PT1195 PT1235	1	9	21
PT1280	Sulphur Recovery & Tail Gas	SE1005 PT1225 PT1230	PT1190 PT1195 PT1235	1	9	21
PT1300	Gas Turbines	SE1005 PT1160 PT1151 PT1155	PT1190 PT1195	1	9	21
PT1305	LNG Plant Operations	SE1005 PT1160 PT1151 PT1155	PT1190 PT1195	1	9	21
PT1310	Gas to Liquids Operations	SE1005 PT1160 PT1151 PT1155	PT1190 PT1195	1	9	21
PT1315	Oil & Gas Separation	SE1005 PT1160 PT1151 PT1155	PT1190 PT1195	1	9	21
PT1320	Acid Gas Removal	SE1005	PT1190 PT1195 PT1240 PT1246 PT1250	1	9	21
WORK PLACEMENT (24 WEEKS)						
PT1256	Worksite Practicum	-	-	24	0	0
Semester 4 Total:				37	135	315
Year 2 Total:				37	135	315
T. Cert. Proc.Op Total:				52	834	726

Technician Certificate – Process Operations (T. Cert. Proc.Op)

Graduate Future Pathways:

Graduates of the Technician Certificate – Process Operations may choose to continue their studies and receive advanced entry into the Diploma in Chemical and Processing Engineering Technology (Dip. CPET) program.

Graduate Career Opportunities:

The two year Technician Certificate – Process Operations is an applied certificate with learning outcomes closely linked to the labor market. A wide range of career opportunities in the field currently exist and they include, but are not limited to, the following:

- Refinery Process Technician
- Chemical Process Operator
- Junior Oil Refinery Process Operator

Program Webpage:

[Click Here](#)







Technician Certificate (TC) Programs

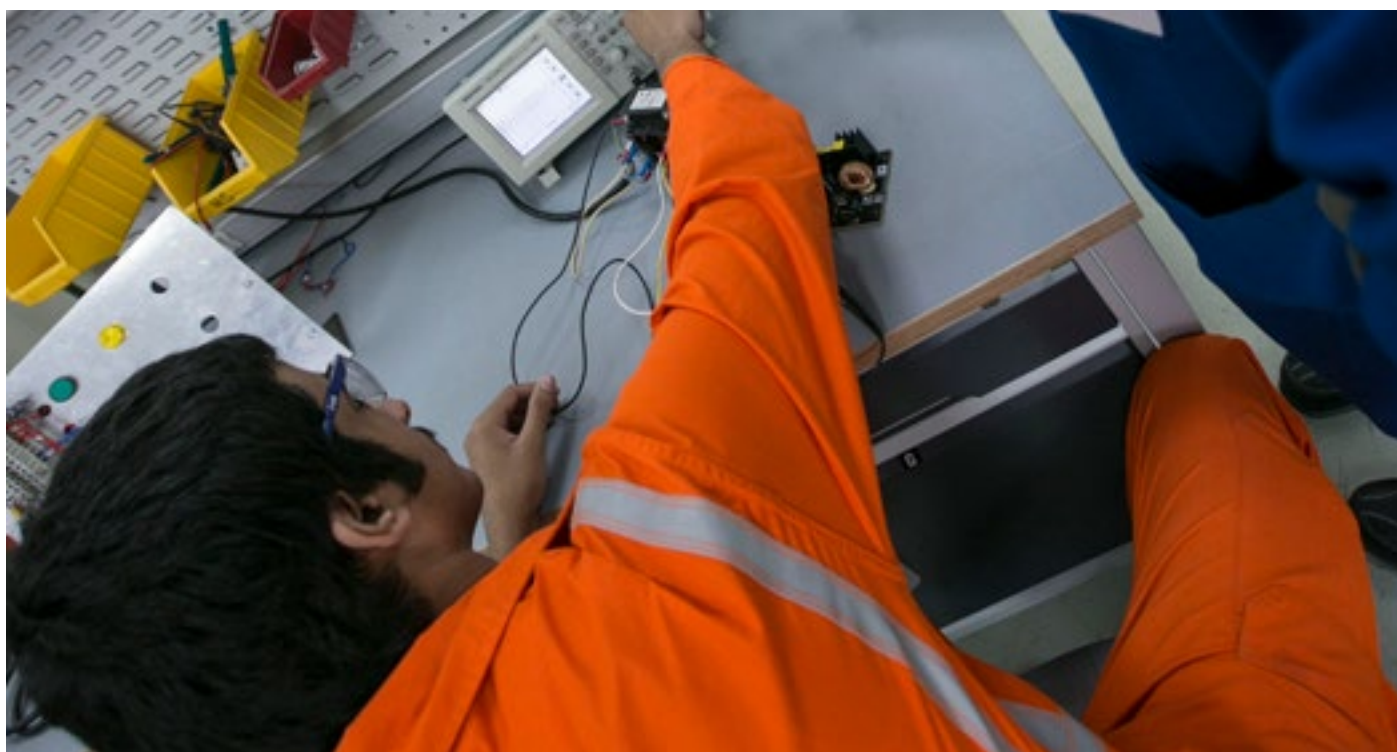


The Technician Certificate (TC) programs offered by the College of Engineering and Technology (CET) are designed to prepare graduates for entry level maintenance and operations personnel within the Original Equipment Manufacturers (OEM) and as Senior Technicians. Graduates will be equipped with the knowledge and skills to prepare them to work responsibly and safely as team members in their chosen field.

There are three (3) different TC specializations: Electronics and Telecommunications Systems, Electro-Mechanic Operation and Maintenance, and Automated Test Equipment Maintenance. The College of Engineering and Technology onsite machine shops and laboratories provide advanced, state-of-the-art education and training. These are equipped with the latest technical equipment, simulation labs and workshop facilities.

Technician Certificate (TC) program students will experience a blended learning environment, which applies advanced technical and computer technologies, practical skills-based training, traditional learning methods, and e-learning. Students who successfully complete the program will receive a Technician Certificate. After acquiring on the job experience, graduates may choose to continue their studies at UDST receiving a specified number of transfer credits toward a diploma in the College of Engineering Technology.

Technician Certificate - Electronics and Telecommunications Systems (T. Cert. Elec.TS)



Program Description:

Technicians in electronics and telecommunications install, operate, test and repair electrical equipment and electronic controls. Working in Qatar's naval forces, electronics and telecommunications systems technicians carry out routine maintenance checks, ensuring that the testing and calibration of equipment is conducted according to standard operating procedures and manufacturers' guidelines. Naval electronics and telecommunications technicians generally work in the electronics and telecommunications departments of ships, and/or naval-related base units.

The applied technical program in Electronics and Telecommunications Systems prepares graduates for entry into a career in electronics and telecommunications systems in the State of Qatar Emiri Naval Forces. The program is competency-based with a mix of theory and practical skills development. Students will train in simulated work environments within College of Engineering and Technology workshops and pilot plants, using current industry standards, and industry-relevant tools and equipment.

Trainees will receive workplace safety training at the beginning of the program. Safety principles are reinforced and embedded throughout every course and technical tasks are completed during the program.

Program Duration:

Two years

Admission Requirements:

- High school graduation, with an overall average of 50% or higher
- Obtain the required score on the UDST English Placement Test*
- Completion of the Math Placement Test (GMP)

*Applicants who do not obtain the required score on the English Placement Test, may be considered on an individual basis and placed on an alternate plan of study that includes an individualized remedial English training plan.

Applicants who provide evidence of English language proficiency strong enough to study in the program will be exempt from having to take English foundation courses.

Applicants who do not meet the entrance requirements, and are 19 years of age or older, may be considered on an individual basis under the Mature Student Clause. See the Academic Calendar (Admissions Section – Mature Student Requirements, page 19).

Notes:

* Applicants should be aware that strenuous physical dexterity is required for this program. * Employers will normally demand that applicants undergo a physical capabilities assessment prior to hiring.

Technician Certificate - Electronics and Telecommunications Systems (T. Cert. Elec.TS)

Program Educational Objectives:

Program educational objectives (PEOs) describe the knowledge, skills, and competencies a graduate can demonstrate within 2-3 years of graduation.

Within a few years of graduation from the Technician Certificate - Electronics and Telecommunications Systems (T. Cert. Elec.TS), graduates will be able to:

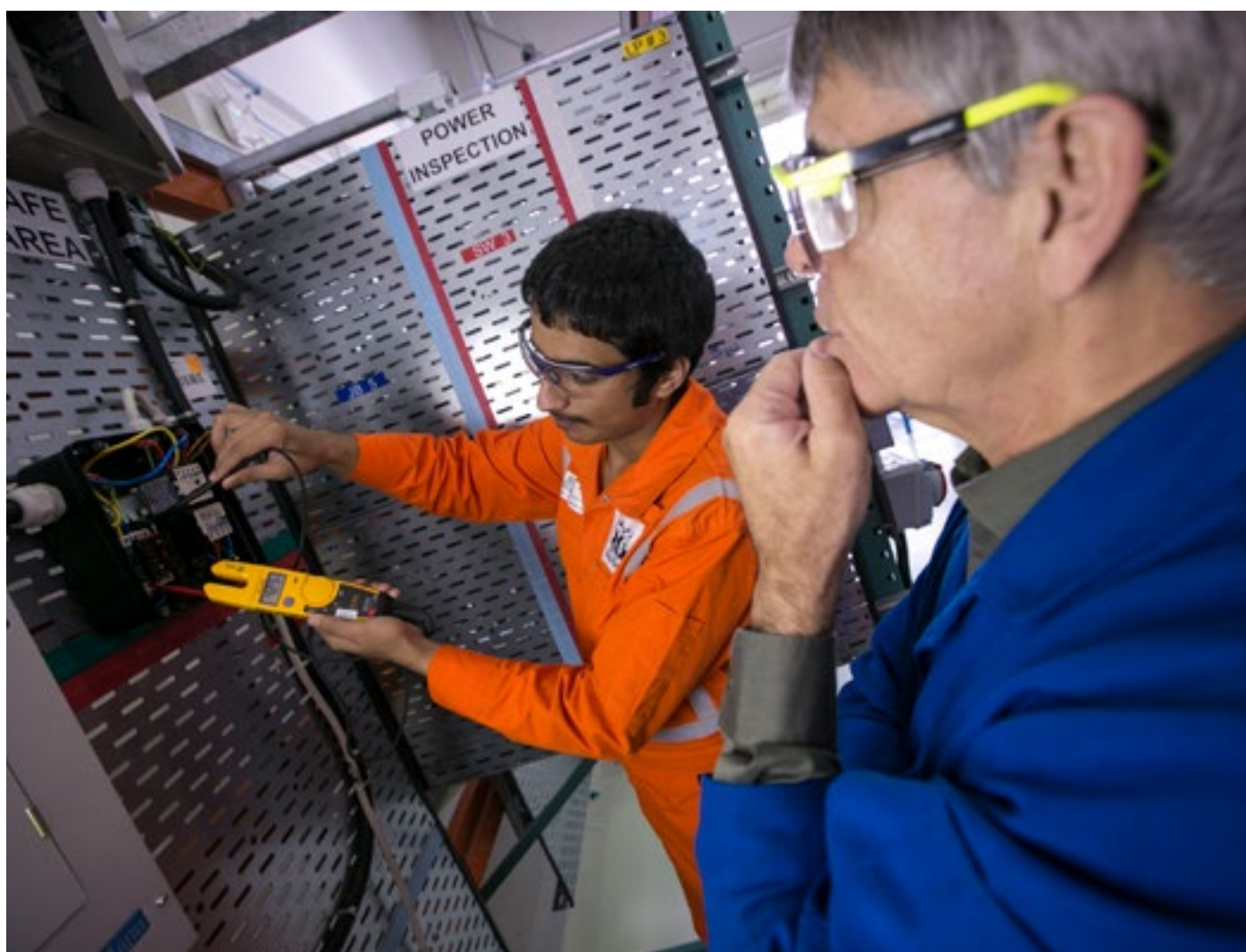
- PEO01a. Contribute to problem-solving within their work area
- PEO02a. Distinguish themselves as effective communicators and team members in their profession
- PEO03a. Model ethical and professional attitudes and behaviour
- PEO04a. Pursue credentialing and professional development opportunities to remain current and adapt to changes in the field

Student Learning Outcomes:

Student Learning Outcomes (SLOs) describe the knowledge, skills, and competencies a graduate can demonstrate immediately upon graduation.

Upon successful completion of the Technician Certificate - Electronics and Telecommunications Systems (T. Cert. Elec.TS), graduates will be able to:

- SLO01. Describe the basic operating principles and applications of electrical and electronic circuits
- SLO02. Use basic drawings to create and trace electric circuits
- SLO03. Install, examine, replace, and repair electrical wiring.
- SLO04. Test electrical and electronic equipment
- SLO05. Connect and operate UPSs and inverters following safe procedures
- SLO06. Conduct preventative maintenance procedures to switchgears, transformers, electric motors, generators, and electrical control systems
- SLO07. Describe the fundamentals of radio frequency, radar, and microwave systems
- SLO08. Explain how antennas and transmitters work in wireless data communication systems.
- SLO09. Work as a team member for a variety of technical projects and tasks
- SLO10. Apply safe work practices and maintain high standards of personal protection



Technician Certificate - Electronics and Telecommunications Systems (T. Cert. Elec.TS)

Study Plan:

Year 1

COURSE NUMBER	COURSE TITLE				HOURS/ COURSE	
		Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 1 (15 WEEKS)						
EN1101	Technical English I	A minimum score of 20 on the UDST Placement Test	-	0	0	225
MA1170	Preparatory Mathematics I	-	-	0	0	75
SE1001	Workplace Safety	-	-	2	15	30
TC1101	Fabrication Hand Tools	-	SE1001	1	0	45
TC1102	Power Tools	-	SE1001 TC1101	1	0	45
Semester 1 Total:				4	15	420
SEMESTER 2 (7 WEEKS)						
EN1201	Technical English II	EN1101	-	0	0	105
MA1202	Preparatory Mathematics II	MA1170	-	0	0	35
ET1203	Basic DC Theory I	SE1001	-	2	20	50
Semester 2 Total:				2	20	190
SEMESTER 3 (7 WEEKS)						
EN1301	Technical English III	EN1201	-	0	0	105
MA1302	Preparatory Mathematics III	MA1202	-	0	0	35
ET1303	Basic DC Theory II	SE1001 ET1203	-	1	10	30
ET1304	Electrical Drawings	ET1203	ET1303	1	10	20
Semester 3 Total:				2	20	190
SEMESTER 4 (15 WEEKS)						
EN1401	Technical English IV	EN1301	-	0	0	225
ET1402	Single-Phase Electricity	ET1203	-	2	20	50
ET1403	Three-Phase Electricity	-	ET1402	2	20	40
ET1404	Conductors & Cables	TC1101 TC1102	ET1402	1	10	30
IN1400	Electrical Circuits	TC1102	-	1	10	30
Semester 4 Total:				6	60	375
Year 1 Total:				14	115	1175

Technician Certificate - Electronics and Telecommunications Systems (T. Cert. Elec.TS)

Year 2

COURSE NUMBER	COURSE TITLE				HOURS/ COURSE	
		Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 5 (15 WEEKS)						
ET1500	Electrical Transformers	ET1304 ET1403	-	2	15	35
ET1501	Three-Phase Induction Motors	TC1101 C1102 ET1304 ET1403	-	1	10	30
ET1502	Single-Phase Induction Motors	-	ET1501	1	10	20
ET1503	Alternating Current Generators	-	-	2	15	35
ET1504	Direct Current Motors	-	ET1502	1	10	40
ET1505	Circuit Breakers & Fuses	SE1001	-	1	10	35
ET1506	Relays and Contactors	ET1304	-	1	10	35
ET1507	UPS & Inverters	-	ET1505 ET1506	2	15	35
TC1500	Hazardous Areas	SE1001 T1203 ET1303 ET1304	-	1	0	30
TC1501	Electro-Technology	-	-	1	20	10
TC1502	Digital Electronics	ET1203 ET1303 ET1402	-	1	15	15
Semester 5 Total:				14	130	320
SEMESTER 6 (7 WEEKS)						
TC1601	Electronic Circuits (Analogue)	IN1400 ET1507	-	1	20	10
TC1602	Radio Frequency Fundamentals	-	-	3	30	30
TC1603	Antennas & Transmitters	SE1001	TC1500	1	20	10
TC1604	Radar Principles	-	-	2	30	15
TC1605	Microwave System Applications	-	TC1602 TC1603	2	30	15
Semester 6 Total:				9	130	80

Technician Certificate - Electronics and Telecommunications Systems (T. Cert. Elec.TS)

Year 2

COURSE NUMBER	COURSE TITLE				HOURS/ COURSE	
		Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 7 (8 WEEKS)						
TC1701	Electronic Signals & Systems	TC1602 TC1603 TC1604 TC1605	-	3	30	30
TC1702	HF, UHF & MW Communications	TC1602 TC1603 TC1605	TC1701	3	30	30
TC1703	Radar & EO Sensor Systems	TC1602 TC1603 TC1604	-	3	30	30
TC1704	Troubleshooting Communications	TC1602 TC1603 TC1605	TC1701 TC1702	3	30	30
Semester 7 Total:				12	120	120
Year 2 Total:				35	380	520
T. Cert. Elec.TS Total:				49	495	1695

Graduate Future Pathways:

Graduates of the Technician Certificate - Electronics and Telecommunications Systems (T. Cert. Elec.TS), may choose to continue their studies and receive advanced entry into the Diploma in Telecommunications and Network Engineering Technology (Dip. TNET) program.

Graduate Career Opportunities:

The two year Technician Certificate - Electronics and Telecommunications Systems (T. Cert. Elec.TS), is an applied certificate with learning outcomes closely linked to the labor market. A wide range of career opportunities in the field currently exist and they include, but are not limited to, the following:

- Junior Telecommunications Technician
- Electronics Technician
- Radar Technician

Program Webpage:

[Click Here](#)

Technician Certificate - Electro-Mechanic Operation and Maintenance (T. Cert. EMOM)



Program Description:

Entry-level electro-mechanic operations and maintenance technicians install, maintain, and repair machinery and mechanical equipment. Working in Qatar's naval forces, electro-mechanic operations and maintenance technicians read and interpret technical drawings, install, align, and dismantle mechanical equipment, and operate various devices and machine tools. They play key roles in pump, internal combustion engine, and compressor maintenance. Electro-mechanic operation and maintenance technicians generally work in various ship's units focusing on preventative maintenance tasks which are required for various test equipment.

The applied, technical certificate program in Electro-Mechanic Operation and Maintenance prepares graduates for careers as entry level electro-mechanic operators and maintainers in the Qatar Emiri Naval Forces. The program is competency-based with a mix of theory and practical skills development. Students will train in simulated work environments within College of Engineering and Technology workshops and pilot plants, using current industry standards, and industry-relevant tools and equipment.

Trainees will receive workplace safety training at the beginning of the program. Safety principles will be reinforced and embedded throughout every course and technical tasks will be completed during the program.

Program Duration:

Two years

Admission Requirements:

- High school graduation, with an overall average of 50% or higher
- Obtain the required score on the UDST English Placement Test*
- Completion of the Math Placement Test (GMP)

*Applicants who do not obtain the required score on the English Placement Test, may be considered on an individual basis and placed on an alternate plan of study that includes an individualized remedial English training plan.

Applicants who provide evidence of English language proficiency strong enough to study in the program will be exempt from having to take English foundation courses.

Applicants who do not meet the entrance requirements, and are 19 years of age or older, may be considered on an individual basis under the Mature Student Clause. See the Academic Calendar (Admissions Section – Mature Student Requirements, page 19).

Notes:

* Applicants should be aware that strenuous physical dexterity is required for this program. * Employers will normally demand that applicants undergo a physical capabilities assessment prior to hiring.

Technician Certificate - Electro-Mechanic Operation and Maintenance (T. Cert. EMOM)

Program Educational Objectives:

Program educational objectives (PEOs) describe the knowledge, skills, and competencies a graduate can demonstrate within 2-3 years of graduation.

Within a few years of graduation from the Technician Certificate - Electro-Mechanic Operation and Maintenance (T. Cert. EMOM), graduates will be able to:

- PEO01a. Contribute to problem-solving within their work area.
- PEO02a. Distinguish themselves as effective communicators and team members in their profession
- PEO03a. Model ethical and professional attitudes and behaviour
- PEO04a. Pursue credentialing and professional development opportunities to remain current and adapt to changes in the field

Student Learning Outcomes:

Student Learning Outcomes (SLOs) describe the knowledge, skills, and competencies a graduate can demonstrate immediately upon graduation.

Upon successful completion of the Technician Certificate - Electro-Mechanic Operation and Maintenance (T. Cert. EMOM), graduates will be able to:

- SLO01. Read and interpret technical drawings
- SLO02. Use hand tools as required. PO03. Use common power tools in industrial operations and maintenance to perform given tasks
- SLO04. Describe principles of electrical circuits
- SLO05. Describe how to use and manipulate formulas to analyze circuits
- SLO06. Describe how to safely perform routine electrical measurements
- SLO07. Operate hoisting and lifting devices
- SLO08. Assemble, replace, repair, and maintain machinery and mechanical equipment using hand and power tools
- SLO09. Follow standard operating procedures in performing plant maintenance
- SLO10. Conduct preventative maintenance procedures on valves, heat exchangers, filters and strainers, couplings, seals, bearings, pumps, compressors and internal combustion engines
- SLO11. Work as a team member for a variety of technical projects and tasks
- SLO12. Apply safe work practices and maintain high standards of personal protection



Technician Certificate - Electro-Mechanic Operation and Maintenance (T. Cert. EMOM)

Study Plan:

Year 1

COURSE NUMBER	COURSE TITLE				HOURS/ COURSE	
		Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 1 (15 WEEKS)						
EN1101	Technical English I	A minimum score of 20 on the UDST Placement Test	-	0	0	225
MA1170	Preparatory Mathematics I	-	-	0	0	75
SE1001	Workplace Safety	-	-	2	15	30
TC1101	Fabrication Hand Tools	-	SE1001	1	0	45
TC1102	Power Tools	-	SE1001 TC1101	1	0	45
Semester 1 Total:				4	15	420
SEMESTER 2 (7 WEEKS)						
EN1201	Technical English II	EN1101	-	0	0	105
MA1202	Preparatory Mathematics II	MA1170	-	0	0	35
ET1203	Basic DC Theory I	SE1001	-	2	20	30
Semester 2 Total:				2	20	170
SEMESTER 3 (7 WEEKS)						
EN1301	Technical English III	EN1201	-	0	0	105
MA1302	Preparatory Mathematics III	MA1202	-	0	0	35
ET1303	Basic DC Theory II	SE1001 ET1203	-	1	10	30
ET1304	Electrical Drawings	ET1203	ET1303	1	10	20
Semester 3 Total:				2	20	190
SEMESTER 4 (15 WEEKS)						
EN1401	Technical English IV	EN1301	-	0	0	225
ET1402	Single-Phase Electricity	ET1203	-	2	20	50
ET1403	Three-Phase Electricity	-	ET1402	2	20	40
ET1404	Conductors & Cables	TC1101 TC1102	ET1402	1	10	30
IN1400	Electrical Circuits	TC1102	-	1	10	30
Semester 4 Total:				6	60	375
Year 1 Total:				14	115	1155

Technician Certificate - Electro-Mechanic Operation and Maintenance (T. Cert. EMOM)

Year 2

COURSE NUMBER	COURSE TITLE				HOURS/ COURSE	
		Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 5 (15 WEEKS)						
ET1508	Power Supplies & Rectifiers	ET1303 ET1304	-	2	15	35
ET1500	Electrical Transformers	ET1304 ET1403	-	2	15	35
ET1501	Three-Phase Induction Motors	TC1101 TC1102 ET1304 ET1403	-	1	10	30
ET1502	Single-Phase Induction Motors	-	ET1501	1	10	20
ET1503	Alternating Current Generators	-	-	2	15	35
ET1504	Direct Current Motors	-	ET1502	1	10	40
ET1505	Circuit Breakers & Fuses	SE1001	-	1	10	35
ET1506	Relays & Contactors	ET1304	-	1	10	35
ET1507	UPS & Inverters	-	ET1505 ET1506	2	15	35
ME1500	Mechanical Hand and Power Tools	-	-	1	0	30
Semester 5 Total:				14	110	330
SEMESTER 6 (7 WEEKS)						
ME1600	Precision Measuring Tools	SE1001 TC1101 ME1500	-	1	5	25
ME1601	Technical Drawings	SE1001 ME1500	-	1	10	30
ME1602	Limits, Fits & Tolerances	-	ME1600 ME1601	1	24	6
ME1603	Bearing Maintenance	ME1500	ME1600 ME1601 ME1602	1	10	40
ME1604	Maintenance Procedures	-	-	1	15	15
ME1605	Coupling Maintenance	ME1500	ME1600 ME1601 ME1604	1	5	25
Semester 6 Total:				6	69	141

Technician Certificate - Electro-Mechanic Operation and Maintenance (T. Cert. EMOM)

Year 2

COURSE NUMBER	COURSE TITLE				HOURS/ COURSE	
		Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 7 (8 WEEKS)						
ME1700	Shaft Alignment	ME1500 ME1600 ME1601 ME1604	-	1	5	25
ME1701	Seal Maintenance	ME1500 ME1600 ME1601 ME1605	-	1	5	25
ME1702	Pump Maintenance	TC1101 ME1601 ME1604 ME1605	ME1701	2	10	50
ME1703	Compressor Maintenance	ME1500 ME1600 ME1601 ME1603 ME1604	ME1701	2	10	50
ME1704	IC Engine Maintenance	ME1500 ME1600 ME1601 ME1604	-	2	10	50
Semester 7 Total:				8	40	200
Year 2 Total:				28	219	671
T. Cert. EMOM Total:				42	334	1826

Graduate Future Pathways:

Graduates of the Technician Certificate - Electro-Mechanic Operation and Maintenance (T. Cert EMOM) may choose to continue their studies and receive advanced entry into the Diploma in Mechanical Technology (Dip. MET) program.

Graduate Career Opportunities:

The two year Technician Certificate - Electro-Mechanic Operation and Maintenance (T. Cert EMOM) is an applied certificate with learning outcomes closely linked to the labor market. A wide range of career opportunities in the field currently exist and they include, but are not limited to, the following:

- Junior Mechanical Maintenance Technician
- Apprentice Maintenance Technician
- Mechanical Inspection Technician

Program Webpage:

[Click Here](#)

Technician Certificate - Automated Test Equipment Maintenance (T. Cert. AutoTEM)



Program Description:

Automated test equipment maintenance technicians inspect and test munition and munition instruments and machinery to ensure optimal operational availability and safe operation. Working in Qatar's navy, automated test equipment maintenance technicians read and interpret mechanical, electrical, and instrumentation drawings; maintain munition and instrument components to control munitions; perform troubleshooting; diagnose munition problems; and test equipment faults. Automated Test Equipment Maintenance technicians carry out maintenance checks compliant with manufacturers' operating procedures and guidelines.

Focused on electronic and radar applications, Automated Test Equipment Maintenance technicians maintain radio frequency equipment and electronic processing systems. Automated Test Equipment Maintenance technicians play key roles in the navy's munition maintenance departments.

This applied, technical program in Automated Test Equipment Maintenance prepares graduates for a career in the State of Qatar's Emiri Naval Forces. The program is competency-based with a mix of theory and practical skills development. Students will train in simulated work environments within the College of Engineering and Technology workshops and pilot plants, using current industry standards, and industry-relevant tools and equipment.

Trainees will receive workplace safety training at the beginning of the program. Safety principles will be reinforced and embedded throughout every course and technical tasks will be completed during the program.

Program Duration:

Two years

Admission Requirements:

- High school graduation, with an overall average of 50% or higher
- Obtain the required score on the UDST English Placement Test*
- Completion of the Math Placement Test (GMP)

*Applicants who do not obtain the required score on the English Placement Test, may be considered on an individual basis and placed on an alternate plan of study that includes an individualized remedial English training plan.

Applicants who provide evidence of English language proficiency strong enough to study in the program will be exempt from having to take English foundation courses.

Applicants who do not meet the entrance requirements, and are 19 years of age or older, may be considered on an individual basis under the Mature Student Clause. See the Academic Calendar (Admissions Section – Mature Student Requirements, page 19).

Notes:

* Applicants should be aware that strenuous physical dexterity is required for this program. * Employers will normally demand that applicants undergo a physical capabilities assessment prior to hiring.

Technician Certificate - Automated Test Equipment Maintenance (T. Cert. AutoTEM)

Program Educational Objectives:

Program educational objectives (PEOs) describe the knowledge, skills, and competencies a graduate can demonstrate within 2-3 years of graduation.

Within a few years of graduation from the Technician Certificate - Automated Test Equipment Maintenance (T. Cert. AutoTEM), graduates will be able to:

- PEO01a. Contribute to problem-solving within their work area
- PEO02a. Distinguish themselves as effective communicators and team members in their profession
- PEO03a. Model ethical and professional attitudes and behaviour
- PEO04a. Pursue credentialing and professional development opportunities to remain current and adapt to changes in the field

Student Learning Outcomes:

Student Learning Outcomes (SLOs) describe the knowledge, skills, and competencies a graduate can demonstrate immediately upon graduation.

Upon successful completion of the Technician Certificate - Automated Test Equipment Maintenance (T. Cert. AutoTEM), graduates will be able to:

- SLO01. Read and interpret electrical, technical and instrumentation drawings
- SLO02. Use hand tools and power tools to perform maintenance tasks
- SLO03. Install, examine, and replace electronic and mechanical equipment using appropriate tools and equipment
- SLO04. Consult manufacturers' manuals to determine testing and maintenance procedures on munition and test equipment
- SLO05. Operate industrial tools according to manufacturers' and safety standards.
- SLO06. Test electrical and electronic equipment
- SLO07. Connect and operate uninterrupted power supplies and automatic test equipment following safe procedures
- SLO08. Use radio frequency principles to perform and determine testing and maintenance procedures
- SLO09. Use pneumatic, electrical, and electronic testing devices to inspect and test plant instruments
- SLO10. Apply safe work practices and maintain high standards of personal protection
- SLO11. Work as a team member for a variety of technical projects and tasks
- SLO12. Apply safe work practices and maintain high standards of personal protection



Technician Certificate - Automated Test Equipment Maintenance (T. Cert. AutoTEM)

Study Plan:

Year 1

COURSE NUMBER	COURSE TITLE				HOURS/ COURSE	
		Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 1 (15 WEEKS)						
EN1101	Technical English I	A minimum score of 20 on the UDST Placement Test	-	0	0	225
MA1170	Preparatory Mathematics I	-	-	0	0	75
SE1001	Workplace Safety	-	-	2	15	30
TC1101	Fabrication Hand Tools	-	SE1001	1	0	45
TC1102	Power Tools	-	SE1001 TC1101	1	0	45
Semester 1 Total:				4	15	420
SEMESTER 2 (7 WEEKS)						
EN1201	Technical English II	EN1101	-	0	0	105
MA1202	Preparatory Mathematics II	MA1170	-	0	0	35
ET1203	Basic DC Theory I	SE1001	-	2	20	50
Semester 2 Total:				2	20	190
SEMESTER 3 (7 WEEKS)						
EN1301	Technical English III	EN1201	-	0	0	105
MA1302	Preparatory Mathematics III	MA1202	-	0	0	35
ET1303	Basic DC Theory II	SE1001 ET1203	-	1	10	30
ET1304	Electrical Drawings	ET1203	ET1303	1	10	20
Semester 3 Total:				2	20	190
SEMESTER 4 (15 WEEKS)						
EN1401	Technical English IV	EN1301	-	0	0	225
ET1402	Single-Phase Electricity	ET1203	-	2	20	50
ET1403	Three-Phase Electricity	-	ET1402	2	20	40
ET1404	Conductors & Cables	TC1101 TC1102	ET1402	1	10	30
IN1400	Electrical Circuits	TC1102		1	10	30
Semester 4 Total:				6	60	375
Year 1 Total:				14	115	1175

Technician Certificate - Automated Test Equipment Maintenance (T. Cert. AutoTEM)

Year 2

COURSE NUMBER	COURSE TITLE				HOURS/ COURSE	
		Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 5 (15 WEEKS)						
ET1500	Electrical Transformers	ET1304 ET1403	-	2	15	35
ET1501	Three-Phase Induction Motors	TC1101 TC1102 ET1304 ET1403	-	1	10	30
ET1502	Single-Phase Induction Motors	-	ET1501	1	10	20
TC1500	Hazardous Areas	SE1001 ET1203 ET1303 ET1304	-	1	0	30
IN1500	Instrumentation Drawings	SE1001	-	1	10	35
ET1505	Circuit Breakers & Fuses	SE1001	-	1	10	35
ET1506	Relays & Contactors	ET1304	-	1	10	35
ET1507	UPS & Inverters	-	ET1505 ET1506	2	15	35
IN1501	Instrument Air Supply	TC1102	-	1	10	20
IN1502	Process Control Fundamentals	SE1001	-	2	0	60
TC1504	Technical Drawings	SE1001 TC1101	-	1	10	20
Semester 5 Total:				14	100	355
SEMESTER 6 (7 WEEKS)						
IN1600	Digital Logic Circuits	ET1205 ET1303	-	1	10	20
IN1601	Microprocessor Controllers	ET1205 ET1303 ET1304	IN1600	4	30	80
IN1602	Pneumatic Components & Valves	IN1500 IN1501 IN1502	-	1	10	20
ME1606	Precision, Limits & Fits	SE1001 TC1101 TC1504	-	2	15	25
Semester 6 Total:				8	65	145

Technician Certificate - Automated Test Equipment Maintenance (T. Cert. AutoTEM)

Year 2

COURSE NUMBER	COURSE TITLE				HOURS/ COURSE	
		Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 7 (8 WEEKS)						
IN1700	Pressure Control Group	IN1601 IN1602	-	2	15	45
TC1705	Pump Operations	TC1101 IN1500 TC1504	-	1	0	30
ME1705	Maintenance & Lubrication	-	-	2	20	20
TC1706	Intro to RF, MW & Radar	-	-	5	80	30
Semester 7 Total:				10	115	125
Year 2 Total:				32	280	625
T. Cert. AutoTEM Total				46	395	1800

Graduate Future Pathways:

Graduates of the Technician Certificate - Automated Test Equipment Maintenance (T. Cert. AutoTEM) may choose to continue their studies and receive advanced entry into the Diploma in Automation and Control Engineering Technology (Dip. ACET) program.

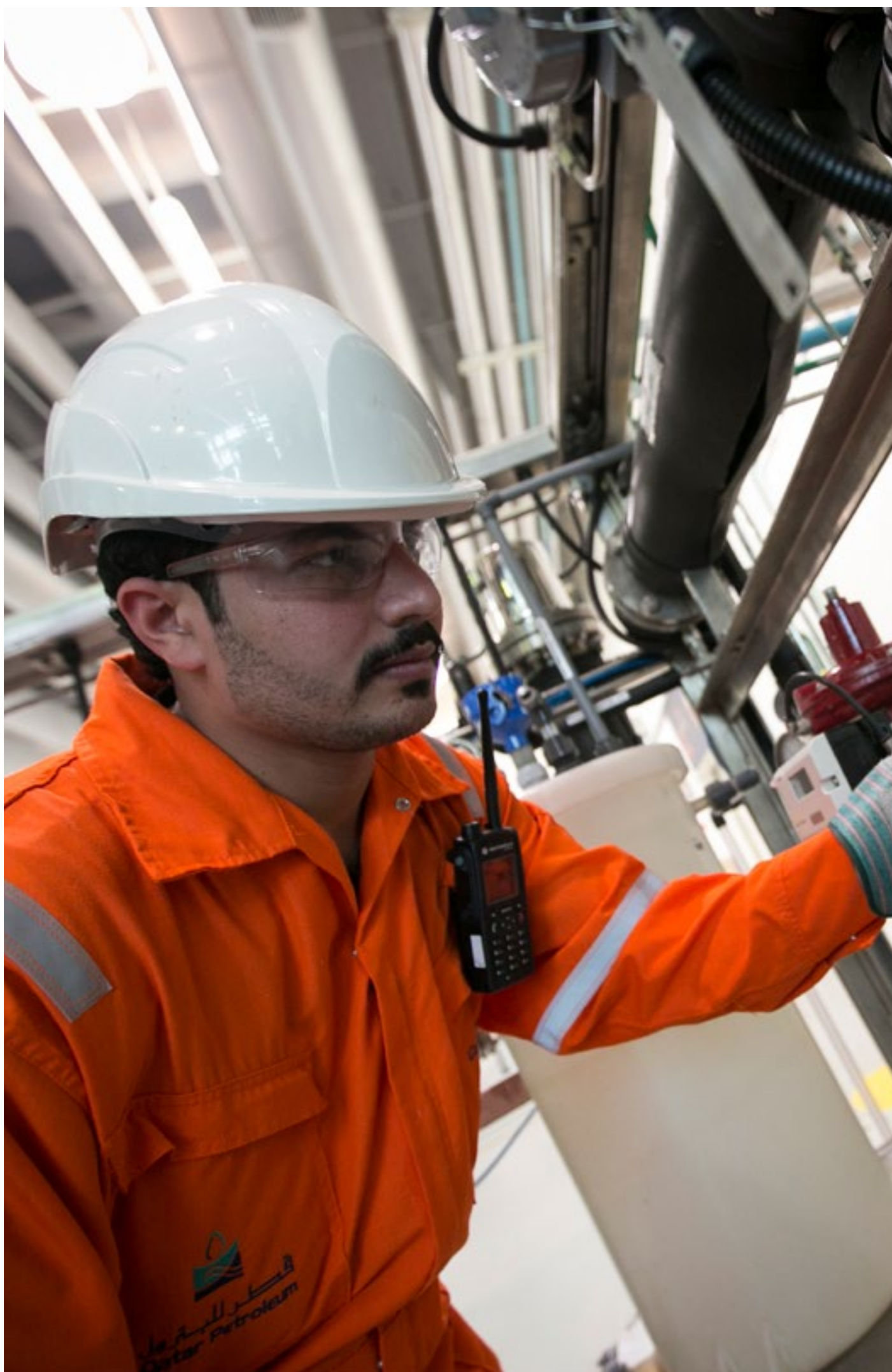
Graduate Career Opportunities:

The two year Technician Certificate - Automated Test Equipment Maintenance (T. Cert. AutoTEM) is an applied certificate with learning outcomes closely linked to the labor market. A wide range of career opportunities in the field currently exist and they include, but are not limited to, the following:

- Automatic Test Equipment Maintenance Technician
- Automated Industrial Technician
- Display Test Technician

Program Webpage:

[Click Here](#)





College of Health Sciences (CHS)



The College of Health Sciences (CHS), University of Doha for Science and Technology (UDST) is recognized as Qatar's premier institution for the development and delivery of world class allied health programs. Guided by Qatar's National Health Strategy 2018-2022 and Qatar's National Vision 2030 to build a strong and thriving healthcare workforce, the College offers a broad scope of internationally aligned diploma, bachelor, and graduate health programs designed to support health professional licensing and credentialing requirements.

CHS Programs are founded on excellence and innovation in education, best-practice, research/scholarship, service, and industry engagement. Theoretically informed curricula are designed to meet evolving educational needs and innovative pedagogies for diverse learners. Our offering of a broad scope of health science programs lends to embedded interprofessional education. Classes and practical experiences are taught by highly skilled faculty and practitioners who bring current academic and clinical expertise from the real world. Close collaborations with our community and national and international industry partners ensure students gain context relevant educational and practical experiences. Our faculty and students engage in research and scholarship to improve healthcare and health system outcomes.

Graduates from the College of Health Sciences are prepared as competent professional practitioners, equipped to practice in diverse local and global health care settings. In addition to gaining discipline specific theoretical and practical competencies, students completing their education at the College of Health Sciences are prepared as global citizens, committed to contribute to the betterment of society. Proficiency gained in information and literacy, ethical behaviors, and scientific inquiry, creates the foundation for critical thinking, evidence-informed decision making, lifelong learning, cultural humility, and respect for Qatari traditions and other cultures.

If you are passionate and committed to advancing the health of individuals, families, and communities, we encourage you to contact us to learn more about our exciting Health Science Programs and becoming a health professional.



كلية العلوم الصحية
College of
Health Sciences

جامعة الدوحة
للعلوم والتكنولوجيا
UNIVERSITY OF DOHA
FOR SCIENCE & TECHNOLOGY





Diploma in Occupational Health, Safety and Environment (Dip. OHSE)

Program Description:

The Diploma in Occupational Health, Safety and Environment (Dip. OHSE) is a two year program that prepares graduates for entry-level employment in roles that create and maintain health work environments. The Dip. OHSE program is founded on current best practices in OHSE and embeds competencies and certifications from the International Network of Safety & Health Professional Organizations (ISHPO), the National Examination Board in Occupational Safety and Health (NEBOSH) and the Institution of Occupational Safety and Health (IOSH). An integration of theory with application in laboratory and diverse work placements prepares graduates to join the workforce as autonomous and competent practitioners who can identify health, safety and environmental hazards in the workplace, assess the risk of those hazards, and oversee the monitoring of control measures in compliance with health, safety and environmental laws, standards, and international best practices to eliminate or minimize those risks. The Dip. OHSE prepares graduates for entry-level positions in construction, manufacturing, health care, education and oil and gas. Graduates are prepared for future education for Bachelor of Science in Occupational Health, Safety and Environment.

Program Duration:

Two years

Admission Requirements:

High School or Academic Requirement:

1. High school graduation certificate or equivalent approved by the Ministry of Education and Higher Education with a minimum average of 60%, and successful completion of final year Chemistry and Biology with a minimum score of 60%; OR
2. High school graduation certificate approved by the Ministry of Education and Higher Education plus the following:
 1. English Language with a minimum grade of 60%
 2. Academic Mathematics with a minimum grade of 60% or Advanced Mathematics with a minimum grade of 50%
3. Two of the following three sciences: Biology, Chemistry or Physics with a minimum grade of 60%

English Language Requirement:

1. The required score on the University English Placement Test or a passing score from another approved internationally recognized English language test, as validated by the Admissions & Registration Department; OR
2. A valid (within two years) IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, and listening) below 5.0

Mathematics Requirement:

1. A minimum of 60% on the University Math Placement Test; OR
2. A valid SAT Report Form with minimum score of 550

Additional Admission Criteria:

1. Admission is competitive. Eligible applicants are ranked based on their overall final year (Grade 12 or equivalent) high school percentage, placement tests rankings, and admission priority category.

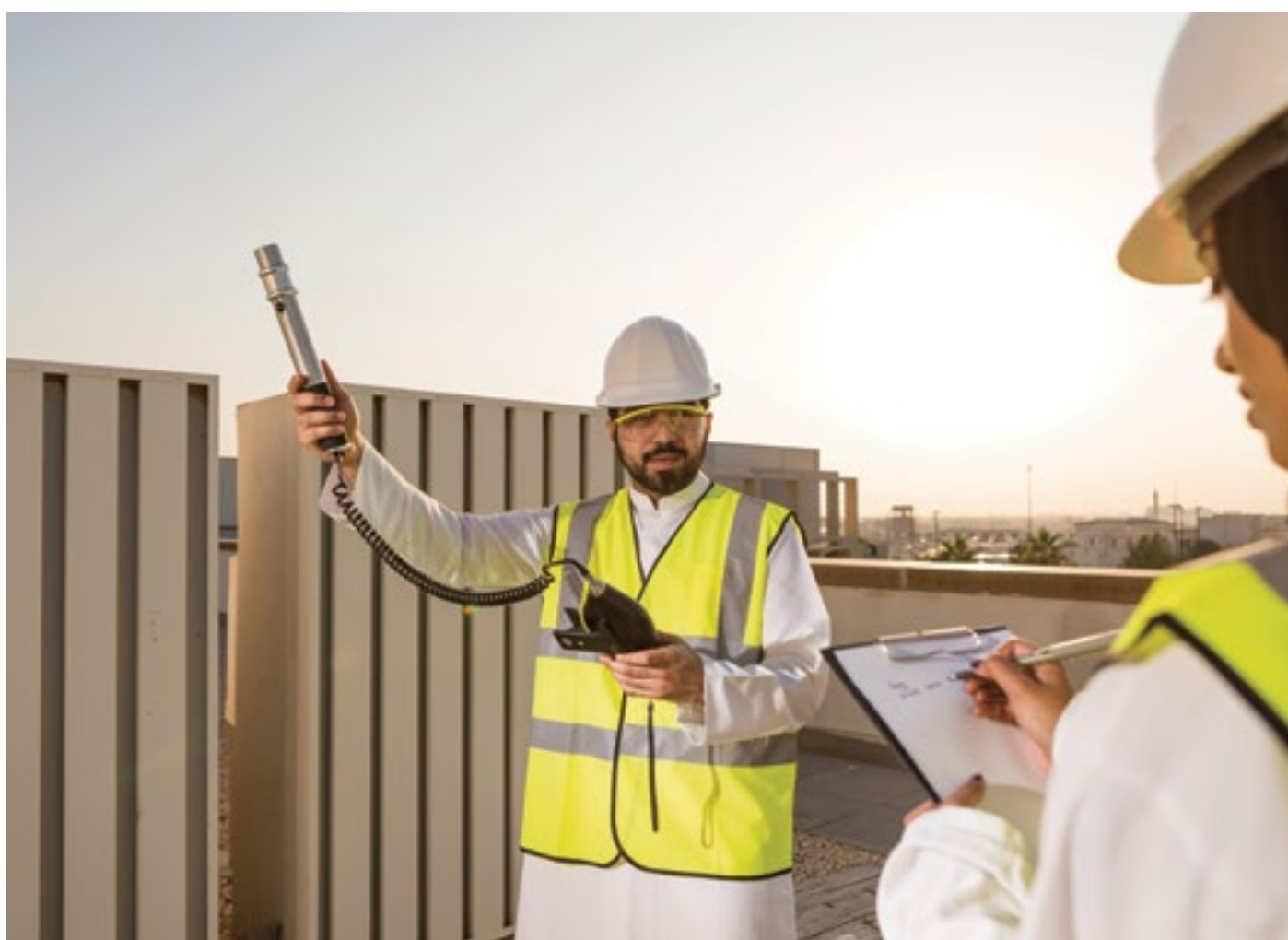
Diploma in Occupational Health, Safety and Environment (Dip. OHSE)

Student Learning Outcomes:

Student Learning Outcomes (SLOs) describe the knowledge, skills, and competencies a graduate can demonstrate immediately upon graduation.

Upon successful completion of the Diploma in Occupational Health, Safety and Environment program, graduates will be prepared to:

- SLO01. Assist with the planning of an organization's health, safety, and environmental compliance and performance strategy
- SLO02. Conduct qualitative and quantitative risk assessments to analyze causes, consequences and controls related to work tasks
- SLO03. Coordinate workplace inspection, investigation, and audit activities to systematically monitor HSE compliance and performance
- SLO04. Produce oral and written reports for management about health, safety, and environmental performance with recommendations for corrective action
- SLO05. Communicate, engage with and influence others to mitigate health, safety, and environmental risks and optimize health, safety, and environmental performance
- SLO06. Make health, safety, and environmental decisions and judgments based on knowledge of national laws, industry standards, guidelines, and codes of practice



Diploma in Occupational Health, Safety and Environment (Dip. OHSE)

Study Plan:

Year 1

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 1	BIOL1110	Anatomy & Physiology I	-	-	4	3	3
	CHEM1030	Health Sciences Chemistry	-	CHEM1031	3	3	0
	CHEM1031	Health Sciences Chemistry (Lab)	-	CHEM1030	1	0	3
	COMM1010	English Communication I	-	-	3	3	0
	HSOH1100	Introduction to Health, Safety, & Environment	-	-	4	4	0
Semester 1 Total:					15	13	6
SEMESTER 2	BIOL1210	Anatomy & Physiology II	BIOL1110	-	4	3	3
	COMM1020	English Communication II	COMM1010	-	3	3	0
	MATH2002	Quantitative Designs & Statistics	-	-	3	3	1
	HSOH1200	Health, Safety, & Environment Management Systems	HSOH1100	-	4	3	3
Semester 2 Total:					14	12	7
SEMESTER 3	HSOH1300	Health, Safety, & Environment Law	HSOH1200	-	3	3	0
	HSOH2040	Professionalism & Ethics	-	-	3	3	0
	HSOH2300	Process Safety Management	HSOH1200	-	3	3	0
Semester 3 Total:					9	9	0
Year 1 Total:					38	34	13

Diploma in Occupational Health, Safety and Environment (Dip. OHSE)

Year 2

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 4	HSOH2110	Occupational Hazards & Controls	HSOH1200	-	4	3	3
	HSOH3110	Fire Safety & Risk Management	HSOH1200	-	4	4	0
	HSOH3140	Environmental Management	HSOH1100	-	4	3	3
	HSOH3150	Occupational Hygiene I	HSOH1100	-	4	3	3
	Semester 4 Total:				16	13	9
SEMESTER 5	BUSG2002	Project Management	-	-	3	3	0
	HSOH2220	Inspections & Investigations	HSOH1200	-	4	3	3
	HSOH3240	Management of Health & Wellness at Work	HSOH1200	-	4	4	0
	SSHA1003	Introduction to Psychology	-	-	3	3	0
	GARC1001	Qatar History & Society	-	-	3	3	0
	Semester 5 Total:				17	16	3
SEMESTER 6	HSOH4300	Occupational Health, Safety, & Environment Diploma Practicum	-	-	6	240 Total HRs	
	Semester 6 Total:				6	0	0
	Year 2 Total:				39	29	12
Dip. OHSE Program Total:					77	63	25

Graduate Future Pathways:

Graduates of the Diploma in Occupational Health, Safety and Environment program may choose to continue their studies and complete the Bachelor of Science in Occupational Health, Safety and Environment program.

- Military HSE Officer
- Educational Setting HSE

Program Webpage:

[Click Here](#)

Graduate Career Opportunities:

A wide range of career opportunities in the field currently exist and they include but are not limited to the following:

- HSE Safety Coordinator
- OHSE Officer
- OHSE Education Officer Worker
- Safety Office (Systems & Audit)
- Private Company HSE Officer
- Government Ministry HSE Officer
- Occupational Health and Hygiene Specialist

Diploma in Pharmacy Technology (Dip. PT)



Program Description:

The Diploma in Pharmacy Technology (Dip. PT) is a two year diploma that prepares graduates for licensing as a Pharmacy Technician in Qatar. The Dip. PT program is founded on the National Association of Pharmacy Regulatory Authorities (NAPRA) Professional Competencies for Canadian Pharmacy Technicians and the Canadian Council for the Accreditation of Pharmacy Programs (CCAP) accreditation standards. An integration of classroom theory, laboratory skills, and field experience prepares graduates to practice under the supervision of the pharmacist, to perform medicine distribution and supply roles including the processing of prescriptions, secure storage, assembly, repackaging and compounding of medicines. The Dip. PT prepares graduates for entry-level positions in hospitals, primary health care facilities, clinics, and community pharmacies. Graduates are prepared for future education in the Bachelor of Science in Pharmacy Technology.

Program Duration:

Two years

Admission Requirements:

High School or Academic Requirement:

1. High school graduation certificate or equivalent approved by the Ministry of Education and Higher Education with a minimum average of 60%, and successful completion of final year Chemistry and Biology with a minimum score of 60%; OR
2. High school graduation certificate approved by the Ministry of Education and Higher Education plus the following:
 1. English Language with a minimum grade of 60%
 2. Academic Mathematics with a minimum grade of 60% or Advanced Mathematics with a minimum grade of 50%
 3. Biology with a minimum grade of 60%
 4. Chemistry with a minimum grade of 60% OR
3. Three-year Respiratory Therapy Diploma from UDST, or equivalent.

English Language Requirement:

1. The required score on the University English Placement Test or a passing score from another approved internationally recognized English language test, as validated by the Admissions & Registration Department; OR
2. A valid (within two years) IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, and listening) below 5.0

Mathematics Requirement:

1. A minimum of 60% on the University Math Placement Test; OR
2. A valid SAT Report Form with minimum score of 550

Additional Admission Criteria:

1. Admission is competitive. Eligible applicants are ranked based on their overall final year (Grade 12 or equivalent) high school percentage, placement tests rankings, and admission priority category.

Diploma in Pharmacy Technology (Dip. PT)

Student Learning Outcomes:

Student Learning Outcomes (SLOs) describe the knowledge, skills, and competencies a graduate can demonstrate immediately upon graduation.

Upon successful completion of the Diploma in Pharmacy Technology program, graduates will be prepared to:

- SLO01. Demonstrate required skills, knowledge and abilities outlined by the Canadian Council for Accreditation of Pharmacy Programs (CCAPP) and aligned to the scope of practice for entry level pharmacy technicians as outlined by the Ministry of Health in Qatar.
- SLO02. Demonstrate safe and aseptic practice within the legal framework of the National Regulations.
- SLO03. Communicate effectively and work collaboratively with other members of the health care team to serve patients and employers with the highest degree of competence.
- SLO04. Describe effective pharmacy management, business principles, and inventory control.
- SLO05. Recognize the importance of continuing education and professional affiliations.
- SLO06. Use problem-solving skills which promote independent decision making in the practice of a pharmacy technician.



Diploma in Pharmacy Technology (Dip. PT)

Study Plan:

Year 1

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 1	AHHG1110	Anatomy & Physiology I	-	-	3	3	2
	CHEM1030	Health Sciences Chemistry	-	CHEM1031	3	3	0
	CHEM1031	Health Sciences Chemistry (Lab)	-	CHEM1030	1	0	2
	COMM1010	English Communication I	-	-	3	3	0
	AHHG2070	Medical Terminology	-	-	3	3	0
	MATH1010	Algebra & Trigonometry	-	-	3	3	1
Semester 1 Total:					16	15	5
SEMESTER 2	AHHG1210	Anatomy & Physiology II	AHHG1110	-	3	3	2
	COMM1020	English Communication II	COMM1010	-	3	3	0
	AHPT2101	Pharmacy Computer Systems	-	-	3	2	3
	AHPT2102	Pharmaceutical Calculations	MATH1010	-	4	4	0
	AHPT2301	Pharmacy Regulations & Professionalism	-	-	3	3	0
Semester 2 Total:					16	15	5
SEMESTER 3	AHHG1310	Introduction to Pathophysiology	AHHG1210	-	3	3	0
	AHPT2302	Pharmacy Management & Inventory Control	-	-	3	3	0
Semester 3 Total:					6	6	0
Year 1 Total:					38	36	10

Diploma in Pharmacy Technology (Dip. PT)

Year 2

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK			
			Pre-Req	Co-Req	CR	LEC	LAB	
SEMESTER 4	AHPT2201	Prescription Processing	AHPT2101	-	3	2	4	
	AHPT2103	Pharmacology I	CHEM1030 CHEM1031 AHHG1210	-	3	3	1	
	AHPT3103	Nonsterile Compounding	AHPT2101 AHPT2102	-	3	3	2	
	AHPT2203	Community Pharmacy Practice	-	-	3	3	2	
	AHHG4110	Health Sciences Research I	-	-	3	2	3	
	Semester 4 Total:					15	13	12
SEMESTER 5	AHPT3101	Hospital Pharmacy Practice	AHPT2101 AHPT2102	-	3	2	3	
	AHPT3102	Aseptic Technique	AHPT2102	-	4	2	6	
	AHPT2202	Pharmacology II	AHPT2103	-	3	3	1	
	AHPT3104	Medication Safety & Drug Reconciliation	-	-	2	2	0	
	AHHG4010	Quality in Health Care	-	-	3	3	1	
	Semester 5 Total:					15	12	11
SEMESTER 6	AHPT3200	Clinical Work Term	Successful completion of All Prior Pharmacy Courses	-	8	315 Total HRs		
	Semester 6 Total:					8	315 hours	
	Year 2 Total:					38	25	23
	Dip. PT Program Total:					76	61	33

Graduate Future Pathways:

Graduates of the Diploma in Pharmacy Technology program may choose to continue their studies and complete the Bachelor in Pharmacy Technology program.

Program Webpage:

[Click Here](#)

Graduate Career Opportunities:

Graduates find employment in both Clinical and Industrial Pharmacy Settings. A wide range of career opportunities in the field currently exist and include, but are not limited to, the following:

- Clinical Pharmacy Technician
- Insurance Company Clerk
- Pharmacist Assistant
- Hospital Pharmacy Technician
- Community Pharmacy Technician
- Retail Pharmacy Clerk
- Home Health Care Assistant
- Pharmaceutical Research Assistant

Diploma in Practical Nursing (Dip. PN)



Program Description:

The Diploma in Practical Nursing (Dip. PN) is a two year health profession program that prepares graduates for licensing as an entry-level associate nurse in Qatar. The Dip. PN program is founded on internationally recognized educational accreditation standards and Canadian entry-level nursing competences. An integration of theory with extensive application in laboratory, simulation, and diverse clinical practice experiences prepare graduates to join the nursing workforce as autonomous, safe and competent entry-level practitioners. The Dip. PN prepares graduates with foundational knowledge, skills, and professional judgement to practice in public and private primary and ambulatory health care centres, community clinics, physician offices, schools, and hospitals. Graduates are prepared for future education for Bachelor of Science in Nursing or Bachelor of Science in Midwifery.

Program Duration:

Two years

Admission Requirements:

High School or Academic Requirement:

1. High school graduation certificate or equivalent approved by the Ministry of Education and Higher Education with a minimum average of 60%, plus three courses, each with a Minimum of 60%: one final year Mathematics (Academic Math Grade 12 or Advanced Math Grade 12), one final year Chemistry, and at least one of Biology or Physics.

English Language Requirement:

1. A valid (within two years) IELTS Academic Test Report Form with an overall band of 5.5 with no individual band score (reading, writing, speaking, and listening) below 5.5; OR
2. The passing score from another approved internationally recognized English language test as validated by the UDST Admissions and Registration Department.

Mathematics Requirement:

1. A minimum of 70% on the University Math Placement Test; OR
2. A valid SAT Report Form with minimum score of 550.

Additional Admission Criteria:

1. Documented proof of completed immunizations and diagnostic tests as identified in the Student Immunization Form.
2. Documented proof of current Basic Life Support (BLS) for Health Care Providers (Level 3) at the time of enrolment or within one month of commencement of the program.
3. Students are responsible to maintain current immunizations and BLS throughout the duration of the program. These requirements may change during the program as determined with the Qatar Minister of Public Health and clinical partners hosting student practicums.

Diploma in Practical Nursing (Dip. PN)

Program Educational Objectives:

Program Educational Objectives describe the knowledge, skills, and competencies a graduate can demonstrate within 2-3 years of graduation.

Within a few years of graduation from the Diploma in Practical Nursing program, graduates will be able to:

- PEO01. Demonstrate professional and competent practice in compliance with the Qatar Nurses Standards of Practice for associate nurse
- PEO02. Advocate for improved patient outcomes through the use of best evidence and analytical thinking
- PEO03. Engage in self-reflection to identify personal levels of competence and areas for growth
- PEO04. Demonstrate commitment for life-long learning by engaging in continuous professional learning
- PEO05. Contribute to advancing practical nurses as integral members of the nursing profession and healthcare team

Student Learning Outcomes:

Student Learning Outcomes (SLOs) describe the knowledge, skills, and competencies a graduate can demonstrate immediately upon graduation.

Upon successful completion of the Diploma in Practical Nursing program, graduates will be prepared to:

- SLO01. Integrate theoretical, conceptual, critical, clinical thinking, and best evidence to make decisions
- SLO02. Practice within a professional, ethical and legal framework and in consideration of diverse cultural contexts
- SLO03. Communicate and collaborate effectively with individuals, families, communities and members of the inter-professional team to provide high quality person- and family-centered care
- SLO04. Practice safely and competently in diverse practice settings, incorporating a range of nursing therapeutics for patients with stable and predictable states of health
- SLO05. Serve as a global citizen and leverage professional role to advance sustainable development goals
- SLO06. Model a spirit of curiosity and inquiry and pursuit of life-long learning



Diploma in Practical Nursing (Dip. PN)

Study Plan:

Year 1

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 1	BIOL1110	Anatomy & Physiology I	-	-	4	3	3
	BIOL1030	Biochemistry & Microbiology	-	BIOL1031	3	3	0
	BIOL1031	Biochemistry & Microbiology (Lab)	-	BIOL1030	1	0	3
	COMM1010	English Communication I	-	-	3	3	0
	NUPN1010	Introduction to Practical Nursing	-	-	3	3	0
	NURS1040	Health & Health Systems	-	-	4	3	39 Total HRs
Semester 1 Total:					18	15	6
SEMESTER 2	BIOL1210	Anatomy & Physiology II	BIOL1110	-	4	3	3
	NURS1010	Introduction to Pathophysiology & Pharmacotherapeutics	BIOL1110 BIOL1030 BIOL1031 NUPN1010	-	4	3	3
	NURS1020	Nursing Therapeutics I	BIOL1110 BIOL1030 BIOL1031 NUPN1010	-	4	3	3
	NURS1030	Introduction to Health Assessment	BIOL1110 BIOL1030 BIOL1031 NUPN1010	-	4	3	3
Semester 2 Total:					16	12	12
SEMESTER 3	NURS1021	Nursing Therapeutics II	NURS1020	-	4	3	3
	NURS1050	Person & Family Centered Practice	Min 34 Credits	-	2	100 Total HRs	1
Semester 3 Total:					6	3	4
Year 1 Total:					40	30	22

Diploma in Practical Nursing (Dip. PN)

Year 2

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 4	NURS2020	Alterations & Therapeutics I	NURS1021 NURS1050	-	4	3	3
	NUPN2020	Theoretical Perspectives of Primary Care for Families	NURS1021 NURS1050	-	3	3	0
	NUPN2030	Theoretical Perspectives of Maternal & Newborn Care	NURS1021 NURS1050	NUPN2050	2	2	0
	NUPN2040	Theoretical Perspectives of Pediatric Health	NURS1021 NURS1050	NUPN2050	2	2	0
	NUPN2050	Practical Nursing Practice for Families	NURS1021 NURS1050	NUPN2030 NUPN2040	3	192 Total HRs	
Semester 4 Total:					14	10	3
SEMESTER 5	NURS2021	Alterations & Therapeutics II	NURS2020	-	4	3	3
	NUPN2010	Trends & Leadership for Practical Nursing	Min 34 Credits	-	2	2	0
	NURS2010	Theoretical Perspectives of Acute Health	NUPN2050	NURS2050	6	6	0
	NURS2050	Practical Nursing Practice Acute Health	NUPN2050	NURS2010	3	192 Total HRs	
Semester 5 Total:					15	11	3
SEMESTER 6	NUPN2060	Practical Nursing Consolidation	NURS2010 NURS2050	-	5	320 Total HRs	
Semester 6 Total:					5	0	0
Year 2 Total:					34	21	6
Dip. PN Program Total:					74	51	28

Graduate Future Pathways:

Graduates of the Diploma in Practical Nursing (Dip. PN) program may choose to continue their studies and complete a Bachelor in Nursing program.

Graduate Career Opportunities:

Practical Nurses provide direct patient care in public and private hospitals, long-term care facilities, community health centers, educational institutions, physician's offices, mental health facilities, occupational health, home settings, and private practice. They practice in government agencies and public policy departments.

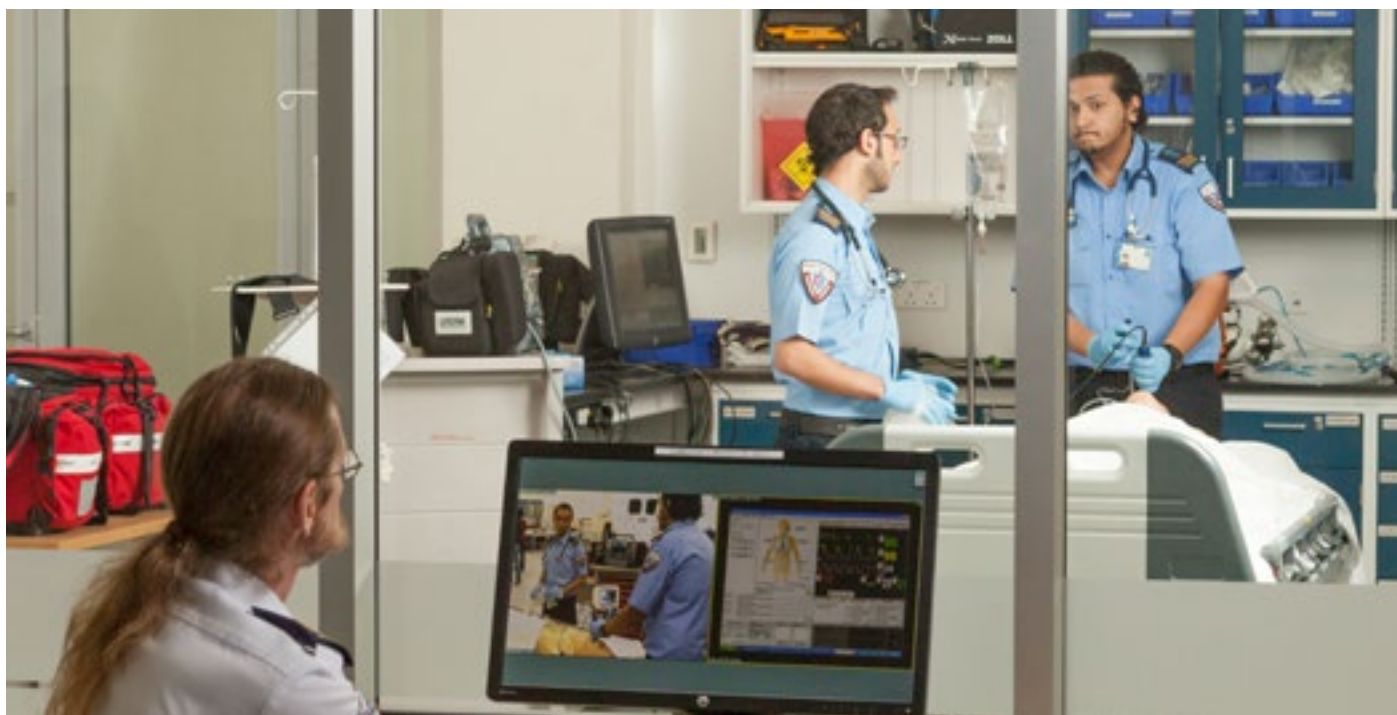
A wide range of career opportunities in the field currently exist and include, but are not limited to, the following:

- Practical Nurse in a Hospital
- Practical Nurse in Dental Clinics
- Practical Nurse in a Primary Health Care Center
- Practical Nurse in Home Care settings
- Practical Nurse in Physician Offices
- Practical Nurse in Government Agencies

Program Webpage:

[Click Here](#)

Diploma in Primary Care Paramedicine (Dip. PCP)



Program Description:

The Diploma in Primary Care Paramedicine (Dip. PCP) is a two year program that prepares graduates for licensing as a Basic Paramedic in Qatar. The Dip. PCP program is founded on the Canadian National Occupational Competency Profile for Paramedics and EQual Accreditation Canada accreditation standards. An integration of classroom theory, laboratory skills, high-fidelity simulation, and extensive clinical and field preceptorships prepares graduates to practice competently within written protocols, guidelines, and physician orders and to apply sound clinical judgement to assess, treat, and transport patients of all age groups, with a large range of chronic or acute medical or traumatic emergencies. The Dip. PCP prepares graduates for entry-level positions in urgent and non-urgent first responder emergency and medical care. Graduates are prepared for future education in the Bachelor of Science in Paramedicine.

Program Duration:

Two years

Admission Requirements:

High School or Academic Requirement:

1. High school graduation certificate or equivalent approved by the Ministry of Education and Higher Education with a minimum average of 60%, and successful completion of final year Chemistry and Biology with a minimum score of 60%; OR
2. High school graduation certificate approved by the Ministry of Education and Higher Education plus the following:
 1. English Language with a minimum grade of 60%
 2. Academic Mathematics with a minimum grade of 60% or Advanced Mathematics with a minimum grade of 50%
 3. Biology with a minimum grade of 60%
 4. Chemistry with a minimum grade of 60%

English Language Requirement:

1. The required score on the University English Placement Test or a passing score from another approved internationally recognized English language test, as validated by the Admissions & Registration Department; OR
2. A valid (within two years) IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, and listening) below 5.0

Mathematics Requirement:

1. A minimum of 60% on the University Math Placement Test; OR
2. A valid SAT Report Form with minimum score of 550

Additional Admission Criteria:

1. Admission is competitive. Eligible applicants are ranked based on their overall final year (Grade 12 or equivalent) high school percentage, placement tests rankings, and admission priority category.
2. A valid Qatar driver's license.

Diploma in Primary Care Paramedicine (Dip. PCP)

Study Plan:

Year 1

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 1	BIOL1110	Anatomy & Physiology I	-	-	4	3	3
	HSPA1000	Fundamentals of Paramedic Practice	-	-	3	2	3
	HSPA2101	Emergency Medical Care I	-	HSPA2111	3	2	3
	HSPA2111	Clinical Practice in Paramedicine I	-	HSPA2101	4	2	4
	COMM1010	English Communication I	-	-	3	3	0
Semester 1 Total:					17	12	13
SEMESTER 2	BIOL1210	Anatomy & Physiology II	BIOL1110	-	4	3	3
	HSHG2090	Principles of Pharmacology	-	-	3	3	0
	HSPA2150	Occupational Fitness	-	-	2	1	3
	HSPA2202	Emergency Medical Care II	HSPA2101	HSPA2212	4	2	4
	HSPA2212	Clinical Practice in Paramedicine II	HSPA2111	HSPA2202	2	96 Total HRs	
Semester 2 Total:					15	9	10
SEMESTER 3	HSHG2080	Ethics in Healthcare	-	-	3	3	0
	HSPA2303	Emergency Medical Care III	HSPA2202	HSPA2313	3	2	3
	HSPA2313	Clinical Practice in Paramedicine III	HSPA2212	HSPA2303	2	1	3
Semester 3 Total:					8	6	6
Year 1 Total:					40	27	29

Diploma in Primary Care Paramedicine (Dip. PCP)

Year 2

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 4	HSHG2070	Medical Terminology	-	-	3	3	0
	HSPA2255	Traumatology	HSPA1000 HSPA2101	-	5	3	5
	HSPA2375	Special Patient Populations	-	-	3	3	0
	HSPA3165	Pediatrics, Obstetrics, & Neonatology	HSPA1000 HSPA2101	-	3	2	3
	HSPA3231	Paramedic Integration I	HSPA2313	-	3	0	9
	Semester 4 Total:				17	11	17
SEMESTER 5	HSPA3341	Ambulance Practicum	HSPA2255 HSPA3165 HSPA3231 within 6 months	-	8	504 Total HRs	
	Semester 5 Total:				8	0	0
SEMESTER 6	HSPA2360	Mental Health for Paramedics	-	-	3	2	3
	HSPA3280	Disaster Management	-	-	3	3	0
	HSPA3370	Paramedicine in Primary Healthcare	-	-	3	3	0
	Semester 6 Total:				9	8	3
	Year 2 Total:				34	19	20
	Dip. PCP Program Total:				74	46	49

Graduate Future Pathways:

Graduates of the Diploma in Primary Care Paramedicine program may choose to continue their studies and complete the Diploma in Primary Care Paramedicine (Dip. PCP).

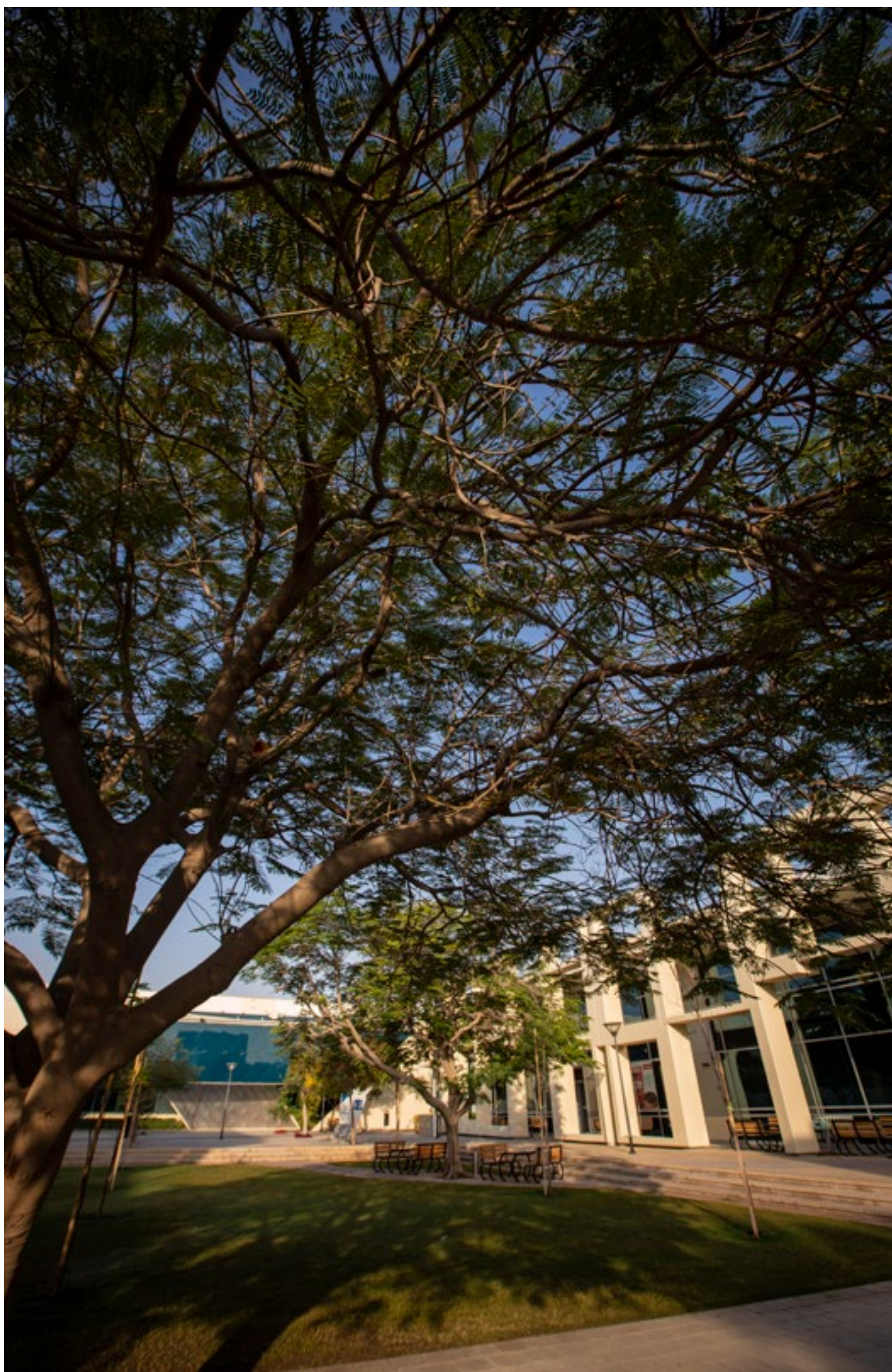
Program Webpage:

[Click Here](#)

Graduate Career Opportunities:

A wide range of career opportunities in field currently exist and they include but are not limited to the following:

- Ambulance Attendant
- Military Paramedic
- Primary Care Paramedic
- Health Information Technician
- Dispatch Officer
- Emergency Room Technician
- Emergency Medical Technician
- Emergency Medical Responder
- Communication Center Operator





Bachelor Programs



Bachelor of Science in Dental Hygiene (B.Sc. DH)

Program Description:

The Bachelor of Science in Dental Hygiene (B.Sc. DH) program is a four year degree that prepares graduates for licensing as a Dental Hygienist in Qatar. The B.Sc. DH program is founded on academic requirements for accreditation by the Commission on Dental Accreditation of Canada (CDAC). An integration of theory with extensive application in laboratory, simulation, and practice experiences, including training in the state-of-the-art on campus College of Health Sciences Dental Clinic, prepares graduates to assess oral health, advise patients on oral hygiene, and perform a range of preventative and restorative oral health interventions. The B.Sc. DH prepares graduates with foundational knowledge and skills to practice in public and private clinics and hospitals.

Program Duration:

Four years

Admission Requirements:

High School or Academic Requirement:

1. High school graduation certificate or equivalent approved by the Ministry of Education and Higher Education with a minimum average of 60%, and successful completion of final year Chemistry and Biology with a minimum score of 60%; OR
2. High school graduation certificate approved by the Ministry of Education and Higher Education plus the following:
 1. English Language with a minimum grade of 60%
 2. Academic Mathematics with a minimum grade of 60% or Advanced Mathematics with a minimum grade of 50%
 3. Biology with a minimum grade of 60%
 4. Chemistry with a minimum grade of 60% OR
3. Three-year Dental Hygiene Diploma from CNA-Q, or equivalent.

English Language Requirement:

1. The required score on the University English Placement Test or a passing score from another approved internationally recognized English language test, as validated by the Admissions & Registration Department; OR
2. A valid (within two years) IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, and listening) below 5.0; OR
3. Successful completion of Foundation Program requirements.

Mathematics Requirement:

1. A minimum of 60% on the University Math Placement Test; OR
2. A valid SAT Report Form with minimum score of 480; OR
3. Successful completion of Foundation Program requirements.

Additional Admission Criteria:

1. Admission is competitive. Eligible applicants are ranked based on their overall final year (Grade 12 or equivalent) high school percentage, placement tests rankings, and admission priority category.

Bachelor of Science in Dental Hygiene (B.Sc. DH)

Program Educational Objectives:

Program Educational Objectives describe the knowledge, skills, and competencies a graduate can demonstrate within 2-3 years of graduation.

Within a few years of graduation from the Bachelor of Science in Dental Hygiene (B.Sc. DH) program, graduates will be able to:

- PEO01. Demonstrate technical skills and competencies to become effective leaders in the field of Dental Hygiene
- PEO02. Pursue lifelong learning and graduate level education
- PEO03. Use scientific inquiry to foster critical thinking, reflective reasoning, ethical behavior, and professionalism
- PEO04. Participate in domestic and global collaborative efforts to promote oral health
- PEO05. Support the needs of the growing diversity of the population
- PEO06. Utilize evidence-based approaches and best practice in oral health

Student Learning Outcomes:

Student Learning Outcomes (SLOs) describe the knowledge, skills, and competencies a graduate can demonstrate immediately upon graduation.

Upon successful completion of the Bachelor of Science in Dental Hygiene (B.Sc. DH) program, graduates will be prepared to:

- SLO01. Demonstrate the theoretical knowledge and clinical skill outlined in the dental hygiene national competency profile
- SLO02. Practice in a clinical environment to provide services that comply with professional standards and ensure high quality outcomes for the people in the State of Qatar
- SLO03. Communicate effectively with patients, dentists and other members of the oral health team within the scope of the Dental Hygiene profession
- SLO04. Assess patients' general and oral health status and coordinate care
- SLO05. Design a patient - centered oral healthcare process of care: assess, diagnose, plan, implement and evaluate dental hygiene services
- SLO06. Use appropriate health education resources and strategies to promote individual and community oral health



Bachelor of Science in Dental Hygiene (B.Sc. DH)

Study Plan:

Year 1

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 1	BIOL1110	Anatomy & Physiology I	-	-	4	3	3
	COMM1010	English Communication I	-	-	3	3	0
	CHEM1040	Applied Science for Allied Health	-	CHEM1041	3	3	0
	CHEM1041	Applied Science for Allied Health (Lab)	-	CHEM1040	1	0	3
	BIOL1030	Biochemistry & Microbiology	-	BIOL1031	3	3	0
	BIOL1031	Biochemistry & Microbiology (Lab)	-	BIOL1030	1	0	3
Semester 1 Total:					15	12	9
SEMESTER 2	BIOL1210	Anatomy & Physiology II	BIOL1110	-	4	3	3
	COMM1020	English Communication II	COMM1010	-	3	3	0
	SSHA1002	Introduction to Sociology	-	-	3	3	0
	HSDH1270	Principles & Issues in Dental Hygiene	BIOL1010 CHEM1040 CHEM1041 BIOL1030 BIOL1031	-	3	3	0
	RSST1001	Qualitative Designs & Analyses	-	-	3	3	0
Semester 2 Total:					16	15	3
SEMESTER 3	BIOL1310	Introduction to Pathophysiology	BIOL1210	-	3	3	0
	SSHA1003	Introduction to Psychology	-	-	3	3	0
Semester 3 Total:					6	6	0
Year 1 Total:					37	33	12

Bachelor of Science in Dental Hygiene (B.Sc. DH)

Year 2

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 4	HSHG2020	Health & Wellness	-	-	3	3	0
	HSDH2140	Oral Histology & Embryology	BIOL1210	-	2	2	0
	HSDH2120	Head & Neck Anatomy	BIOL1210	-	3	3	0
	HSDH2130	Dental Anatomy	BIOL1210	-	3	2	3
	MATH2002	Quantitative Designs & Statistics	-	-	3	3	0
Semester 4 Total:					14	13	3
SEMESTER 5	HSDH2250	Introduction to Dental Hygiene	HSDH2120 HSDH2130 HSDH2140	HSDH2260	4	4	0
	HSDH2260	Dental Hygiene Instrumentation	HSDH2120 HSDH2130 HSDH2140	HSDH2250	3	0	9
	HSDH2240	Periodontology I	HSDH2120 HSDH2130 HSDH2140	-	3	3	0
	HSDH2210	General Dentistry Introduction	HSDH2120 HSDH2130 HSDH2140	-	3	3	0
	HSDH2280	Radiology I	HSDH2120 HSDH2130 HSDH2140	-	2	2	0
Semester 5 Total:					15	12	9
SEMESTER 6	HSDH2350	Fundamentals of Clinical Dental Hygiene	HSDH1270 HSDH2250 HSDH2260	-	4	2	6
	HSDH2390	Community Oral Health I	HSDH2250	-	2	2	0
Semester 6 Total:					6	4	6
Year 2 Total:					35	29	18

Bachelor of Science in Dental Hygiene (B.Sc. DH)

Year 3

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 7	HSDH3150	Dental Hygiene Theory I	HSDH2350	HSDH3160	4	4	4
	HSDH3160	Dental Hygiene Practice I	HSDH2350	HSDH3150	3	144 Total HRs	
	HSDH3181	Radiology II	HSDH2280	-	3	2	0
	HSDH3100	Oral Pathology	HSDH2240 BIOL1310	-	3	2	0
	Semester 7 Total:					13	8
SEMESTER 8	HSDH3250	Dental Hygiene Theory II	HSDH3150 HSDH3160	HSDH3260	4	4	0
	HSDH3260	Dental Hygiene Practice II	HSDH3150 HSDH3160	HSDH3250	3	144 Total HRs	
	HSDH3241	Periodontology II	HSDH2240	-	3	3	0
	HSDH3200	Pharmacology & Pain Management	HSDH3150	-	3	3	0
	Semester 8 Total:					13	10
SEMESTER 9	HSDH3350	Dental Hygiene Theory III	HSDH3200 HSDH3250 HSDH3260	HSDH3360	2	2	0
	HSDH3371	Dental Hygiene Practice Management	HSDH1270	-	3	3	0
	HSDH3360	Dental Hygiene Practice III	HSDH3200 HSDH3250 HSDH3260	HSDH3350	2	84 Total HRs	
	Semester 9 Total:					7	5
	Year 3 Total:				33	23	4

Bachelor of Science in Dental Hygiene (B.Sc. DH)

Year 4

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK			
			Pre-Req	Co-Req	CR	LEC	LAB	
SEMESTER 10	HSDH4150	Dental Hygiene Theory IV	HSDH3350 HSDH3360	HSDH4160	2	2	0	
	HSDH4160	Dental Hygiene Practice IV	HSDH3350 HSDH3360	HSDH4150	3	144 Total HRs		
	HSDH4190	Community Oral Health II	HSDH2390	-	2	2	0	
	MGMT4010	Leadership & Change Management	-	-	3	3	0	
	GARC1001	Qatar History & Society	-	-	3	3	0	
	Semester 10 Total:					13	10	0
SEMESTER 11	HSDH4250	Dental Hygiene Theory V	HSDH4150 HSDH4160	HSDH4260	2	2	0	
	HSDH4260	Dental Hygiene Practice V	HSDH4150 HSDH4160	HSDH4250	2	72 Total HRs		
	HSDH4290	Community Oral Health III	HSDH4190	-	2	2	0	
	HSDH4340	Periodontology III	HSDH3241	-	3	3	0	
	Elective in Consultation with Academic Advisor					3	3	0
	Semester 11 Total:					12	10	0
	Year 4 Total:					25	20	0
	B.Sc. DH Program Total:					130	105	34

Graduate Future Pathways:

Graduates of the Bachelor of Science in Dental Hygiene program are equipped to pursue further specialization in their field or post-graduate research.

Graduate Career Opportunities:

Graduates of the B.Sc. DH degree program will have the essential knowledge and technical competencies required to enter Dental Hygiene practice, and a broader knowledge of the healthcare field and its systems. A wide range of career opportunities in the field currently exist, including but not limited to, the following:

- Clinical Dental Hygienist – Public Healthcare Centre
- Clinical Dental Hygienist – Private Sector
- Supervisor – Clinic or Hospital Setting
- Oral Public Health Worker
- Ministry of Public Health Employee
- Research Opportunities
- Sales Rep, Dental Clinic Equipment
- Marketing Sales, Dental Clinic Equipment
- Teaching Assistant Academic Position

Program Webpage:

[Click Here](#)

Bachelor of Science in Environmental Health (B.Sc. EH)



Program Description:

The Bachelor of Science in Environmental Health (B.Sc. EH) is a four year degree that prepares graduates as environmental health practitioners who assess, manage, and regulate environmental factors to protect human health by minimizing risks and eliminating dangers in the natural and build environments. The B.Sc. EH program is founded on environmental standards and certification requirements from the Chartered Institute of Environmental Health (CIEH), a membership and awarding body for the environmental health sector. An integration of theory, laboratory, site visits, and work term placements prepare graduates with knowledge and skills in a range of environmental disciplines, including environmental protection, food safety and integrity, health and safety, housing and community, and public health. Graduates operate in multidisciplinary teams, prepared for employment in government authorities and departments, retailers and hotel chains, regulators, enforcement agencies, academia, and industry.

Program Duration:

Four years

Admission Requirements:

High School or Academic Requirement:

1. High school graduation certificate or equivalent approved by the Ministry of Education and Higher Education with a minimum average of 60%, and successful completion of final year Chemistry and Biology with a minimum score of 60%; OR
2. High school graduation certificate approved by the Ministry of Education and Higher Education plus the following:
 1. English Language with a minimum grade of 60%
 2. Academic Mathematics with a minimum grade of 60% or Advanced Mathematics with a minimum grade of 50%
 3. Biology with a minimum grade of 60% OR
 4. Chemistry with a minimum grade of 60%
3. Three-year Environmental Health Diploma from CNA-Q, or equivalent.

English Language Requirement:

1. The required score on the University English Placement Test or a passing score from another approved internationally recognized English language test, as validated by the Admissions & Registration Department; OR
2. A valid (within two years) IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, and listening) below 5.0; OR
3. Successful completion of Foundation Program requirements.

Mathematics Requirement:

1. A minimum of 60% on the University Math Placement Test; OR
2. A valid SAT Report Form with minimum score of 480; OR
3. Successful completion of Foundation Program requirements.

Additional Admission Criteria:

1. Admission is competitive. Eligible applicants are ranked based on their overall final year (Grade 12 or equivalent) high school percentage, placement tests rankings, and admission priority category

Bachelor of Science in Environmental Health (B.Sc. EH)

Program Educational Objectives:

Program Educational Objectives describe the knowledge, skills, and competencies a graduate can demonstrate within 2-3 years of graduation.

Within a few years of graduation from the Bachelor of Science in Environmental Health (B.Sc. EH) program, graduates will be able to:

- PEO01. Manage problems in core Environmental Health functional areas – public health, pollution control, health and safety, food safety and integrity, and housing and community
- PEO02. Demonstrate an understanding of wider issues of Environmental Health significance, such as Environmental Health impacts from global climate change
- PEO03. Use an evidence-based approach, applying risk assessment to inform Environmental Health management programs and community planning
- PEO04. Show leadership in developing and promoting Environmental Health in the community
- PEO05. Conduct Environmental Health research to help focus resources where they are most needed
- PEO06. Promote and practice lifelong learning, and pursue professional development and professional certification

Student Learning Outcomes:

Student Learning Outcomes (SLOs) describe the knowledge, skills, and competencies a graduate can demonstrate immediately upon graduation.

Upon successful completion of the Bachelor of Science in Environmental Health (B.Sc. EH) program, graduates will be prepared to:

- SLO01. Apply the knowledge and skills necessary to conduct food, air, water, soil and sanitation inspections and investigations, with the goal of identifying potential health hazards
- SLO02. Apply critical reasoning to assess health, safety, legal, social, environmental and economic consequences relevant to the environmental health field of practice
- SLO03. Implement improvements to environmental health operations and systems, while using ethical and professional standards of conduct
- SPO04. Conduct, analyze, and interpret research on the interaction between the environment and public health and communicate findings
- SLO05. Implement educational and promotional programs to increase awareness of environmental health issues
- SLO06. Function effectively as an individual, as a member of a team or a leader in a culturally diverse, multi-disciplinary environment
- SLO07. Communicate effectively, orally and in writing, to employers, team members, clients, consumers and others, using structured, well developed arguments
- SLO08. Employ lifelong learning strategies, demonstrating a commitment to continuous improvement of one's body of knowledge and awareness of trends and future directions within the field of environmental health



Bachelor of Science in Environmental Health (B.Sc. EH)

Study Plan:

Year 1

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 1	BIOL1110	Anatomy & Physiology I	-	-	4	3	3
	BIOL1030	Biochemistry & Microbiology	-	BIOL1031	3	3	0
	BIOL1031	Biochemistry & Microbiology (Lab)	-	BIOL1030	1	0	3
	COMM1010	English Communication I	-	-	3	3	0
	HSEH1110	Principles of Environmental Health	-	-	4	4	0
	Semester 1 Total:					15	13
SEMESTER 2	BIOL1210	Anatomy & Physiology II	BIOL1110	-	4	3	3
	CHEM1030	Health Sciences Chemistry	-	CHEM1031	3	3	0
	CHEM1031	Health Sciences Chemistry (Lab)	-	CHEM1030	1	0	3
	COMM1020	English Communication II	COMM1010	-	3	3	0
	PHYS1030	Health Science Physics	-	PHYS1031	3	3	0
	PHYS1031	Health Science Physics Lab	-	PHYS1030	1	0	3
Semester 2 Total:					15	12	9
SEMESTER 3	HSEH1310	Environmental Health Law	HSEH1110	-	3	3	0
	Social Sciences, Humanities, and the Arts Elective				3	3	0
	Semester 3 Total:					6	6
	Year 1 Total:				36	31	15

Bachelor of Science in Environmental Health (B.Sc. EH)

Year 2

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 4	HSEH2120	Drinking Water Quality	HSEH1110	-	4	3	3
	HSEH2130	Indoor Air Quality	HSEH1110	-	4	3	3
	HSOH1100	Introduction to Health, Safety, & Environment	-	-	4	4	0
	MATH2002	Quantitative Designs & Statistics	-	-	3	3	1
Semester 4 Total:					15	13	7
SEMESTER 5	HSEH2210	Communicable Diseases	BIOL1030 BIOL1031	-	4	3	3
	HSOH2102	Introduction to Toxicology	CHEM1030 CHEM3031	-	4	3	3
	HSOH1200	Health, Safety, & Environment Management Systems	HSOH1100	-	4	3	3
	RSST1001	Qualitative Designs & Analyses	-	-	3	3	0
Semester 5 Total:					15	12	9
SEMESTER 6	HSOH2050	Epidemiology	MATH2002	-	3	3	0
	HSEH2320	Professionalism & Ethics for Environmental Health	-	-	3	3	0
Semester 6 Total:					6	6	0
Year 2 Total:					36	31	16

Bachelor of Science in Environmental Health (B.Sc. EH)

Year 3

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK			
			Pre-Req	Co-Req	CR	LEC	LAB	
SEMESTER 7	HSEH3240	Recreational Water Quality	HSEH2120	-	4	3	3	
	HSEH3120	Food Safety	HSEH1110	-	4	3	3	
	HSEH3230	Health Promotion & Education	HSOH2050	-	3	3	0	
	HSEH3141	Solid Waste Management	HSEH1110	-	3	3	0	
	Semester 7 Total:					14	12	6
SEMESTER 8	HSEH3210	Ambient Air Quality	HSEH2130	-	4	3	3	
	HSEH3220	Communicable Disease, Investigation, & Control	HSEH2210 HSOH2050	-	4	3	3	
	HSEH3250	Wastewater Management	HSEH3240	-	3	3	0	
	Elective in Consultation with Academic Advisor					3	3	0
	Semester 8 Total:					14	12	6
SEMESTER 9	HSEH3310	Environmental Health Practicum I	HSEH3120 HSEH3210 HSEH3220	-	4	240 Total HRs		
	Semester 9 Total:					4	0	0
	Year 3 Total:					32	24	12

Bachelor of Science in Environmental Health (B.Sc. EH)

Year 4

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 10	HSEH4110	Environmental Health Applications	HSEH3141 HSEH3210	-	4	3	3
	HSEH4120	Housing & Health	HSEH2130 HSEH3250	-	4	3	3
	HSEH4130	Land Use & Community Planning	HSEH3141 HSEH3250	-	4	3	3
	Elective in Consultation with Academic Advisor				3	3	0
	Semester 10 Total:				15	12	9
SEMESTER 11	HSEH4310	Environmental Health Practicum II	HSEH3310 HSEH4110	-	4	240 Total HRs	
	HSEH4210	Emergency Management	HSEH4110 HSEH4120 HSEH4130	-	3	3	0
	HSEH4230	Food Integrity	HSEH3120	-	4	3	3
	Semester 11 Total:				11	6	3
	Year 4 Total:				26	18	12
	B.Sc. EH Program Total:				130	98	54

Graduate Future Pathways:

Graduates of the Bachelor of Science in Environmental Health (B.Sc. EH) program are equipped to pursue further specialization in their field or post-graduate research.

Program Webpage:

[Click Here](#)

Graduate Career Opportunities:

Environmental Health professionals/practitioners are employed in a variety of industries, including government ministries, consulting, health care, education, and oil and gas. A wide range of career opportunities in the field currently exist, including but not limited to, the following:

- Health Inspection Officer
- EH Educator
- Food Safety Officer
- Consulting Firm
- Oil and Gas Industry
- Public Health Officer
- Health Care Sector
- Housing Inspection Officer Institute
- Hospital EH Worker

Bachelor of Science in Medical Radiography (B.Sc. MR)



Program Description:

The Bachelor of Science in Medical Radiography (B.Sc. MR) is a four year degree that prepares graduates for licensing as entry-level Medical Technologist in Qatar. The B.Sc. MR is founded on the Canadian Association of Medical Radiation Technologists (CAMRT) and Equal Accreditation Canada standards. An integration of theory with extensive application in laboratory, simulation, and practice experiences prepares graduates with the knowledge and skill to use of a variety of diagnostic imaging equipment to produce and evaluate clinical images and data. Graduates operate in multidisciplinary teams, prepared for employment in hospitals, community health settings, educational institutions, clinics, home care, and private practice. Graduates who complete the B.Sc. MR are eligible to write the CAMRT Certification Exam.

Program Duration:

Four years

Accreditation:



The Bachelor of Science in Medical Radiography (B.Sc. MR) is accredited by Equal of Accreditation Canada (AC) for more information please visit: www.accreditation.ca

Admission Requirements:

High School or Academic Requirement:

1. High school graduation certificate or equivalent approved by the Ministry of Education and Higher Education with a minimum average of 60%, and successful completion of final year Chemistry and Biology with a minimum score of 60%; OR
2. High school graduation certificate approved by the Ministry of Education and Higher Education plus the following:
 1. English Language with a minimum grade of 60%
 2. Academic Mathematics with a minimum grade of 60% or Advanced Mathematics with a minimum grade of 50%
 3. Biology with a minimum grade of 60%
 4. Chemistry with a minimum grade of 60% OR
3. Three-year Medical Radiography Diploma from CNA-Q, or equivalent.

English Language Requirement:

1. The required score on the University English Placement Test or a passing score from another approved internationally recognized English language test, as validated by the Admissions & Registration Department; OR
2. A valid (within two years) IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, and listening) below 5.0.

Mathematics Requirement:

1. A minimum of 60% on the University Math Placement Test; OR
2. A valid SAT Report Form with minimum score of 550

Additional Admission Criteria:

1. Admission is competitive. Eligible applicants are ranked based on their overall final year (Grade 12 or equivalent) high school percentage, placement tests rankings, and admission priority category

Bachelor of Science in Medical Radiography (B.Sc. MR)

Program Educational Objectives:

Program Educational Objectives describe the knowledge, skills, and competencies a graduate can demonstrate within 2-3 years of graduation.

Within a few years of graduation from the Bachelor of Science in Medical Radiography (B.Sc. MR) program, graduates will be able to:

- PEO01. Function effectively and consistently within the scope of practice of a medical radiographer
- PEO02. Consistently provide safe and effective patient centered care
- PEO03. Engage in interprofessional collaboration and practice professionalism
- PEO04. Employ and provide effective leadership
- PEO05. Conduct, analyze, and apply evidence-based practice
- PEO06. Value and engage in lifelong learning

Student Learning Outcomes:

Student Learning Outcomes (SLOs) describe the knowledge, skills, and competencies a graduate can demonstrate immediately upon graduation.

Upon successful completion of the Bachelor of Science in Medical Radiography (B.Sc. MR) program, graduates will be prepared to:

- SLO01. Demonstrate understanding and depth of knowledge in Medical Radiography and related sciences
- SLO02. Apply critical-thinking processes, research skills, leadership qualities, specialized imaging skills, and a commitment to lifelong learning prepared to pursue further graduate studies
- SLO03. Function successfully across diverse healthcare settings, able to competently deal with varied and complex patient demographics, and healthcare issues
- SLO04. Communicate effectively in both oral and written forms
- SLO05. Utilize self-reflection and assessment skills to ensure an ongoing process of learning and adaptation to the changing healthcare environment
- SLO06. Demonstrate a professional identity and responsibility with patients, colleagues, employers, and the community, while exercising ethical and professional behaviors and attitudes in healthcare practice
- SLO07. Function effectively as an individual, and as a member of a team, in culturally diverse, multi-disciplinary, healthcare environments



Bachelor of Science in Medical Radiography (B.Sc. MR)

Study Plan:

Year 1

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 1	BIOL1110	Anatomy & Physiology I	-	-	4	3	3
	HSBG2080	Ethics in Healthcare	-	-	3	3	0
	HSMR1100	Introduction to Medical Radiography Practice	-	-	4	3	2
	PHYS1130	Medical Imaging Physics	-	-	3	3	0
	COMM1010	English Communication I	-	-	3	3	0
Semester 1 Total:					17	15	5
SEMESTER 2	BIOL1210	Anatomy & Physiology II	BIOL1110	-	4	3	3
	HSMR1201	Apparatus & Accessories	PHYS1130	-	4	3	2
	HSMR1203	Radiation Protection	PHYS1130	-	3	3	0
	COMM1020	English Communication II	COMM1010	-	3	3	0
	RSST1001	Qualitative Designs & Analyses	-	-	3	3	0
Semester 2 Total:					17	15	5
SEMESTER 3	BIOL1310	Introduction to Pathophysiology	BIOL1210	-	3	3	0
	HSMR1303	Digital Imaging	HSMR1201	-	4	3	2
Semester 3 Total:					7	6	2
Year 1 Total:					41	36	12

Bachelor of Science in Medical Radiography (B.Sc. MR)

Year 2

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 4	HSMR2102	Radiographic Technique I	HSMR1303	HSMR2105	6	4	4
	HSMR2104	Image Analysis	-	HSMR2102	3	3	0
	HSMR2105	Radiographic Anatomy I	BIOL1310	HSMR2102	3	3	0
	HSMR2106	Patient Care in Radiography	HSMR1100	-	3	2	3
	HSMR2203	Computed Tomography I	HSMR1303	-	3	2	2
	Semester 4 Total:				18	14	9
SEMESTER 5	HSMR2201	Radiographic Technique II	HSMR2102	HSMR2204	6	4	4
	HSMR2202	Specialized Imaging	HSMR1201 HSMR1303	-	3	3	0
	HSMR2204	Radiographic Anatomy II	HSMR2105	-	3	3	0
	HSMR2304	Pathology for Imaging Professionals	BIOL1310	HSMR2204	3	3	0
	MATH2002	Quantitative Designs & Statistics	-	-	3	3	1
	Semester 5 Total:				18	16	5
SEMESTER 6	HSMR2301	Radiographic Clinical Orientation	HSMR2201 HSMR2202 HSMR2204 HSMR2304 HSMR1203	-	1	36 Total HRs	
	HSMR2302	Imaging Quality Control	HSMR2202	-	4	3	1
	HSMR2305	Computed Tomography II	HSMR2203	-	4	3	2
	Semester 6 Total:				9	6	3
	Year 2 Total:				45	36	17

Bachelor of Science in Medical Radiography (B.Sc. MR)

Year 3

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 7	HSMR3101	Clinical Radiography I	HSMR2301 HSMR2302 HSMR2305	-	8	490 Total HRs	
	Semester 7 Total:				8	0	0
SEMESTER 8	MGMT4010	Leadership & Change Management	-	-	3	3	0
	HSMR3201	Clinical Radiography II	HSMR3101 HSMR2302 HSMR2305	-	7	420 Total HRs	
	Semester 8 Total:				10	3	0
SEMESTER 9	HSMR3300	Emerging Trends in Radiography	HSMR2202	-	3	3	0
	HSMR3306	Clinical Radiography III	HSMR3201	-	3	210 Total HRs	
	Semester 9 Total:				6	3	0
	Year 3 Total:				24	6	0

Year 4

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 10	HSMR4301	Clinical Radiography IV	HSMR3101 HSMR3201 HSMR3306	-	7	420 Total HRs	
	Elective in Consultation with Academic Advisor				3	3	0
	Semester 10 Total:				3	0	420
SEMESTER 11	HSMR4302	Exploratory Specialized Imaging Practicum	HSMR4301	-	6	360 Total HRs	
	Elective in Consultation with Academic Advisor				3	3	0
	Semester 11 Total:				3	0	360
Year 4 Total:					6	0	780
B.Sc. MR Program Total:					116	78	809

Bachelor of Science in Medical Radiography (B.Sc. MR)

Graduate Future Pathways:

Graduates of the Medical Radiography (B.Sc. MR) program are equipped to pursue further specialization in their field or post-graduate research.

Program Webpage:

[Click Here](#)

Graduate Career Opportunities:

Graduates of the B.Sc. MR program are eligible to work in hospitals and clinics. A wide range of career opportunities in the field currently exist and they include but are not limited to the following:

- Radiographer/Radiologic Technologist (General x-ray)
- Radiologic Technologist (Interventional Radiology)
- Diagnostic Medical Sonographer
- Radiologic Technologist (Computed Tomography)
- Magnetic Resonance Imaging Technologist
- Radiology Information System (RIS) Specialist
- Radiologic Technologist (Mammography/BMD)
- Nuclear Medicine Technologist
- Educator



Bachelor of Science in Occupational Health, Safety and Environment (B.Sc. OHSE)

Occupational Health, Safety and Environment (B.Sc. OHSE)

Program Description:

The Bachelor of Science in Occupational Health, Safety and Environment (B.Sc. OHSE) is a four year degree that prepares graduates to anticipate, identify, control, and evaluate workplace hazards and for professional management roles. The program is founded on current best practices in OHSE and embeds competences and certifications from the Chartered Institute of Environmental Health (CIEH), the International Network of Safety & Health Professional Organizations (INSHPO), the National Examination Board in Occupational Safety and Health (NEBOSH), and the Institution of Occupational Safety and Health (IOSH). An integration of theory with application in laboratory and diverse work placements prepares graduates to join the workforce as autonomous and competent practitioners who can promote professional and ethical behaviour, identify health, safety and environmental hazards in the workplace, assess the risk of those hazards, and implement control measures including health, safety and environmental laws, standards, and international best practices to eliminate or minimize those risks. Graduates are employed in a variety of industries, including construction, manufacturing, health care, education, and oil and gas.

Program Duration:

Four years

Admission Requirements:

High School or Academic Requirement:

1. High school graduation certificate or equivalent approved by the Ministry of Education and Higher Education with a minimum average of 60%, and successful completion of final year Chemistry and Biology with a minimum score of 60%; OR
2. High school graduation certificate approved by the Ministry of Education and Higher Education plus the following:
 1. English Language with a minimum grade of 60%
 2. Academic Mathematics with a minimum grade of 60% or Advanced Mathematics with a minimum grade of 50%
 3. Biology with a minimum grade of 60%
 4. Chemistry with a minimum grade of 60% OR
3. Two-year Occupational Health, Safety and Environment Diploma from CNA-Q, or equivalent.

English Language Requirement:

1. The required score on the University English Placement Test or a passing score from another approved internationally recognized English language test, as validated by the Admissions & Registration Department; OR
2. A valid (within two years) IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, and listening) below 5.0; OR
3. Successful completion of Foundation Program requirements.

Mathematics Requirement:

1. A minimum of 60% on the University Math Placement Test; OR
2. A valid SAT Report Form with minimum score of 480; OR
3. Successful completion of Foundation Program requirements.

Additional Admission Criteria:

1. Admission is competitive. Eligible applicants are ranked based on their overall final year (Grade 12 or equivalent) high school percentage, placement tests rankings, and admission priority category.

Bachelor of Science in Occupational Health, Safety and Environment (B.Sc. OHSE)

Program Educational Objectives:

Program Educational Objectives describe the knowledge, skills, and competencies a graduate can demonstrate within 2-3 years of graduation.

Within a few years of graduation from the Bachelor of Science in Occupational Health, Safety and Environment (B.Sc. OHSE) program, graduates will be able to:

- PEO01. Demonstrate technical competency and leadership to become occupational health and safety professionals leading to a successful career
- PEO02. Pursue lifelong learning in generating innovative safety solutions using research and complex problem-solving skills
- PEO03. Have successful careers in industry, government, academia and military as innovative occupational health and safety professionals
- PEO04. Be successful in solving safety problems associated with various industries
- PEO05. Continue to learn and advance their careers through activities such as participation in professional organizations
- PEO06. Attain professional certification and higher education
- PEO07. Be active members ready to serve the society locally and internationally

Student Learning Outcomes:

Student Learning Outcomes (SLOs) describe the knowledge, skills, and competencies a graduate can demonstrate immediately upon graduation.

Upon successful completion of the Bachelor of Science in Occupational Health, Safety and Environment (B.Sc. OHSE) program, graduates will be prepared to:

- SLO01. Assist with the planning of an organization's OHS compliance and performance strategy
- SLO02. Conduct qualitative and quantitative risk assessments to analyze causes, consequences and controls related to work tasks
- SLO03. Coordinate workplace inspection, investigation, and audit activities to systematically monitor OHS compliance and performance
- SLO04. Produce oral and written reports for management about OHS performance with recommendations for corrective action
- SLO05. Communicate, engage with and influence others to mitigate OHS risks and optimize OHS performance
- SLO06. Make OHS decisions and judgments based on knowledge of national laws, industry standards, guidelines, and codes of practice
- SLO07. Plan for and appropriately respond to potential OHS emergencies
- SLO08. Function effectively as an individual, and as a member or leader of a diverse team in multi-disciplinary and multicultural setting



Bachelor of Science in Occupational Health, Safety and Environment (B.Sc. OHSE)

Study Plan:

Year 1

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 1	BIOL1110	Anatomy & Physiology I	-	-	4	3	3
	CHEM1030	Health Sciences Chemistry	-	CHEM1031	3	3	0
	CHEM1031	Health Sciences Chemistry (Lab)	-	CHEM1030	1	0	3
	COMM1010	English Communication I	-	-	3	3	0
	HSOH1100	Introduction to Health, Safety, & Environment	-	-	4	4	0
Semester 1 Total:					15	13	6
SEMESTER 2	BIOL1210	Anatomy & Physiology II	BIOL1110	-	4	3	3
	PHYS1030	Health Sciences Physics	-	PHYS1031	3	3	0
	PHYS1031	Health Sciences Physics (Lab)	-	PHYS1030	1	0	3
	HSOH1200	Health, Safety, & Environment Management Systems	HSOH1100	-	4	3	3
Semester 2 Total:					12	9	9
SEMESTER 3	HSOH1300	Health, Safety, & Environment Law	HSOH1200	-	3	3	0
	HSOH2040	Professionalism & Ethics	-	-	3	3	0
	SSHA1003	Introduction to Psychology	-	-	3	3	0
Semester 3 Total:					9	9	0
Year 1 Total:					36	31	15

Bachelor of Science in Occupational Health, Safety and Environment (B.Sc. OHSE)

Year 2

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 4	AECH1103	Industrial Process Overview	CHEM1020 OR CHEM1030	-	2	2	0
	BIOL2010	Microbiology	-	BIOL2011	3	3	0
	BIOL2011	Microbiology (Lab)	-	BIOL2010	1	0	3
	HSOH2110	Occupational Hazards & Controls	HSOH1200	-	4	3	3
	COMM1020	English Communication II	COMM1010	-	3	3	0
Semester 4 Total:					13	11	6
SEMESTER 5	BUSG2002	Project Management	-	-	3	3	0
	HSOH2102	Introduction to Toxicology	CHEM1030 CHEM1031	-	4	3	3
	HSOH2220	Inspections & Investigations	HSOH1200	-	4	3	3
	MATH2002	Quantitative Designs & Statistics	-	-	3	3	1
Semester 5 Total:					14	12	7
SEMESTER 6	HSOH2050	Epidemiology	MATH2002	-	3	3	0
	HSOH2300	Process Safety Management	HSOH1200	-	3	3	0
	RSST1001	Qualitative Designs & Analyses	-	-	3	3	0
Semester 6 Total:					9	9	0
Year 2 Total:					36	32	13

Bachelor of Science in Occupational Health, Safety and Environment (B.Sc. OHSE)

Year 3

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 7	HSOH3110	Fire Safety & Risk Management	HSOH1200	-	4	4	0
	HSOH3220	Environmental Management	HSOH1200	-	4	3	3
	HSOH3150	Occupational Hygiene I	HSOH1100	-	4	3	3
	GARC1001	Qatar History & Society	-	-	3	3	0
	Semester 7 Total:				15	13	6
SEMESTER 8	HSOH3210	Ergonomics	HSOH2110	-	4	3	3
	HSOH3120	Management of Health & Wellness at Work	HSOH2110	-	4	4	0
	HSOH3251	Occupational Hygiene II	HSOH2110	-	4	3	3
	Elective in Consultation with Academic Advisor				3	3	0
	Semester 8 Total:				13	6	6
SEMESTER 9	HSOH3300	Health & Safety Auditing	HSOH1200	-	3	3	1
	MGMT2010	Organizational Behavior	Min 30 Credits	-	3	2	3
	Semester 9 Total:				6	5	4
	Year 3 Total:				34	24	10

Bachelor of Science in Occupational Health, Safety and Environment (B.Sc. OHSE)

Year 4

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 10	HSOH4100	International Oil & Gas Certificate	HSOH1200 HSOH2300	-	4	3	3
	HSOH4130	Occupational Health & Safety in the Construction Industry	HSOH2110	-	6	6	0
	Elective II in Consultation with Academic Advisor				3	3	0
	Semester 10 Total:				12	3	3
SEMESTER 11	HSOH4200	Occupational Health, Safety, & Environment Degree Practicum	-	-	8	480 Total HRs	
	Semester 11 Total:				8	0	0
	Year 4 Total:				20	3	0
	B.Sc. OHSE Program Total:				126	90	38

Graduate Future Pathways:

Graduates of the Occupational Health, Safety and Environment Program (B.Sc. OHSE) are equipped to pursue further specialization in their field or post-graduate research.

Program Webpage:

[Click Here](#)

Graduate Career Opportunities:

The four year B.Sc. OHSE degree prepares graduates for an exciting and rewarding career in the field of Occupational Health, Safety and Environment in any industry. A wide range of career opportunities in the field currently exist, including but not limited to, the following:

- HSE Safety Coordinator
- OHSE Officer
- Military HSE Officer
- Safety Coordinator Officer (Systems & Audit)
- HSE Officer/ Inspector
- OHSE Educator
- Occupational Health and Hygiene Specialist
- Safety Officer (Systems & Audit)
- HSE Officer (Education Sector)

Bachelor of Science in Paramedicine (B.Sc. P)



Program Description:

The Bachelor of Science in Paramedicine (B.Sc. P) is a four year degree that prepares graduates for licensing as a Paramedic in Qatar. The B.Sc. P program is founded on the Canadian National Occupational Competency Profile for Advance Care Paramedicine and EQual Accreditation Canada accreditation standards. An integration of theory, laboratory skills, high-fidelity simulation, and extensive clinical and field preceptorships prepares graduates with the knowledge, skills, and professionalism necessary to function as entry-level Advanced Care Paramedics (ACPs). The B.Sc. P prepares graduates to safely assess and treat traumatic and medical conditions, perform life or limb saving interventions, and safely transport patients. Graduates are employed in a variety of settings, including hospitals and health clinical, roadside, commercial and domestic properties, industrial clinics and sites, mass gatherings, and major incident and disaster management. Students are prepared for future education in the Master of Critical Care Paramedicine.

Program Duration:

Four years

Accreditation:



The Bachelor of Science in Paramedicine (B.Sc. P) is accredited by EQual of Accreditation Canada (AC) for more information please visit: www.accreditation.ca

Admission Requirements:

High School or Academic Requirement:

1. High school graduation certificate or equivalent approved by the Ministry of Education and Higher Education with a minimum average of 60%, and successful completion of final year Chemistry and Biology with a minimum score of 60%; OR
2. High school graduation certificate approved by the Ministry of Education and Higher Education plus the following:
 1. English Language with a minimum grade of 60%
 2. Academic Mathematics with a minimum grade of 60% or Advanced Mathematics with a minimum grade of 50%
 3. Biology with a minimum grade of 60%
 4. Chemistry with a minimum grade of 60% OR
3. Three-year Advanced Care Paramedicine Diploma from CNA-Q, or equivalent.

English Language Requirement:

1. The required score on the University English Placement Test or a passing score from another approved internationally recognized English language test, as validated by the Admissions & Registration Department; OR
2. A valid (within two years) IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, and listening) below 5.0; OR
3. Successful completion of Foundation Program requirements.

Mathematics Requirement:

1. A minimum of 60% on the University Math Placement Test; OR
2. A valid SAT Report Form with minimum score of 480; OR
3. Successful completion of Foundation Program requirements.

Additional Admission Criteria:

1. Admission is competitive. Eligible applicants are ranked based on their overall final year (Grade 12 or equivalent) high school percentage, placement tests rankings, and admission priority category.
2. A valid Qatar driver's license.

Bachelor of Science in Paramedicine (B.Sc. P)

Program Educational Objectives:

Program Educational Objectives describe the knowledge, skills, and competencies a graduate can demonstrate within 2-3 years of graduation.

Within a few years of graduation from the Bachelor of Science in Paramedicine (B.Sc. P) program, graduates will be able to:

- PEO01. Model professionalism in all aspects of their practice, by demonstrating respect, empathy, cultural sensitivity, and patient advocacy; by maintaining appropriate interactions with patients, coworkers, employers, allied agencies, and the public; by integrating ethical behavior and compliance with all legal requirements; by displaying appropriate deportment and personal hygiene; and by participating in continuing education and professional development
- PEO02. Contribute to a safe work environment by maintaining and promoting good physical and mental health; by valuing safety in the performance of their duties; and by recognizing and mitigating the hazards inherent in the practice of paramedicine
- PEO03. Apply the knowledge, skills, and abilities gained in the program, combined with sound clinical judgement, to help patients and the community as a whole achieve and maintain optimal health
- PEO04. Value evidence-based practice and participate in research activities to support and improve clinical practice, for the betterment of public health and of the profession
- PEO05. Actively promote the practice of paramedicine in particular, and health maintenance and injury prevention in general, within the community

Student Learning Outcomes:

Student Learning Outcomes (SLOs) describe the knowledge, skills, and competencies a graduate can demonstrate immediately upon graduation.

Upon successful completion of the Bachelor of Science in Paramedicine (B.Sc. P) program, graduates will be prepared to:

- SLO01. Demonstrate all required skills, knowledge, and abilities, as prescribed by the Canadian National Occupational Competency Profile for Paramedics, for practice at the Advanced Care Paramedic level, and meet local entry-to-practice competencies of a Critical Care Paramedic as defined by the State of Qatar's Ministry of Public Health scope of practice for CCPs
- SLO02. Integrate assessment, diagnostic, and treatment procedures into the holistic management of patients in the out-of-hospital setting
- SLO03. Use critical thinking and problem-solving skills that promote logical and independent decision making in the provision of evidence-based paramedic care
- SLO04. Maintain a level of physical and mental health necessary to perform the bona fide occupational requirements
- SLO05. Communicate effectively and work collaboratively with other members of the health care team to serve patients and employers with the highest degree of competence
- SLO06. Model professionalism through personal deportment and public interactions, and through consistent demonstration of ethical behavior, empathy, and respect for individuals
- SLO07. Competently perform advanced skills in respiratory and cardiac care, trauma and medical emergencies, obstetrics, pediatrics, and pharmacotherapy



Bachelor of Science in Paramedicine (B.Sc. P)

Study Plan:

Year 1

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 1	BIOL1110	Anatomy & Physiology I	-	-	4	3	3
	BIOL1030	Biochemistry & Microbiology	-	BIOL1031	3	3	0
	BIOL1031	Biochemistry & Microbiology (Lab)	-	BIOL1030	1	0	3
	CHEM1040	Applied Science for Allied Health	-	CHEM1041	3	3	0
	CHEM1041	Applied Science for Allied Health (Lab)	-	CHEM1040	1	0	3
	COMM1010	English Communication I	-	-	3	3	0
Semester 1 Total:					15	12	9
SEMESTER 2	BIOL1210	Anatomy & Physiology II	BIOL1110	-	4	3	3
	HSBG2080	Ethics in Healthcare	-	-	3	3	0
	HSBG2210	Communications in Healthcare	COMM1010	-	3	3	0
	COMM1020	English Communication II	COMM1010	-	3	3	0
	RSST1001	Qualitative Designs & Analyses	-	-	3	3	0
Semester 2 Total:					16	15	3
SEMESTER 3	BIOL1310	Introduction to Pathophysiology	BIOL1210	-	3	3	0
	HSPA1000	Fundamentals of Paramedic Practice	-	-	3	2	3
Semester 3 Total:					6	5	3
Year 1 Total:					37	32	15

Bachelor of Science in Paramedicine (B.Sc. P)

Year 2

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 4	HSHG2090	Principles of Pharmacology	-	-	3	3	0
	HSPA2101	Emergency Medical Care I	-	HSPA2111	3	2	3
	HSPA2111	Clinical Practice in Paramedicine I	-	HSPA2101	4	2	4
	HSPA2150	Occupational Fitness	-	-	2	1	3
	HSPA2360	Mental Health for Paramedics	-	-	3	2	3
Semester 4 Total:					15	10	13
SEMESTER 5	HSPA2202	Emergency Medical Care II	HSPA2101	HSPA2212	4	2	4
	HSPA2212	Clinical Practice in Paramedicine II	HSPA2111	HSPA2202	2	96 Total HRs	
	HSPA2255	Traumatology	HSPA1000 HSPA2101	-	5	3	5
	MATH2002	Quantitative Designs & Statistics	-	-	3	3	1
Semester 5 Total:					14	8	10
SEMESTER 6	HSPA2303	Emergency Medical Care III	HSPA2202	HSPA2313	3	2	3
	HSPA2313	Clinical Practice in Paramedicine III	HSPA2212	HSPA2303	2	1	3
	HSPA2375	Special Patient Populations	-	-	3	3	0
Semester 6 Total:					8	6	6
Year 2 Total:					37	24	29

Bachelor of Science in Paramedicine (B.Sc. P)

Year 3

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK			
			Pre-Req	Co-Req	CR	LEC	LAB	
SEMESTER 7	HSPA3165	Pediatrics, Obstetrics, & Neonatology	HSPA1000 HSPA2101	-	3	2	3	
	HSPA3221	Paramedic Patient Management I	HSPA2303	HSPA3231	3	2	3	
	HSPA3231	Paramedic Integration I	HSPA2313	-	3	0	9	
	HSPA3280	Disaster Management	-	-	3	3	0	
	Semester 7 Total:					12	7	15
SEMESTER 8	HSPA3341	Ambulance Practicum	HSPA2255 HSPA3165 HSPA3231 within 6 months	-	8	504 Total HRs		
	Semester 8 Total:					8	0	0
SEMESTER 9	HSPA3370	Paramedicine in Primary Healthcare	-	-	3	3	0	
	HSPA4122	Paramedic Patient Management II	HSPA3341	HSPA4132	3	2	2	
	HSPA4132	Paramedic Integration II	HSPA3341	HSPA4122	2	56 Total HRs	2	
	Semester 9 Total:					8	5	4
	Year 3 Total:					28	12	19

Bachelor of Science in Paramedicine (B.Sc. P)

Year 4

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 10	HSPA4223	Paramedic Patient Management III	HSPA4122	HSPA4233	5	4	2
	HSPA4233	Paramedic Integration III	HSPA4132	HSPA4223	4	96 Total HRs	4
	HSPA4285	Management Practice in EMS	-	-	3	3	0
	GARC1001	Qatar History & Society	-	-	3	3	0
	Semester 10 Total:				15	10	6
SEMESTER 11	HSPA4342	Critical Care Practicum	HSPA4223 HSPA4233	-	8	504 Total HRs	
	Semester 11 Total:				8	0	0
	Year 4 Total:				23	10	6
B.Sc. P Program Total:					125	78	69

Graduate Future Pathways:

Graduates from the B.Sc. P program will be eligible to apply for the Masters of Science in Critical Care Paramedicine (M.Sc. CCP). Completing the M.Sc. CCP will allow graduates to qualify for Critical Care Paramedic positions at Hamad Medical Corporation Ambulance Service (HMCAS) and pursue management positions within the Ministry of Public Health (MOPH). Graduates can also explore career opportunities with the oil and gas industry and military. Graduates may also be eligible for employment in Canada, as they will be completing a Canadian accredited program. They will be seen as equivalent as students graduating from Canadian institutions.

Program Webpage:

[Click Here](#)

Graduate Career Opportunities:

A wide range of career opportunities in the field currently exist, including but not limited to, the following:

- Ambulance Paramedic
- Advanced Care Paramedic
- Emergency Care Educator
- EMT Paramedic
- Sport Team Paramedic
- Hospital On-site Paramedic
- Industrial Emergency Response Paramedic
- Oil and Gas Industry On-site Paramedic
- Military Paramedic

Bachelor of Science in Pharmacy Technology (B.Sc. PT)



Program Description:

The Bachelor of Science in Pharmacy Technology (B.Sc. PT) is a four year degree that prepares graduates to license as a Pharmacy Technician. The B.Sc. PT program is founded on the National Association of Pharmacy Regulatory Authorities (NAPRA) Professional Competencies for Canadian Pharmacy Technicians and the World Health Organization Global Standards for Pharmaceuticals Guidelines. An integration of classroom theory, laboratory skills, and practice experiences prepare graduates to dispense medications, prepare sterile and non-sterile compounds, bill third party insurers, and maintain inventories of medications under the supervision of a licensed pharmacist. Graduates have additional skill in drug reconciliation and medication safety, quality assurance, health informatics, automation and robotics that prepare them for entry-level positions in hospitals, primary health care facilities, clinics, community pharmacies, and industry.

Program Duration:

Four years

Admission Requirements:

High School or Academic Requirement:

1. High school graduation certificate or equivalent approved by the Ministry of Education and Higher Education with a minimum average of 60%, and successful completion of final year Chemistry and Biology with a minimum score of 60%; OR
2. High school graduation certificate approved by the Ministry of Education and Higher Education plus the following:
 1. English Language with a minimum grade of 60%
 2. Academic Mathematics with a minimum grade of 60% or Advanced Mathematics with a minimum grade of 50%
 3. Biology with a minimum grade of 60%
 4. Chemistry with a minimum grade of 60% OR
3. Two-year Pharmacy Technician Diploma from CNA-Q, or equivalent.

English Language Requirement:

1. The required score on the University English Placement Test or a passing score from another approved internationally recognized English language test, as validated by the Admissions & Registration Department; OR
2. A valid (within two years) IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, and listening) below 5.0; OR
3. Successful completion of Foundation Program requirements.

Mathematics Requirement:

1. A minimum of 60% on the University Math Placement Test; OR
2. A valid SAT Report Form with minimum score of 480; OR
3. Successful completion of Foundation Program requirements.

Additional Admission Criteria:

1. Admission is competitive. Eligible applicants are ranked based on their overall final year (Grade 12 or equivalent) high school percentage, placement tests rankings, and admission priority category.

Bachelor of Science in Pharmacy Technology (B.Sc. PT)

Program Educational Objectives:

Program Educational Objectives describe the knowledge, skills, and competencies a graduate can demonstrate within 2-3 years of graduation.

Within a few years of graduation from the Bachelor of Pharmacy Technology (B.Sc. PT) program, graduates will be able to:

- PEO01. Promote pharmaceutical guidance in patient centered care
- PEO02. Optimize methods and techniques to enhance product preparation, drug dispensing and distribution
- PEO03. Extend operational skills related to drug design, discovery and development by delivering synthetic analysis and formulation
- PEO04. Perform responsibility in accordance with the industrial guidelines; demonstrate ethical practice and professionalism
- PEO05. Function effectively as a team leader, mentoring and coaching junior associates, and assisting employees with their career development and implanting the full life cycle of performance management
- PEO06. Take part in professional development to advance knowledge and competence within the pharmacy technology profession to enhance personal career progression

Student Learning Outcomes:

Student Learning Outcomes (SLOs) describe the knowledge, skills, and competencies a graduate can demonstrate immediately upon graduation.

Upon successful completion of the Bachelor of Pharmacy Technology (B.Sc. PT) program, graduates will be prepared to:

- SLO01. Utilize problem solving and decision-making skills to understand and meet stakeholders need
- SLO02. Process prescriptions and prepare pharmaceutical products in compliance with current legislation and established standards
- SLO03. Demonstrate appropriate written, verbal and non-verbal communication in interacting with patient, health care professionals and coworkers either in a clinical or industrial setup
- SLO04. Utilize drug distribution system including preparation of emergency drug box, cardiac tray, anesthetic tray, crash cart, night cupboard and operating room drugs
- SLO05. Apply pharmaceutical fundamental knowledge in scientific disciplines related to drug manufacturing, formulation, discovery and development
- SLO06. Act in a manner that promotes professionalism, ethical behavior, accountability, global awareness, and social responsibility



Bachelor of Science in Pharmacy Technology (B.Sc. PT)

Study Plan:

Year 1

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 1	AHHG1110	Anatomy & Physiology I	-	-	3	3	2
	CHEM1030	Health Sciences Chemistry	-	CHEM1031	3	3	0
	CHEM1031	Health Sciences Chemistry (Lab)	-	CHEM1030	1	0	2
	COMM1010	English Communication I	-	-	3	3	0
	EFFL1002	Applied & Experiential Learning	-	-	3	3	0
	MATH1010	Algebra & Trigonometry	-	-	3	3	1
Semester 1 Total:					16	15	5
SEMESTER 2	AHHG1210	Anatomy & Physiology II	AHHG1110	-	3	3	2
	COMM1020	English Communication II	COMM1010	-	3	3	0
	PHYS1030	Health Sciences Physics	-	PHYS1031	3	3	0
	PHYS1031	Health Sciences Physics (Lab)	-	PHYS1030	1	0	2
	SSHA1002	Introduction to Sociology	-	-	3	3	0
	SCIE1002	Science & the Environment	-	-	3	3	0
Semester 2 Total:					16	15	4
SEMESTER 3	AHHG1000	Health Care Professions	-	-	1	1	0
	AHHG1310	Introduction to Pathophysiology	AHHG1210	-	3	3	0
	SSHA1003	Introductory Psychology	-	-	3	3	0
	GARC1001	Qatar History & Society	-	-	3	3	0
Semester 3 Total:					10	10	0
Year 1 Total:					42	40	9

Bachelor of Science in Pharmacy Technology (B.Sc. PT)

Year 2

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 4	AHPT2101	Pharmacy Computer Systems	-	-	3	2	3
	AHPT2102	Pharmaceutical Calculations	MATH1010	-	4	4	0
	AHPT2103	Pharmacology I	CHEM1030 CHEM1031 AHHG1210	-	3	3	1
	AHHG2100	Organic Chemistry for Health Care	CHEM1030 CHEM1031	-	3	3	2
	AHHG2010	Microbiology	-	-	4	3	3
	Semester 4 Total:					17	15
SEMESTER 5	AHPT2201	Prescription Processing	AHPT2101	-	3	2	4
	AHPT2202	Pharmacology II	AHPT2103	-	3	3	1
	AHPT2203	Community Pharmacy Practice	-	-	3	3	2
	AHHG2070	Medical Terminology	-	-	3	3	0
	AHHG2060	Biochemistry for Health Care	AHHG2100	-	3	3	0
	Semester 5 Total:					15	14
SEMESTER 6	AHPT2301	Pharmacy Regulations & Professionalism	-	-	3	3	0
	AHPT2302	Pharmacy Management & Inventory Control	-	-	3	3	0
	AHHG2080	Ethics in Health Care	-	-	3	3	0
	Semester 6 Total:					9	9
Year 2 Total:					41	38	16

Bachelor of Science in Pharmacy Technology (B.Sc. PT)

Year 3

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 7	AHPT3101	Hospital Pharmacy Practice	AHPT2101 AHPT2102	-	3	2	3
	AHPT3102	Aseptic Technique	AHPT2102	-	4	2	6
	AHPT3103	Nonsterile Compounding	AHPT2101 AHPT2102	-	3	3	2
	AHPT3104	Medication Safety & Drug Reconciliation	-	-	2	2	0
	RSST3001	Research & Statistics	-	-	3	3	0
	Semester 7 Total:					15	12
SEMESTER 8	AHPT3200	Clinical Work Term	Successful completion of All Prior Pharmacy Courses	-	9	420 Total HRs	
	Semester 8 Total:					9	0
SEMESTER 9	AHPT4102	Pharmaceutical Analysis	-	-	4	3	3
	AHPT3302	Regulatory Affairs & Pharmaceutical Jurisprudence	-	-	3	3	0
	Semester 9 Total:					7	6
Year 3 Total:					31	18	14

Bachelor of Science in Pharmacy Technology (B.Sc. PT)

Year 4

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 10	AHPT4101	Pharmaceutical Process Design	-	-	3	3	0
	AHPT4201	Biopharmaceutics & Pharmacokinetics	-	-	3	3	0
	AHPT4103	Pharmacognosy	-	-	3	3	0
	AHHG4110	Health Sciences Research I	-	-	3	2	3
	Semester 10 Total:				12	11	3
SEMESTER 11	AHPT3301	Drug Discovery and Development	-	-	3	3	0
	AHPT4202	Vaccine Development	-	-	3	3	0
	AHPT3303	Good Manufacturing Practice	-	-	3	3	0
	AHHG4210	Health Sciences Research II	AHHG4110	-	3	2	3
	Semester 11 Total:				12	11	3
SEMESTER 12	AHHG4020	Leadership in Health Care	-	-	2	2	2
	AHHG4310	Health Sciences Research III	AHHG4110	-	1	1	0
	AHHG4010	Quality in Health Care	-	-	3	3	1
	Semester 12 Total:				6	6	3
	Year 4 Total:				30	28	9
B.Sc. PT Program Total:					144	124	48

Graduate Future Pathways:

Graduates of the Pharmacy Technology (B.Sc. PT) program are equipped to pursue further specialization in their field or graduate-level research.

Program Webpage:

[Click Here](#)

Graduate Career Opportunities:

Pharmacy Technologists play an important role in supporting the provision of safe and effective medication therapy. The Bachelor of Science in Pharmacy Technology program will provide graduates with a wide range of career opportunities in clinical and industrial pharmacy settings.

- Hospital Pharmacy Technologist
- Pharmaceutical Technologist
- Insurance Company Pharmacy Technologist
- Private Clinical Pharmaceutical Technologist
- Industrial Pharmacy Technologist
- Community Education – Pharmacy Technologist Educator
- Community Pharmacy Technologist
- Pharmaceutical Researcher
- Clinical Pharmacy Technologist

Bachelor of Science in Respiratory Therapy (B.Sc. RT)



Program Description:

The Bachelor of Science in Respiratory Therapy (B.Sc. RT) is a four year degree that prepares graduates for licensing as a Respiratory Therapist in Qatar. The B.Sc. RT program is founded on Canadian Society of Respiratory Therapists (CSRT) and Equal Accreditation Canada accreditation standards. An integration of theory, laboratory skills, high-fidelity simulation, and extensive clinical experiences prepares graduates to assess, educate, treat, and offer preventive and health care promotion to patients with cardiopulmonary deficiencies across the care continuum. The B.Sc. RT prepares graduates with foundational knowledge and skills to practice in hospitals, community health settings, educational institutions, long term care facilities, clinics, home care, and private practice.

Program Duration:

Four years

Accreditation:



The Bachelor of Science in Respiratory Therapy (B.Sc. RT) is accredited by Equal of Accreditation Canada (AC) for more information please visit: www.accreditation.ca

Admission Requirements:

High School or Academic Requirement:

1. High school graduation certificate or equivalent approved by the Ministry of Education and Higher Education with a minimum average of 60%, and successful completion of final year Chemistry and Biology with a minimum score of 60%; OR
2. High school graduation certificate approved by the Ministry of Education and Higher Education plus the following:
 1. English Language with a minimum grade of 60%
 2. Academic Mathematics with a minimum grade of 60% or Advanced Mathematics with a minimum grade of 50%
 3. Biology with a minimum grade of 60%
 4. Chemistry with a minimum grade of 60% OR
3. Three-year Respiratory Therapy Diploma from CNA-Q, or equivalent.

English Language Requirement:

1. The required score on the University English Placement Test or a passing score from another approved internationally recognized English language test, as validated by the Admissions & Registration Department; OR
2. A valid (within two years) IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, and listening) below 5.0; OR
3. Successful completion of Foundation Program requirements.

Mathematics Requirement:

1. A minimum of 60% on the University Math Placement Test; OR
2. A valid SAT Report Form with minimum score of 480; OR
3. Successful completion of Foundation Program requirements.

Additional Admission Criteria:

1. Admission is competitive. Eligible applicants are ranked based on their overall final year (Grade 12 or equivalent) high school percentage, placement tests rankings, and admission priority category.

Additional Admission Criteria:

1. Documented proof of completed immunizations and diagnostic tests as identified in the Student Immunization Form.
2. Documented proof of current Basic Life Support (BLS) for Health Care Providers (Level 3) at the time of enrolment or within one month of commencement of the program.
3. Students are responsible to maintain current immunizations and BLS throughout the duration of the program. These requirements may change during the program as determined with the Qatar Minister of Public Health and clinical partners hosting student practicums.

Bachelor of Science in Respiratory Therapy (B.Sc. RT)

Program Educational Objectives:

Program Educational Objectives describe the knowledge, skills, and competencies a graduate can demonstrate within 2-3 years of graduation.

Within a few years of graduation from the Bachelor of Science in Respiratory Therapy (B.Sc. RT) program, graduates will be able to:

- PEO01. Demonstrate didactic and clinical competency to become Registered Respiratory Therapists
- PEO02. Demonstrate commitment towards the health and wellbeing of the citizens and residents of the State of Qatar
- PEO03. Pursue continued education in keeping with current best practices in their respective field of specialty
- PEO04. Be successful healthcare practitioners specializing in respiratory care
- PEO05. Advocate for respiratory care and actively contribute and serve society, locally and internationally

Student Learning Outcomes:

Student Learning Outcomes (SLOs) describe the knowledge, skills, and competencies a graduate can demonstrate immediately upon graduation.

Upon successful completion of the Bachelor of Science in Respiratory Therapy (B.Sc. RT) program, graduates will be prepared to:

- SLO01. Integrate assessment, diagnostic and treatment procedures into holistic management of respiratory care
- SLO02. Use critical thinking and problem-solving skills that promote logical and independent decision making in the provision of evidence-based practices for respiratory care
- SLO03. Communicate effectively and work collaboratively with the multidisciplinary health care team in order to serve patients and employers with the highest degree of professionalism
- SLO04. Demonstrate ethical behavior, empathy and respects for all individuals
- SLO05. Perform advanced skills in critical, emergencies and routine settings
- SLO06. Meet entry to practice competencies of a Respiratory Therapist as defined by the State of Qatar's Ministry of Public Health scope of practice for Respiratory Therapist
- SLO07. Practice and promote the principles of quality management and the efficient utilization of resources
- SLO08. Demonstrate a high level of professional conduct at all times in the performance of duty
- SLO09. Demonstrate an in depth understanding of the Registered Respiratory Therapist role and function with responsibility and empathy as members of the healthcare team



Bachelor of Science in Respiratory Therapy (B.Sc. RT)

Study Plan:

Year 1

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 1	BIOL1110	Anatomy & Physiology I	-	-	4	3	3
	BIOL1030	Biochemistry & Microbiology	-	BIOL1031	3	3	0
	BIOL1031	Biochemistry & Microbiology (Lab)	-	BIOL1030	1	0	3
	COMM1010	English Communication I	-	-	3	3	0
	CHEM1040	Applied Science for Allied Health	-	CHEM1041	3	3	0
	CHEM1041	Applied Science for Allied Health (Lab)	-	CHEM1040	1	0	3
Semester 1 Total:					15	12	9
SEMESTER 2	BIOL1210	Anatomy & Physiology II	BIOL1110	-	4	3	3
	COMM1020	English Communication II	COMM1010	-	3	3	0
	HSHG2080	Ethics in Healthcare	-	-	3	3	0
	HSRT1000	Professional Practice in Respiratory Therapy	-	-	3	3	0
	RSST1001	Qualitative Designs & Analyses	-	-	3	3	0
Semester 2 Total:					16	15	3
SEMESTER 3	HSRT1100	Medical Gas Therapy	BIOL1210 CHEM1040	-	4	3	3
	BIOL1310	Introduction to Pathophysiology	BIOL1210	-	3	3	0
Semester 3 Total:					7	6	3
Year 1 Total:					38	33	15

Bachelor of Science in Respiratory Therapy (B.Sc. RT)

Year 2

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 4	HSHG2210	Communications in Healthcare	COMM1010	-	3	3	0
	HSRT2200	Cardiopulmonary Pathophysiology I	HSRT1100 BIOL1310	-	4	4	0
	HSRT2210	Pharmacology for Respiratory Therapy	HSRT1100 BIOL1310	-	3	3	0
	HSRT2120	Cardiopulmonary Physiology	HSRT1100 BIOL1310	-	4	4	0
	HSRT2220	Respiratory Techniques	HSRT1100 BIOL1310	-	4	3	3
Semester 4 Total:					18	17	3
SEMESTER 5	HSRT2300	Airway Management	HSRT2200 HSRT2210 HSRT2220 HSRT2120	-	4	3	3
	HSRT2310	Respiratory Therapy Clinical Application I	HSRT2200 HSRT2210 HSRT2220 HSRT2120	-	1	36 Total HRs	
	HSRT2320	Cardiopulmonary Pathophysiology II	HSRT2200 HSRT2210 HSRT2220 HSRT2120	-	3	3	0
	MATH2002	Quantitative Designs & Statistics	-	-	3	3	1
	GARC1001	Qatar History & Society	-	-	3	3	0
Semester 5 Total:					14	12	4
SEMESTER 6	HSRT2330	Mechanical Ventilation I	HSRT2300 HSRT2310 HSRT2320	-	4	3	3
	HSRT2340	Respiratory Therapy Clinical Application II	HSRT2300 HSRT2310 HSRT2320	-	1	36 Total HRs	
Semester 6 Total:					5	3	3
Year 2 Total:					37	32	10

Bachelor of Science in Respiratory Therapy (B.Sc. RT)

Year 3

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 7	HSRT3200	Mechanical Ventilation II	HSRT2330 HSRT2340	-	4	3	3
	HSRT3240	Respiratory Therapy Clinical Application III	HSRT2330 HSRT2340	HSRT3130	1	60 Total HRs	
	HSRT3120	Cardiac Diagnostics	HSRT2330 HSRT2340	-	3	2	3
	HSRT3130	Neonatal Respiratory Care	HSRT2330 HSRT2340	HSRT3240	4	3	3
	HSRT3140	Anesthesia	HSRT2330 HSRT2340	-	3	3	0
Semester 7 Total:					15	11	9
SEMESTER 8	HSRT3300	Mechanical Ventilation III	HSRT3130 HSRT3200 HSRT3240	HSRT3310	2	1	3
	HSRT3210	Pulmonary Diagnostics	HSRT2120 HSRT2320	-	4	3	3
	HSRT3230	Cardiopulmonary Resuscitation	HSRT3120 HSRT3130 HSRT3200 HSRT3240	-	2	1	3
	HSRT3310	Respiratory Therapy Clinical Application IV	HSRT3120 HSRT3130 HSRT3200 HSRT3240	HSRT3300	2	72 Total HRs	
	HSRT3000	Emerging Trends in Respiratory Therapy	HSRT3200 HSRT3240	-	3	3	0
Semester 8 Total:					13	8	9
SEMESTER 9	HSRT3330	Respiratory Therapy Practicum I	HSRT3120 HSRT3130 HSRT3200 HSRT3240	-	4	0	0
Semester 9 Total:					4	0	0
Year 3 Total:					32	19	18

Bachelor of Science in Respiratory Therapy (B.Sc. RT)

Year 4

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 10	HSRT4200	Respiratory Therapy Practicum II	HSRT3330	-	9	525 Total HRs	
	Semester 10 Total:				9	0	0
SEMESTER 11	HSRT4300	Respiratory Therapy Practicum III	HSRT4200	-	9	525 Total HRs	
	Semester 11 Total:				9	0	0
Year 4 Total:					18	0	0
B.Sc. RT Program Total					125	84	43

Graduate Future Pathways:

Graduates of the Respiratory Therapy (B.Sc. RT) are equipped to pursue further specialization in their field or post-graduate research.

Graduate Career Opportunities:

Graduates of the B.Sc. RT program are eligible to work in hospitals, cardiopulmonary diagnostic labs, cardiopulmonary rehabilitation centers, nursing homes, and home health agencies. A wide range of career opportunities in field currently exist and they include but are not limited to the following:

- Respiratory Therapist
- Critical Care Respiratory Therapist
- Chronic Treatment Respiratory Therapist
- Respiratory Therapist Supervisor
- Bedside Respiratory Therapist
- Respiratory Care Researcher
- Respiratory Care Educator
- Home Care Respiratory Therapist
- Respiratory Care Practitioner

Program Webpage:

[Click Here](#)





Master of Science in Critical Care Paramedicine (M.Sc. CCP)

Program Description:

The Master of Science in Critical Care Paramedicine (M.Sc. CCP) is a two year program that emphasizes the practical application of theoretical concepts to prepare paramedics with enhanced critical thinking and decision-making, and advanced clinical skills. The M.Sc. CCP degree is the first of its kind in Qatar. The program highlights the professional role that Critical Care Paramedics (CCPs) play in the holistic management of patients in the out-of-hospital and critical care transport settings. Students advance their knowledge and skill through innovation teaching and learning opportunities, and immersion in state-of-the-art labs and simulation centers. Students complete work experiences in diverse practice settings. The M.Sc. CCP program combines patient-focused learning with scientific disciplines in the areas of emergency medicine to equip graduates with advanced knowledge, skills, and judgement necessary for independent practice as CCPs in various clinical settings. The program is designed to develop the aptitudes to enable graduates to become leaders in shaping the future of the profession.

Program Duration:

Two years

Admission Requirements:

Academic Requirement:

1. Bachelor of Science in Paramedicine from UDST; OR
2. Undergraduate degree in Paramedicine from an accredited higher education institution with a minimum GPA of 3.0 on a 4.0 scale.

English Language Requirement:

1. The required score on the University English Placement Test or a passing score from another approved internationally recognized English language test, as validated by the Admissions & Registration Department; OR
2. A valid (within two years) IELTS Academic Test Report Form with an overall band of 6.0 with no individual band score (reading, writing, speaking, and listening) below 6.0; OR
3. A valid (within two years) TOEFL score of 90 and minimum scores of 17 in listening, 18 in reading, and 20 in speaking; OR
4. A valid (within two years) iBT score of 72.

Additional Admission Criteria:

1. Curriculum Vitae (C.V.),
2. Two confidential recommendation letters, preferably one professional and one academic,
3. A satisfactory performance in the personal interview with the Admissions Committee, and
4. Current licensure/registration with a recognized registry/licensure body.

Master of Science in Critical Care Paramedicine (M.Sc. CCP)

Program Educational Objectives:

Program Educational Objectives describe the knowledge, skills, and competencies a graduate can demonstrate within 2-3 years of graduation.

Within a few years of graduation from the Master of Science in Critical Care Paramedicine (M.Sc. CCP) program, graduates will be able to:

- PEO01. Model professionalism; appropriate interactions; ethical behavior; appropriate deportment
- PEO02. Contribute to a safe work environment; recognizing and mitigating hazards inherent in paramedic practice
- PEO03. Apply knowledge, skills, and abilities gained, combined with sound clinical judgement
- PEO04. Value evidence-based practice and participate in research activities
- PEO05. Develop as leaders in the profession, and actively promote the practice of paramedicine, health maintenance and injury prevention

Student Learning Outcomes:

Student Learning Outcomes (SLOs) describe the knowledge, skills, and competencies a graduate can demonstrate immediately upon graduation.

Upon successful completion of the Master of Science in Critical Care Paramedicine (M.Sc. CCP) program, graduates will be prepared to:

- SLO01. Demonstrate mastery of the competencies required for practice, and integrate advanced procedures into the holistic management of patients
- SLO02. Use critical thinking and problem-solving skills, enhanced by clinical experience, to provide evidence-based paramedic care
- SLO03. Reflect professionalism through personal deportment and public interactions
- SLO04. Demonstrate ethical behavior, empathy and respect for individuals
- SLO05. Display strong leadership abilities, reasonable and prudent judgement, effective problem-solving skills, constructive feedback, and effective teamwork and delegation
- SLO06. Conduct research and present findings
- SLO07. Meet entry-to-practice competencies of a Critical Care Paramedic as defined by the Ministry of Public Health



Master of Science in Critical Care Paramedicine (M.Sc. CCP)

Study Plan:

Year 1

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 1	AHHG2030	Biostatistics	MATH1010	-	3	2	3
	MACC5110	Advanced Diagnostics	-	MACC5120	5	4	4
	MACC5120	Advanced Patient Management I	-	MACC5110	5	4	4
	Semester 1 Total:				13	10	11
SEMESTER 2	MACC5210	Research Design & Methods	AHHG2030	-	2	2	2
	MACC5220	Critical Care Transport	MACC5110 MACC5120	MACC5230	4	3	5
	MACC5230	Advanced Clinical Integration I	MACC5110 MACC5120	MACC5220	3	120 Total HRs	4
	Semester 2 Total:				9	5	11
SEMESTER 3	MACC5300	Intensive Care Practicum	MACC5220 MACC5230	-	3	168 Total HRs	
	Semester 3 Total:				3	0	0
	Year 1 Total:				25	15	22

Master of Science in Critical Care Paramedicine (M.Sc. CCP)

Year 2

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 4	MACC6100	Graduate Research Project I	MACC5210	-	2	2	2
	MACC6110	Advanced Patient Management II	MACC5300	MACC6120	4	2	8
	MACC6120	Extended Care Principles & Practices	MACC5300	MACC6110	2	2	2
	Semester 4 Total:				8	6	12
SEMESTER 5	MACC6200	Graduate Research Project II	MACC6100	-	2	2	2
	MACC6210	Advanced Clinicals Integration II	MACC6110 MACC6120	-	4	240 Total HRs	
	Semester 5 Total:				6	2	2
SEMESTER 6	MACC6300	Critical Care Paramedicine Preceptorship	MACC6210	-	6	294 Total HRs	
	Semester 6 Total:				6	0	0
	Year 2 Total:				20	8	14
M.Sc. CCP Program Total:					45	23	36

Graduate Future Pathways:

Graduates of the Master of Science in Critical Care Paramedicine (M.Sc. CCP) are equipped to pursue further specialization in their field or research.

Program Webpage:

[Click Here](#)

Graduate Career Opportunities:

Graduates of the M.Sc. CCP are eligible to work as Critical Care Paramedics with Hamad Medical Corporation's Ambulance Service, Qatar's national paramedic service, which operates under the Ministry of Public Health. A wide range of career opportunities in the field currently exist, including but are not limited to the following:

- Ambulance Service
- High-Acuity Patient Transport Service
- Military Paramedic
- Air Medical Response
- Pediatric Care Response
- Acute Patient Inter-Facility Transport
- Mobile ICU Response Team
- Education and Research Sector
- Hospital Emergency Department Staff

Master of Science in Diabetes Care and Patient Education (M.Sc. DCPE)



Program Description:

The Master of Science in Diabetes Care and Patient Education (M.Sc. DCPE) is a two year interprofessional program that emphasizes the practical application of theoretical concepts to prepare health professionals for comprehensive and expert diabetic care and for leadership roles in the management of diabetes. The M.Sc. DCPE program is founded on national and international diabetes education standards, frameworks, and competencies, including from the International Diabetes Federation and the American Association of Diabetes Care and Education Specialists (ADCES). Students advance their knowledge and skill through innovative teaching and learning opportunities, and immersion in experiential learning in state-of-the-art labs and simulation centers. Students complete placements in diverse practice settings. Graduates are prepared to integrate patient-centered care, to apply principles and best practices for cardiometabolic disorders education, to leverage technology, and to support the emotional well-being of people living with diabetes.

Program Duration:

Two years

Admission Requirements:

Academic Requirement:

1. Bachelor of Applied Science from CNA-Q or Bachelor of Science from UDST; OR
2. Undergraduate degree in an accepted health care field from an accredited higher education institution with a GPA of at least 3.0 on a 4.0 scale. The accepted health care fields include:
 1. Clinical Psychologist
 2. Dietician/Nutritionist
 3. Exercise Physiologist/Exercise Medicine
 4. Master Certified Health Education Specialist
 5. Master of Public Health/Health Education
 6. Occupational Therapist
 7. Optometrist
 8. Pharmacist
 9. Physical Therapist
 10. Podiatrist
 11. Physician
 12. Physician Assistant
 13. Registered Nurse (Nurse Practitioners)

English Language Requirement:

1. The required score on the University English Placement Test or a passing score from another approved internationally recognized English language test, as validated by the Admissions & Registration Department; OR
2. A valid (within two years) IELTS Academic Test Report Form with an overall band of 6.0 with no individual band score (reading, writing, speaking, and listening) below 6.0; OR
3. A valid (within two years) TOEFL score of 90 and minimum scores of 17 in listening, 18 in reading, and 20 in speaking; OR
4. A valid (within two years) iBT score of 72.

Additional Admission Criteria:

1. Curriculum Vitae (C.V.),
2. Two confidential recommendation letters, preferably one professional and one academic,
3. A satisfactory performance in the personal interview with the Admissions Committee, and
4. Current licensure/registration with a recognized registry/licensure body.

Master of Science in Diabetes Care and Patient Education (M.Sc. DCPE)

Program Educational Objectives:

Program Educational Objectives describe the knowledge, skills, and competencies a graduate can demonstrate within 2-3 years of graduation.

Within a few years of graduation from the Master of Science in Diabetes Care and Patient Education (M.Sc. DCPE) program, graduates will be able to:

- PEO01. Demonstrate the integration of advanced specialized knowledge and skills into clinical practice and diabetes self - management education
- PEO02. Demonstrate commitment towards advocacy and communication about the quality of diabetes care and outcomes for those living with or at risk of diabetes and cardiometabolic disorders
- PEO03. Demonstrate competence in the provision of patient - centered care leading to behavior change and improved quality of life for self-management of diabetes and cardiometabolic disorders across the lifespan
- PEO04. Demonstrate competence in the application of diabetes care clinical practice guidelines and contribution to research and continuous quality improvement activities in the practice setting
- PEO05. Develop, plan, implement and analyze diabetes care and education activities and professional projects
- PEO06. Utilize the latest technology to fulfill the role of a Diabetes Educator / Diabetes Care and Education Specialist

Student Learning Outcomes (SLOs) describe the knowledge, skills, and competencies a graduate can demonstrate immediately upon graduation.

Upon successful completion of the Master of Science in Diabetes Care and Patient Education (M.Sc. DCPE) program, graduates will be prepared to:

- SLO01. Evaluate current evidence-based theories, practice, and clinical standards of diabetes care
- SLO02. Develop patient care/management plans utilizing evidence-based principles of teaching & learning practice
- SLO03. Integrate the social determinants of health into diabetes management
- SLO04. Discuss the implications of major diabetes research results for practice
- SLO05. Examine professional and ethical laws, regulations, and policies relevant to diabetes care practice
- SLO06. Prioritize effective strategies in health communication, critical thinking, clinical judgement, and decision making



Master of Science in Diabetes Care and Patient Education (M.Sc. DCPE)

Study Plan:

Year 1

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK			
			Pre-Req	Co-Req	CR	LEC	LAB	
SEMESTER 1	MADC5110	Organization of Diabetes Care	-	-	3	3	0	
	MADC5120	Teaching & Learning Practice in DSME Programs	-	-	4	3	3	
	MADC5130	Diabetes Prevention & Health Promotion	-	-	3	3	0	
	MADC5140	Clinical Aspects of Diabetes Care	-	-	3	3	0	
	MADC5150	Diabetes Management I: Nutrition & Physical Activity	-	-	4	3	3	
	MADC5000	Diabetes Care Calculations	-	-	1	1	0	
	Semester 1 Total:					18	16	6
SEMESTER 2	MADC5210	Diabetes Management II: Pharmacotherapy & Technology	MADC5150	-	4	3	3	
	MADC5220	Pediatric & Adolescent Diabetes Education	MADC5110 MADC5120 MADC5130 MADC5140 MADC5150	-	3	3	2	
	MADC5230	Diabetes in Special Populations	MADC5110 MADC5120 MADC5130 MADC5140 MADC5150	-	3	3	0	
	MADC5240	Microvascular & Other Complications	MADC5120 MADC5130 MADC5140	-	3	3	2	
	MADC5250	Cardiometabolic Disorders	MADC5120 MADC5130 MADC5140	-	3	3	2	
	Semester 2 Total:					16	15	9
	SEMESTER 3	MADC5310	Diabetes Educator Practicum	Successful completion of all Semester 1 and 2 courses	-	5	245 Total HRs	
Semester 3 Total:					5	0	0	
Year 1 Total:					39	31	15	

Master of Science in Diabetes Care and Patient Education (M.Sc. DCPE)

Year 2

	COURSE NUMBER	COURSE TITLE	REQUISITE		HOURS/WEEK		
			Pre-Req	Co-Req	CR	LEC	LAB
SEMESTER 4	MADC6110	Research Methods in Diabetes Care & Management I	-	-	3	3	2
	Semester 4 Total:				3	3	2
SEMESTER 5	MADC6220	Research Methods in Diabetes Care & Management II – Thesis or Professional Project	MADC6110	-	3	3	2
	Semester 5 Total:				3	3	2
SEMESTER 6	MADC6330	Research Methods in Diabetes Care & Management III – Thesis or Professional Project	MADC6110 MADC6220	-	1	1	2
	Semester 6 Total:				1	1	2
Year 2 Total:					7	7	6
M.Sc. DCPE Program Total:					46	38	21

Graduate Future Pathways:

Graduates of the Master of Science in Diabetes Care and Patient Education program are equipped to pursue further specialization in their field or post-graduate research.

Graduate Career Opportunities:

Given the prevalence of diabetes in the State of Qatar, there is a need for health care providers with advanced knowledge and skills in Diabetes Care and Patient Education. Graduates of the program will practice in various settings nationally and internationally. A wide range of career opportunities in field currently exist and they include but are not limited to the following:

- Diabetes educators – Hospital Setting
- Diabetes educators – Community Setting
- Diabetes Educator – Academic Setting
- Diabetes care and education specialists
- Patient Educator
- Patient Educator Coordinator
- Diabetes Educator – Public Health Setting
- Patient Educator – Public Health Setting
- Patient Education Supervisor

Program Webpage:

[Click Here](#)





Course Descriptions

ACCT1001 FINANCIAL ACCOUNTING

This course introduces the student to the objectives, principles, assumptions, and foundational concepts of financial accounting within the context of international financial reporting standards (IFRS). It focuses on accounting concepts including: the basics of the double-entry accounting system; analysis and recording of business transactions; preparation of the trial balance; adjusting entries; financial statement preparation; accounting for a merchandising company; plant assets, natural resources and intangibles; current liabilities; equity and related accounting for corporations; and analysis of financial statements. It introduces the basic accounting techniques which enable businesses to collect, record, and summarize their economic activities and generate information to appraise progress to date. Students learn accounting techniques to design and monitor systems to collect, record and summarize business transactions and interpret the results to date.

ACCT2001 MANAGERIAL ACCOUNTING

Prerequisites: ACCT1001

This course introduces students to Managerial Accounting - what it is, how it differs from Financial Accounting, and why it is important. Management Accounting concepts are introduced with a grounding in fundamental accounting principles as it explores how accounting information is used internally to help managers make informed decisions around planning and controlling an organization's resources, as well as performance measurement and evaluation. Students are introduced to the fundamentals of Managerial and Cost Accounting, including cost classification and behaviors, allocation of overhead, various cost allocation methods (Job Order Costing, Process Costing, Activity Based Costing), product costing and pricing, cost-volume-profit analysis, as well as segmented reporting. An applied learning approach is taken, with problem solving applied extensively throughout.

ACCT2003 INTERMEDIATE FINANCIAL ACCOUNTING I

Prerequisites: ACCT1001

This course focuses on the conceptual framework that forms the basis of accounting and financial reporting. The framework is applied in the accounting cycle to prepare an Income Statement and related equity statements, Statement of Financial Position and Statement of Cash Flows in accordance with International Financial Reporting Standards. The Statement of Financial Position will focus primarily on the asset side of the balance sheet with emphasis on cash and receivables, inventory, property, plant and equipment and intangible assets.

ACCT2005 INTERMEDIATE FINANCIAL ACCOUNTING II

Prerequisites: ACCT2003

This course continues the study of the principles and procedures covered in Intermediate Financial Accounting I. The course presents an in-depth study of the liabilities and owner's equity components of the Statement of Financial Position. There is also an in-depth analysis of the function and usage of the Statement of Cash Flows. International Financial Reporting Standards are highlighted where possible. Spreadsheets are used extensively throughout to facilitate applied learning opportunities.

ACCT2010 QUANTITATIVE METHODS FOR DECISION MAKING

The course aims to provide students with the knowledge and skills of applying a variety of quantitative analytical tools to support business decision making. The course is delivered by using lectures and IT workshops which concentrate on the development of spreadsheet skills and analysis. The course leads to the development of basic analytical skills and confidence in handling numeric data using a spreadsheet. In doing so, it exposes students to a wide range of quantitative techniques for use in modelling, analysis and interpretation of business problems. Students are made aware of the role of modelling as an aid to business problem solving. Furthermore, they gain an understanding of the role of MS Excel as an aid to data analysis and the development of various business problem-solving models.

ACCT3001 ADVANCED COSTING & MANAGERIAL ACCOUNTING

Prerequisites: ACCT2001

This course builds on students' existing knowledge of cost (classifications, behavior, systems) and application of costs to products and customers. Management planning, control, and decision making is explored in more depth through concepts that underpin strategic management such as budgeting, flexible budgeting, standard costing, variance analysis, responsibility accounting, performance evaluation, differential analysis, relevant cost analysis, as well as cash flows pertaining to capital budgeting. The course explores how these concepts help managers make sound business decisions while incorporating risk management, and how management accounting is a vital factor in the growth and success of an organization. An applied learning approach is taken, with problem solving throughout.

ACCT3005 ACCOUNTING INFORMATION SYSTEMS

Prerequisites: ACCT2003

This course demonstrates the importance of the Accounting Information System for an organization and the role it plays in management's decision-making processes. Students learn the role that accountants and auditors play in designing the effectiveness and security of an AIS. They learn to identify the weaknesses in the internal controls within AIS and how to fix them. Students learn how AIS tools are used to record, process, and analyze financial data; determine how best to integrate AIS tools and processes in a given organization; review and recommend controls to secure AIS applications and processes; and evaluate how technology can be used in AIS applications. Students also learn the use of different modules of accounting software such as the general ledger, accounts payable, accounts receivable, and purchases.

ACCT3007 FINANCIAL REPORTING & ANALYSIS

Prerequisites: ACCT2003

This course is intended as one of the courses that help map students' progress toward the CFA Designation. It is designed to allow students to study a company's past performance and be able to estimate its future performance utilizing the knowledge and skills gained and developed in accounting, finance, and economics courses. The students learn to read a set of financial statements, calculate the ratios, and apply them to make financial decisions. Students examine the impact of various issues on the reported numbers including the reporting of tangible and intangible assets, continued and discontinued operations, historic cost versus fair value accounting and business combinations. The course focuses on develop students' critical thinking and synthesizing skills by providing an opportunity for them to explain the reasoning behind different reporting.

Course Descriptions

ACCT3009 FINANCIAL MODELLING

Prerequisites: ACCT2003

The aim of this course is to equip students with the knowledge and tools to implement financial models using Excel. Students learn the most useful Excel functions, add-ons and formulas to build financial models, perform lookups, assess risk and scenarios and build reports. A financial model is simply a tool that's built in spreadsheet software such as MS Excel to forecast a business' financial performance into the future. The course introduces students to the general principles of building financial models, as well as a number of specific financial modelling tools. These methods are applied to a range of practical problems in finance, including financial statement modelling, business valuation, and how to perform Excel sensitivity analysis.

ACCT3010 PLANNING, BUDGETING, & FORECASTING

Prerequisites: ACCT3001

This course is a higher-level course taken as part of a select group of courses that help map students' progress toward the Managerial Accounting Designation. It builds on students' existing knowledge of managerial and cost accounting concepts including cost concepts, budgeting, standard costing, variance analysis, responsibility accounting, performance evaluation, differential analysis, pricing, product mix, as well as cash flows pertaining to capital budgeting. In this course, management planning, control, and decision making is explored in greater depth as the strategic management concepts of budgeting and forecasting are expanded upon. Students explore how to prepare static and flexible budgets, use standard costing, analyze variances, and utilize current and historic accounting data and information to forecast and predict future revenues and costs. Strategic decision making and critical thinking is emphasized along with technical coverage. An applied learning approach is taken, with problem solving and possibility spreadsheet facilitation applied extensively throughout.

ACCT4001 AUDITING & ASSURANCE SERVICES

Prerequisites: ACCT2005

This course provides an overview of the audit process, different assurance policies and procedures, the role and responsibilities of auditors, the structure of the profession, and the auditor's report. Students investigate auditing control concepts, auditing reports, the auditing cycle, risk management, and the general environment related to public accounting. This course explores different ethical and legal professional environments in which audit and assurance providers operate. Students develop practical perspectives into contemporary work practice in the field of auditing. Students apply the concepts and process used by audit and assurance services providers to gather evidence and formulate judgment with respect to underlying information.

ACCT4005 CONTEMPORARY TOPICS IN ACCOUNTING

Prerequisites: ACCT2003

This course explores key areas of contemporary interest and their impact on financial statements and accounting in general in an IFRS context. Students examine contemporary "hot topics" in accounting. These include the contemporary corporate tax environment with global compliance and tax planning opportunities; the corporate reporting shift from numbers to narrative; contemporary challenges in audit; corporate social responsibility with respect to the finite nature of many resources and the social issues that accompany growth; challenges of the circular economy; technology challenges in accounting and finance; as well as looking at accounting beyond the numbers - a look at non subject-specific skills such as self-leadership, communication skills, creativity and problem-solving skills and how these are becoming critical in the contemporary world of accounting.

ACCT4007 ADVANCED FINANCIAL ACCOUNTING

Prerequisites: ACCT3007

This course is designed to provide students with financial reporting and business skills that are applicable in an international professional environment. This course introduces students to complex accounting topics in an International Financial Reporting Standards (IFRSs) context by introducing current topics in accounting relevant to today's business environment. Students investigate and examine different conceptual knowledge of advance accounting topics related to business combinations, inter-corporate investments, consolidation, foreign currency translation, accounting for leases, accounting for post-retirement benefits, accounting for income taxes and accounting for financial instruments. Students develop analytical thinking skills to apply knowledge learned and to use related disciplines to analyze specific accounting standards and to execute different tasks within the course.

AEAC2101 INDUSTRIAL PROCESSES, MEASUREMENT & CONTROL

Prerequisites: AEPC1203

In any industrial manufacturing process and operation, measurement and control are essential to producing a quality product. This course presents an overview of industrial measurement and control designed to reinforce the concepts in pressure, level, flow, and temperature measurement and control. Various types of sensors and transmitters used to measure process variables, common control strategies, and control valve types are covered. Students also learn basic instrument calibration and maintenance as well as interpreting common instrumentation drawings (P&ID, ILD, PFD, etc.). Through a variety of lectures and group discussions, students acquire the necessary knowledge of industrial processes, measurement, and control.

AEAC2102 INDUSTRIAL INSTRUMENTATION

Prerequisites: AETN2101

In the field of industrial instrumentation, knowledge of installation standards and safe practices is essential. This course presents an overview of the hazards present in industrial workplaces regarding events such as the confinement of an explosion inside an enclosure, the isolation of an ignition source, and the limitation of an energy flow. Through a variety of lectures and group discussions, students also study safe wiring practices in hazardous areas, industrial air system components and piping systems, standard practices in the installation of instrumentation components requiring pipe or tube connections, and the safe use of common hand tools and power tools.

AEAC2103 CONTROL STRATEGIES

Prerequisites: AEAC2101

In many areas of engineering, advanced control strategies are essential to achieving certain control objectives. This course covers advanced PID control strategies and methods for improving control quality over processes using special control, including process disturbances and regulatory control systems such as feedforward control, cascade control, and ratio control which provide predictive and PID controllers with additional logic to enhance control performance. Split range control and application of different control strategies in boiler control is also covered in this course. Through a variety of lectures and group discussions, students acquire the necessary knowledge of Advanced Control Strategies.

Course Descriptions

AEAC2113 PLC PROGRAMMING & CONTROL

Prerequisites: AECP2122, AETN1102

Programmable Logic Controllers (PLC) are essential tools for industrial automation and control. This course introduces students to general concepts, programming techniques, and programming languages for PLCs for digital and analog inputs and outputs, for on/off control, and for proportional control. This course also covers how to develop function block programs and link them to a Human Machine Interface (HMI). The control strategies taught in this course start with basic PID control and progresses to more complex control strategies. Lectures, discussions, and group work teach students the basic concepts of PLC programming and control.

AEAC2201 INDUSTRIAL PROCESSES, MEASUREMENT & CONTROL (LAB)

Prerequisites: AEPC1203

Co-requisites: AEAC2101

In any industrial manufacturing process or operation, measurement and control are essential to producing a quality product. This course presents an overview of industrial measurement and control designed to reinforce the concepts of pressure, level, flow, and temperature measurement and control. The course provides students with the opportunity to gain knowledge and skill in testing and calibrating common instruments (sensors, transmitters, etc.) and interpreting common instrumentation drawings (P&ID, ILD, PFD, etc.). Through demonstrations and hands-on lab activities, students acquire the necessary knowledge and considerations of industrial processes, measurement, and control.

AEAC2202 INDUSTRIAL INSTRUMENTATION PRACTICES

Prerequisites: AETN2201

Co-requisites: AEAC2102

In the field of industrial instrumentation, knowledge of installation standards and safe practices is essential. This course presents an overview of the various hazards present in industrial workplaces and best safety practices. The course explores topics such as safe wiring in hazardous areas, interpretation of electrical device enclosure markings, protection methods in hazardous areas, and industrial air systems. Students also gain hands-on experience with instrument piping, tubing installation, and support fabrication, as well as various hand and power tools. Through a variety of lectures, demonstrations, and practical activities, students acquire the necessary knowledge of Industrial Instrumentation practices.

AEAC2203 CONTROL STRATEGIES (LAB)

Prerequisites: AEAC2201

Co-requisites: AEAC2103

This course covers advanced PID control strategies and methods that are applied to improve control quality over processes. This includes performance analysis of advanced control strategies such as feed-forward control, cascade control, ratio control, and split-range control through actual building of the strategy circuit and simulator software. Also covered in this course are practical activities involving the application of advanced control strategies in fire-tube type boiler control systems, boiler operation fault analysis, and start-up-shutdown operation procedures for boilers. Using simulator software and a variety of hands-on lab activities with common devices and test equipment used in industries, students acquire the necessary knowledge and considerations of advanced control strategies.

AEAC2213 PLC PROGRAMMING & CONTROL (LAB)

Prerequisites: AECP2222, AETN1202

Co-requisites: AEAC2113

Programmable Logic Controllers (PLC) are essential tools for industrial automation and control. This course applies and demonstrates the general concepts, programming techniques, and programming languages for PLCs. The students develop and test programs using function block programming. The course starts with basic Proportional Integral Derivative control and progresses to more complex strategies. This course is delivered through active hands-on lab sessions

AEAC3000 WORK PLACEMENT

Prerequisites: Min 85 Credits

This on the job training opportunity follows the successful completion of the second semester of the third year of the Bachelor of Science in Electrical Engineering - Automation and Control Systems Engineering program. The training provides students with college-approved work experience in an authentic, professionally relevant, work environment. Students are expected to learn, develop, and demonstrate high standards of behavior and performance normally expected in the work environment. The practical applications of the on the job training promotes students' awareness of key concepts and terminology in the field, encourage the development of professional autonomy and collaboration, and enhance the capacity to analyze and reflect on demonstrated abilities in the workplace.

AEAC3101 SYSTEM AUTOMATION & EMBEDDED SYSTEMS

Prerequisites: AECP2301

Industrial automation is becoming more important in all areas of engineering where embedded systems are part of the technologies we depend on in modern life. Engineers must have the skills to use and understand this advanced technology. This course provides students with specialist knowledge and skills for the use of Automation systems including sensors, actuators, pneumatics, and hydraulics. The course also teaches embedded systems and controllers, microcontrollers, sensor reading, actuator control, digital to analog converting, and other topics that are important for Automation and Control Engineers. The course is taught through lectures and a co-requisite lab course.

AEAC3102 SAFETY SHUTDOWN & INSTRUMENTED SYSTEMS

Prerequisites: AEAC3111

Process Control engineers and engineering technologists need to understand basic shutdown systems on boilers and the safety shutdown systems found in the oil and gas industry. This course is delivered through lectures and demonstrations of important systems as the student learns to describe and analyze these systems.

AEAC3111 PROCESS CONTROL APPLICATIONS

Prerequisites: AEAC2103

Process control has many applications in many industries. In this region, where the oil and gas industry predominate, Automation Engineers must have the skills and the knowledge of process control related to this field. Through lectures and a co-requisite practical lab course, this course teaches the technology and control of oil and gas equipment starting from crude oil extraction to oil refinery systems. In order effectively provide technical solutions to industrial control applications, students must have an intimate understanding of the process under control. This course provides students with advanced knowledge of a variety of process applications that allow them to maximize process unit productivity while minimizing operating costs. Through lectures, discussions, group work, and hands on demonstrations of working industrial processes, students learn the basic concepts of advanced process control.

Course Descriptions

AEAC3112 DCS & SCADA

Prerequisites: AEAC2113

Distributed Control Systems (DCS) are used in large industrial installations to provide complex and comprehensive control solutions for modern processes. This course reviews the history of DCS and provide a comparison of DCS to modern Programmable Logic Controllers (PLC) / Human Machine Interface (HMI) and Supervisory Control and Data Acquisition (SCADA) systems. The course provides the students with the knowledge to troubleshoot and modify existing configurations, control strategies, and operator interfaces for a DCS. Lectures, discussions, and group work provide instruction on the basic concepts of DCS utilization.

AEAC3122 INDUSTRIAL PROCESS ANALYSIS

Prerequisites: AEAC2101

This course introduces the student to process analysis. Process Analyzers are important to plant automation to prevent processes from being used that are not within parameters. Process Analyzer principles are applied to the study of conductivity, ORP, pH, humidity, turbidity and other electrochemical analyzers. The course also introduces students to analyzer measurement applications. The course reviews electrochemical principles as they apply to corrosion and corrosion control in industry. The student learns how control of industrial processes by electrochemical methods.

AEAC3201 SYSTEM AUTOMATION & EMBEDDED SYSTEMS (LAB)

Prerequisites: AEAP2301

Co-requisites: AEAC3101

Industrial automation is becoming more important in all areas of engineering where embedded systems are part of the technologies we depend on in modern life. Engineers must have the skills to use and understand this advanced technology. This course provides students with opportunities to learn to utilize different types of sensors and actuators to perform the desired controls. In the labs, students develop skills to understand and build pneumatic and hydraulic control circuits as well as micro-controllers using sensors and actuators. This course is taught through lab experiments and a co-requisite lecture course.

AEAC3202 SAFETY SHUTDOWN & INSTRUMENTED SYSTEMS (LAB)

Prerequisites: AEAC3211

Co-requisites: AEAC3102

Safety Shutdown and Instrumented Systems are critical to a plant's automation and safety. The engineering student installs, tests, measures, and controls equipment and devices used with safety shutdown and instrumented systems in a lab setting. The course also introduces software that can be used for process and optimization.

AEAC3211 PROCESS CONTROL APPLICATIONS (LAB)

Prerequisites: AEAC2203

Co-requisites: AEAC3111

This course provides the practical demonstrations of the process control concepts. The course demonstrates and applies the concepts of advanced process control applications, allowing students to maximize process unit productivity while minimizing operating costs. The students study a Three Phase Separator, a Fluidized Catalytic Cracker, a Fluidized Flasher, a Binary Distillation unit, an Exothermic Chemical Reaction, and a Gas Absorption unit. Hands on demonstrations allow the student to learn the basic concepts of advanced process control.

AEAC3212 DCS & SCADA (LAB)

Prerequisites: AEAC2213

Co-requisites: AEAC3112

Distributed Control Systems (DCS) are used in large industrial installations to provide complex and comprehensive control solutions for modern processes. This course demonstrates and applies the concepts of DCS to enable the students to troubleshoot and modify existing configurations, control strategies and operator interfaces. The students configure and calibrate Foundation Fieldbus equipment and demonstrate the interaction of a Proportional Integral Derivative (PID) controller with a Human Machine Interface (HMI) to verify the proper control of a process loop. This course is delivered through a number of hands-on lab exercises.

AEAC3222 INDUSTRIAL PROCESS ANALYSIS (LAB)

Prerequisites: AEAC2201

Co-requisites: AEAC3122

This course provides basic instrumentation techniques for chemical analysis in the chemical process industries with analytical equipment in a process laboratory setting using on-line equipment. Techniques covered include analytical measurement and control, gas and liquid chromatography, and mass spectrometry. These techniques are the same techniques used in industry to analyze processes.

AEAC3321 TECHNOLOGY CAPSTONE PROJECT I

Prerequisites: Min 71 Credits

This capstone project enables the student completing an Advanced Diploma in the Automation and Control Engineering Technology program to demonstrate the application of skills and knowledge developed throughout the program. Students work with minimal supervision on a project under the guidance of a faculty member. The student can work independently or in teams to carry out an in-depth study of a problem, design or technological application, and fully document and present their findings. At the end of this course, the student will have completed a proposal of their capstone project that may be completed in the following academic semester of their program.

AEAC3332 TECHNOLOGY CAPSTONE PROJECT II

Prerequisites: AEAC3321

The capstone project enables the student completing an Advanced Diploma in the Automation and Control Engineering Technology program to demonstrate the application of skills and knowledge developed throughout the program. Students work with minimal supervision on a project, under the guidance of a faculty member. The student can work independently or in teams to carry out an in-depth study of a problem, design or technological application, and fully document and present their findings.

AEAC4101 ROBOTICS & INTELLIGENT CONTROL

Prerequisites: AEAC3101

Robotics technology and robot-based applications are getting more important in all industrial aspects. Engineers must have the skills to use and understand this advanced technology. The course teaches the fundamentals of robotics technology and intelligent control. The course covers both mobile robots, manipulators, and related topics to give the ability to understand and analyze robotic for industrial applications or research. Industrial robotic systems are complex and have nonlinear behaviors, therefore, new methodologies are required to design and develop intelligent controllers such as fuzzy logic and neural networks. As robotics and intelligent controllers is a very wide field, this course is based on selected important topics in this technology. This course is taught through a series of lectures.

Course Descriptions

AEAC4102 AI & MACHINE LEARNING FOR PROCESS CONTROL

Prerequisites: AEAC4101, RSST3002, MATH2010

Machine learning is rapidly becoming one of the most important areas of general practice, research and development activity within Applied Systems and Controls Engineering. This course presents the core mathematical and statistical techniques required to understand some of the most popular machine learning algorithms and then presents some of these algorithms that span the main problem areas within machine learning: classification, clustering, and projection. The course is delivered through lectures, MATLAB and/or Python based assignments, and case studies. At the end of the course, the students should have the knowledge and confidence to be able to explore machine learning to find methods that are more appropriate for industrial process control and machine health monitoring.

AEAC4112 CYBER SECURITY & INDUSTRIAL IOT

Prerequisites: AEAC3112, AEAC3101

In this course, students learn basics of the IoT and the IIoT. General characteristics of cloud solutions to connect IoT based architecture of some current Cloud offerings are emphasized. Also, various standardized communication protocols towards the industrial manufacturing space/shopfloor and towards the cloud, MES/ MOM/ SCADA are covered. Moreover, this course explains the fundamental concepts and algorithms of machine learning and cloud computing algorithms enabling students to build various simple applications to view and control data from the PLC, CNC, and robotics-controlled machines using the IoT. Additionally, students are introduced to importance of the cyber-security through basic cyber-security implementations. This course is delivered through series of lectures.

AEAC4201 ROBOTICS & INTELLIGENT CONTROL (LAB)

Prerequisites: AEAC3201

Co-requisites: AEAC4101

Robotics technology and robot-based applications are becoming more important in all industrial aspects. Engineers must have the skills to use and understand this advanced technology. This lab provides the students with the different skills in robotics and intelligent control. The students build different types of robots that are used in the industry, mobile robots, and manipulators. They design, develop, and implement different control algorithms and applications using different sensors and actuators. This course is taught through lab experiments and a project and a co-requisite lecture course.

AEAC4202 AI & MACHINE LEARNING FOR PROCESS CONTROL (LAB)

Prerequisites: AEAC4201, RSST3002, MATH2010

Co-requisites: AEAC4102

Machine learning is rapidly becoming one of the most important areas of general practice, research and development activity within Applied Systems and Controls Engineering. This lab course allows students to gain knowledge of various machine learning methods such as classification, clustering, and projection. The student uses MATLAB and/or Python for handling data and to solve machine learning problems. Students gain the knowledge and confidence to be able to explore machine learning to find methods that are more appropriate for Industrial Process Control.

AEAC4212 CYBER SECURITY & INDUSTRIAL IOT (LAB)

Prerequisites: AEAC3212, AEAC3201

Co-requisites: AEAC4112

Through a series of lab-based exercises, students gain practical hands-on skills in identifying security threats and implementation of cyber security for ICS networks via configuration of hardware (Routers, Switches, Servers, Firewalls etc.). The students design end-to-end applications connecting various devices/ controllers via IoT enabled devices to the cloud and build simple applications to view the data and control variables. They apply cyber-security in IoT and understand the considerations and approaches to address connectivity and data security challenges. The course also allows students to apply machine learning and cloud computing algorithms to build various simple applications to view and control data from the PLC, CNC, and robotics-controlled machines using the IoT.

AEAC4311 CAPSTONE PROJECT I

Prerequisites: Min 80 Credits

Co-requisites: AEAP4100

The capstone project enables the student completing the engineering degree to demonstrate the application of skills and knowledge developed throughout the program. Students taking this course work with minimal supervision on a project, under the guidance of a faculty member. The student can work independently or in teams to carry out an in-depth study of a problem, design or technological application, and fully document and present their findings. At the end of this course, the student will have completed a proposal of their capstone project that may be completed in the following academic semester of their program.

AEAC4322 CAPSTONE PROJECT II

Prerequisites: AEAC4311

The capstone project enables the student completing the engineering degree to demonstrate the application of skills and knowledge developed throughout the program. Students taking this course work with minimal supervision on a project, under the guidance of a faculty member. The student can work independently or in teams to carry out an in-depth study of a problem, design or technological application, and fully document and present their findings.

AECE1200 INTRODUCTION TO CONSTRUCTION ENGINEERING, MATERIALS & METHODS

Co-requisites: CHEM1010

It is essential for junior construction engineering students to have a basic knowledge of the construction field, including construction materials and methods. In this course, students learn basic building materials and systems used in constructing buildings, bridges, and infrastructure projects. The course teaches the use of common materials and systems in works related to projects such as foundations, structural framing/ skeleton, building envelopes, facades, and finishes. Through a variety of lectures, group discussions, and site visits, students acquire this necessary basic knowledge along with other pertinent construction industry considerations.

AECE1230 MECHANICAL & ELECTRICAL SYSTEMS IN CONSTRUCTION

Co-requisites: AECE1200, AEEL1100

Mechanical, electrical, and pumping systems are essential components of any built facility. Construction engineers and technologists need to understand the fundamentals of such systems and the coordination that is necessary for their installations. Through a variety of lectures, group discussions, and site visits, students acquire the necessary exposure to, and knowledge of, mechanical, electrical, and plumbing installations in construction projects and their interrelations with structural, finishing, and other building systems.

Course Descriptions

AECE1340 BASIC CONSTRUCTION SAFETY

Prerequisites: AECE1200

Safety awareness during construction projects is paramount. Junior construction engineering students need to have a basic awareness of safety and potential hazards related to the execution and operation phases of construction projects. This course presents an overview of safety issues, primarily those pertinent to the execution of construction works. The course defines different industry terms concerned with construction safety and the international standards for observing and regulating safety on construction sites. Through a variety of lectures and group discussions, students acquire the necessary knowledge of basic construction safety awareness.

AECE2100 CONSTRUCTION DOCUMENTS & CODES

Prerequisites: AEMA1312

Construction engineers very often deal with an array of contracts and documents with which they need to be familiar. This course introduces the principles of the documentation and formation of contract documents used in commercial constructions. It also discusses the constituents of construction contract documents and construction agreements and how they differ for various project delivery methods and critical issues in contracts. Through a variety of lectures and group discussions, students acquire the necessary understanding and knowledge of the structure of construction contracts and the interrelationships among their key components.

AECE2110 PRINCIPLES OF ENGINEERING ECONOMY

Prerequisites: MATH1020

Construction engineering professionals need to have a good understanding of the economic evaluation of alternatives in the context of construction projects and related investments. This course discusses the time value of money, present and annual worth analysis, rate of return, taxes, depreciation, inflation, and decision making in the context of uncertainty. Students perform basic and insightful economic feasibility analysis of construction projects and related investments.

AECE2120 STATICS

Prerequisites: MATH1020

Construction engineers need to be familiar with engineering statics as the foundation for understanding the basics of both permanent and temporary structures. This course outlines the vector mechanics of forces and moments; free-body diagrams; equilibrium of particles and rigid bodies in two and three dimensions; plane and space trusses; frames and machines; axial, shear, and moment diagrams of beams and simple frames; friction; center of gravity and centroid; area moment of inertia; and computer applications.

AECE2130 PRINCIPLES OF GEOMATICS

Prerequisites: AEMA1312, MATH1020

Basic surveying measurements and computations, mapping, and construction layout are essential occupational skills that construction engineers should have. This course covers the science and technology of earth measurement data that includes collection, sorting, management, planning and design, storage, and presentation of the data. Through course work, students understand the principles of geo-measurement, including leveling for earthwork, linear and area measurements (traversing), mapping, and GPS/GIS.

AECE2131 PRINCIPLES OF GEOMATICS (LAB)

Co-requisites: AECE2130

Basic surveying measurements and computations, mapping, and construction layout are essential occupational skills that construction engineers should have. This course covers the science and technology of earth measurement data that includes collection, sorting, management, planning and design, storage, and presentation of the data. Through this lab work, students learn about field surveying techniques.

AECE2140 PROJECT DRAWINGS & GRAPHICS

Prerequisites: AEMA1312

Co-requisites: AECE2100

Using new software technologies for visualization, communication and the graphical analysis of problems is a necessary skill for designers and construction engineers alike. This course explains the principles of construction graphics, applications, and simulation of construction designs. Through course work and projects, students gain the right competencies to enable the visualization of engineering designs and simulation of construction activities.

AECE2210 ENGINEERING GEOLOGY

Prerequisites: PHYS1020, CHEM1010

Construction engineers work with different types of soil material but also need to be familiar with their geological properties. This course discusses the composition and properties of rocks; geologic processes; geologic hazards; geologic structure and engineering consequences; terrain analysis and geologic mapping; the interpretation and use of geologic maps; and the application of geology to engineering practices.

AECE2220 CONSTRUCTION EQUIPMENT & MACHINERIES

Prerequisites: AECE1200

Co-requisites: AECE2210

Construction engineers need to know the various types of construction equipment employed in construction. This course teaches the proper selection of construction equipment and the concepts related to the productivity and economic aspects of the construction equipment that are applied as part of construction methods and processes. Through a variety of lectures and group discussions, students acquire the knowledge and skills to make the proper selection of construction equipment and machinery for the adopted methods of construction.

AECE2230 STRENGTH OF CONSTRUCTION MATERIALS

Prerequisites: AECE1200, AECE2120

Construction engineers need to know the mechanics of different construction materials, their strengths, limitations, and methods of testing. This course covers stresses, strains, and stress-strain relationships; temperature; axial bars in tension and compression; torsion of circular bars; bending and shear stresses in beams; combined stresses; stress transformation; and Mohr's circle.

AECE2231 STRENGTH OF CONSTRUCTION MATERIALS (LAB)

Prerequisites: AECE1200

Co-requisites: AECE2230

Construction engineers need to know the mechanical properties of different construction materials, their strength, limitations, and methods of testing. This course examines the composition and properties of common construction materials. Through a variety of hands-on laboratory work and experiments, students acquire the necessary skills and knowledge about the common construction materials, their testing methods, equipment, and standards.

Course Descriptions

AECE3000 WORK PLACEMENT

Prerequisites: Min 85 Credits

This on the job training opportunity follows the successful completion of the second semester of the third year of the Bachelor of Science in Construction Engineering program. The training provides students with college-approved work experience in an authentic, professionally relevant, work environment. Students are expected to learn, develop, and demonstrate high standards of behavior and performance normally expected in the work environment. The practical applications of the on the job training promotes students' awareness of key concepts and terminology in the field, encourages the development of professional autonomy and collaboration, and enhances the capacity to analyze and reflect on demonstrated abilities in the workplace.

AECE3100 SOIL MECHANICS

Prerequisites: AECE2210, AECE2230

Construction engineers need to know the mechanics of soils, which are the materials most often handled by construction equipment and which affect the efficiency of excavation and dredging activities and the safety of excavation slopes. This course introduces students to the basic elements of geotechnical engineering and familiarizes them with standard soil testing through a laboratory and training component. It also covers soil classification, compaction, and consolidation; permeability and seepage in saturated soils; total and effective stress concepts; stress-deformation and strength characteristics of soils; and failure criteria.

AECE3101 SOIL MECHANICS (LAB)

Co-requisites: AECE3100

Construction engineers need to know the mechanics of soils, being the materials often handled by construction equipment and affecting the efficiency of excavation and dredging activities and the safety of excavation slopes. This course complements the coverage of the basic principles of soil mechanics. Through laboratory work, students gain an understanding of the geotechnical properties of soils and apply their relevant testing methodologies.

AECE3120 CONSTRUCTION PLANNING & SCHEDULING

Prerequisites: AECE1200, AECE1230, AECE2220

One of the most important tasks for construction engineers is to plan and schedule construction projects. This course covers the fundamentals and techniques of planning and scheduling a construction project. Students gain an understanding of the interdependencies among the scope, quality, time, and budget of a project. It also covers topics such as WBS, risk estimation, critical path networks, Gantt charts, and resource allocation and levelling. Students plan a project using recognized software and complete problem-solving exercises.

AECE3210 CONSTRUCTION COST ESTIMATION

Prerequisites: AECE1200, AECE1230, AECE2220

Cost estimation of construction projects and contracts are key skills construction engineers need to have. This course covers the concepts for creating a cost-estimate for a construction project. Estimating costs requires an understanding of the costs of construction resources, both permanent and applied, including materials, equipment, labor, and the estimation methods. Topics include an introduction to construction costs, the different estimating techniques, preconstruction services, pricing, determining profit, and preparing a bid. Problem-solving and case studies provide students with a real-world understanding of cost estimation.

AECE3220 BUILT-FACILITY MAINTENANCE & REPAIR

Prerequisites: AECE2100, AECE2230

Co-requisites: AECE3230

Maintenance of the built facility aims at keeping it in a condition where it can continue to serve its intended purpose and planned functions. This course describes the main causes of concrete distresses and failure in buildings and other structures and the suitability of methods of repair for specific applications. Through classwork and lectures, students learn the main factors leading to deterioration and failures in the built facilities. The students also have exposure to the most used and effective methods of repairs.

AECE3230 STRUCTURAL ENGINEERING

Prerequisites: AECE2230, MATH1030, MATH2010

The design and analysis of engineering structures are essential for construction engineers. This course covers the principles of structural analysis and the design of engineering and construction-site structures. It also reviews the principles of statics; the analysis of statically determinate plane frames; the deflection of statically determinate beams; indeterminate structures; influence lines for structures; and computer applications in structural engineering. Through course work, students learn of the different forces and deformations affecting structures and the methods used for structure modelling and analysis.

AECE3321 TECHNOLOGY CAPSTONE PROJECT I

Prerequisites: AECE2230

The capstone project enables the student completing a Diploma in Construction Engineering Technology program to demonstrate the application of skills and knowledge developed throughout the program. Students work with minimal supervision on project task work under the guidance of a faculty member. The project is developed in teams of two/three to carry out study of a problem, design or technological application, with the proposal development during capstone I, and the project implementation in capstone II. At the end of this course, the student will have completed a proposal of their capstone project that may be completed in the following academic semester of their program.

AECE3332 TECHNOLOGY CAPSTONE PROJECT II

Prerequisites: AECE3321

The capstone project is an ultimate course where students show their knowledge skills and competencies built in previous courses. It enables the students completing the advanced diploma in engineering technology to demonstrate the application of skills knowledge, and competencies developed throughout the program. Under the guidance of a project advisor, students work in teams of two or three on a project independently with minimal supervision to carry out an in-depth study of a problem, troubleshooting, configuration of technological application, and fully document and present their findings.

AECE4100 CAPSTONE PROJECT I

Prerequisites: AECE3230

Engineering senior students must demonstrate the knowledge, skills, and competencies gained during the previous three years of study in a capstone project. Under the guidance of a faculty member, students work individually or in teams of up to three on a project independently with minimal supervision to carry out an in-depth study of a problem, design, or technological application, and fully document and present their findings. At the end of Capstone Project I, students will have completed a proposal of their capstone project I that is then executed in Capstone Project II.

Course Descriptions

AECE4101 APPLIED DIFFERENTIAL EQUATIONS

Prerequisites: MATH2010

This course focuses on the application of mathematics to problems derived from construction engineering fundamentals such as fluid mechanics, structural engineering, and other related applications. It also covers the formulation and solution of ordinary and partial differential equations arising in construction engineering or related processes or operations and mathematical approaches, both analytical and numerical, to solving ordinary and partial differential equations.

AECE4110 CONSTRUCTION CONTRACT ADMINISTRATION

Prerequisites: AECE2100

This course covers the common contracts and documents used in commercial construction projects and examines the relationship between different project delivery methods, stakeholders' roles and responsibilities, contract components, and legal and dispute issues. Students explore these concepts through case studies and practical exercises.

AECE4111 CONCRETE TESTING (LAB)

Prerequisites: AECE3230

Co-requisites: AECE4120

Concrete is a widely used material in all types of construction projects. This course introduces construction engineering students to the array of tests that are performed on both fresh and hardened concrete. Through several laboratory sessions, students test concrete samples and cylinders and interpret results pertaining to concrete hydration rates under different settings and air entrapped or entrained in fresh concrete mixes. They are also introduced to destructive and non-destructive tests of hardened concrete specimens and elements.

AECE4120 CONCRETE & STRUCTURAL SYSTEMS DESIGN & BEHAVIOR

Prerequisites: AECE3230

Structural design and behaviors are key tasks for construction and civil engineers. The course introduces the fundamentals of design for structural systems made of reinforced concrete, steel, and/or composite materials. Students build on their understanding of basic mechanics to learn new concepts such as compressive stress and strain in concrete and other materials. Through course work, students demonstrate practical applications of the latest design specifications and codes for widely used structural systems.

AECE4130 SITE OPERATIONS MANAGEMENT & CONTROL

Prerequisites: AECE1200, AECE2220

Construction engineers devise and manage various complex processes on project sites, which employ a spectrum of resources that handle soil and other materials or contribute to the incorporation of permanent materials into the works. This course discusses site layout design and logistics that form the infrastructure for performing construction activities. It also covers topics related to productivity concepts, work measurements, and improvement methods. Students view, manage, and control construction operations from a systems perspective.

AECE4200 CAPSTONE PROJECT II

Prerequisites: AECE4100

In their capstone project, students demonstrate their knowledge, skills, and competencies built in previous courses. It enables those completing their engineering degree to demonstrate the application of skills and knowledge developed throughout the program. Under the guidance of a faculty member and with minimal supervision, students work independently or in teams of two or three to carry out an in-depth study of a problem, design, or technological application and fully document and present their findings. After their research or project design, students submit a project report to include all technical, economic, and ethical analyses of the project outcomes.

AECE4210 HIGHWAY & PAVEMENT ENGINEERING

Prerequisites: AECE2130, AECE2230, AEMA1312

Construction engineers are involved in constructing highways and other infrastructure facilities. This course covers topics related to the design, construction, and maintenance of highway facilities. Students learn about highway alignment and the geometric design process, highway materials selection and pavement types, and highway construction and maintenance activities.

AECE4220 FACILITY & INFRASTRUCTURE ASSET MANAGEMENT

Prerequisites: AECE2210, AECE3220

Facility management of established projects is one essential duty of construction engineers. This course exposes construction engineers to a proven, cost-effective infrastructure asset management framework that integrates planning, design, construction, maintenance, rehabilitation, and renovation. Through this course, students become familiar with the current methodologies for effectively managing roads, bridges, airports, utility services, water and waste facilities, parks, public buildings, and sports complexes.

AECE4230 CONSTRUCTION PROJECT MANAGEMENT

Prerequisites: AECE3120

Project Management is the professional task that construction engineers perform at the workplace. This course covers the fundamentals of controlling projects to meet the time, quality, scope, and budget goals. It also examines the relationship between project planning and control, as well as variance analysis and forecasting. It further covers the importance of meeting contractual obligations and discusses schedules, budgets, stakeholders, resources, and risk management. Students put theory into practice with case studies and practical exercises.

AECH1100 ENVIRONMENTAL AWARENESS & ETHICS

Engineers need to be aware of the environmental concerns and ethical issues when designing/operating equipment or systems. This course presents an overview of environmental concerns in the oil and gas industry including the effects of the industry on the environment and vice versa. Professional practice and ethics are covered to enable the learner to understand ethical and legal expectations within the industry and profession. An introduction to environmental science is also provided, as well as coverage of pollution and the interactions between petroleum and various components of the environment. Through a variety of lectures and group discussions, students acquire the necessary knowledge to take into consideration the environment and ethics in any operation or design of systems and components.

Course Descriptions

AECH1103 INDUSTRIAL PROCESS OVERVIEW

Prerequisites: CHEM1020 OR CHEM1030

It is important to show junior chemical engineering students an overview of the industrial process. This course introduces students to chemical industries on a global level, while focusing more specifically on local Petro Chemical Industries. Students explore natural gas and petroleum processing, as well as polymers, petrochemicals, fertilizers, steel, and aluminum industrial processes. Through a variety of lectures and group discussions, they acquire the necessary knowledge to understand common basic industrial processes.

AECH1112 HEALTH, SAFETY & ENVIRONMENT IN THE PROCESS INDUSTRIES

Health and safety awareness as well as environmental awareness are essential components of the operation, trouble shooting and designing of chemical processes. This course introduces the application of the principles of health, safety and environmental management to process industries such as Oil and Gas, Chemicals, Pharmaceuticals, Petrochemicals, or Food. It introduces a broad range of topics, including common safety and environmental issues associated with process safety. Through a variety of lectures and group discussions, students acquire the necessary knowledge to demonstrate students' competence in general health and safety, process safety, and environmental management.

AECH1201 BASIC ENGINEERING CALCULATIONS

Engineers and technicians are expected to develop an understanding and feeling of units and basic calculations. The course Introduces students to basic engineering calculations and measurements. Students become familiar with various types of measurement systems and learn to set up and perform various experiments according to a given procedure. Topics include basic concept of measurement methods, measurement of length, time, mass, volume, pressure, velocity, flow rate, temperature, power and energy. Through a variety of lecture and group discussion, students acquire the necessary knowledge and understanding of units and basic measurements.

AECH2103 LEADERSHIP & MANAGEMENT PRINCIPLES

Prerequisites: AECH1100, COMM1020

Management is an integral part of engineering and technical work. This course introduces essential leadership concepts and management principles to students in engineering fields. Leadership theories and styles are explored with students to establish a foundation of knowledge and understanding that guides future practice. Role-play, case studies, and real-life examples are employed to support students in acquiring necessary management practices of effective leaders such as team and group goal development, performance monitoring, conflict resolution, and effective communication skills. Through a variety of lectures and group discussions, students acquire the necessary knowledge of leadership theories and practices.

AECH2111 PRINCIPLES OF CHEMICAL ENGINEERING I

Prerequisites: AECH1201, CHEM1020, MATH1010, PHYS1020

Chemical Engineering and Technician students need to be aware of the basic principles in material and energy balances. This course introduces material and energy balance concepts and calculations used in the chemical processing industry. Students learn the methods to formulate and solve problems in a structured format. Students also learn to construct and analyze block diagrams, process flow diagrams, and piping and instrumentation diagrams. The stoichiometry of industrial chemical reactions is examined, and calculations associated with these are performed. Through a variety of lectures and group discussions, and assignments students learn performing material and energy balance.

AECH2112 SUSTAINABILITY & RENEWABLE ENERGY

Prerequisites: AECH1100

Engineering design, operation and maintenance of systems and components need to consider sustainability and alternative sources of energy. This course presents an overview of renewable energy resources, introduces current and emerging technologies to exploit these resources, and places these technologies in context with environmental, political, and economic constraints in the context of sustainability. The course explores society's present needs and future energy demands, examines conventional energy sources and systems, including fossil fuels. Alternate, renewable energy sources, such as wind power, geothermal, hydro energy (conservation), solar and biomass energy conversion methods are emphasized. Through a variety of lectures and group discussions, students acquire the necessary knowledge and considerations of sustainable and renewable systems.

AECH2113 QUALITY ASSURANCE

Prerequisites: COMM1020

Quality assurance in the operation and production of chemical units is essential, particularly for Good Manufacturing Practice. This course introduces the concepts, philosophy, and application of Total Quality Management (TQM) and emphasizes the integration of TQM philosophy into the production process. It also discusses the development of quality control procedures and documentation, including reference to existing industry quality control specifications. Through lectures and projects, students learn about the quality principles of assurance and audits.

AECH2121 PROCESS CONTROL SYSTEMS

Prerequisites: AEPC1203

Process automation and control are essential components of chemical process operation. This course introduces students to the elements needed for the design and implementation of process control in chemical process industries. It provides students with the basics of proportional, integral, and derivative (PID) controls as well as an overview of more advanced systems and control strategies. Through a variety of lectures and group discussions, students learn to select a suitable advanced control technique for a specific chemical process.

AECH2122 PRINCIPLES OF CHEMICAL ENGINEERING II

Prerequisites: AECH2111

Chemical Engineering and Technician students need to be aware of the principles of advanced material and energy balances as well as multiple phase processes. This course introduces single phase and multiphase equilibrium, advanced material and energy balance calculations and solutions on multiple unit systems used in the chemical processing industry. Students learn methods to formulate and solve problems in a structured format. Through exercises and lectures, students learn to solve problems on reactive processes including fuels and combustion systems and solution of simultaneous material and energy balance equations.

AECH2142 BASIC FLUID MECHANICS & HEAT TRANSFER

Prerequisites: AECH2111, MATH1020

Fluid mechanics and heat transfer are essential basic sciences needed to design and operate many industrial equipment. This course introduces the laws and principles that govern fluid flow and heat transfer. The course examines fluid flow for non-compressible fluids and extends the concepts to compressible flow. It also covers the fundamental aspects and quantification of different modes of heat transfer. Students apply these theoretical concepts to solve fluid flow and heat transfer problems common to engineering applications. Through lectures and exercises, students are able to apply fundamentals of fluid mechanics and heat transfer to solve problems in industrially relevant applications such as reactors and heat exchangers.

Course Descriptions

AECH2241 CHEMICAL & PROCESSING PLANT OPERATION

Prerequisites: AECH1103

Co-requisites: AECH2121

Operations of chemical processes are essential components of the vocation of chemical engineers as well as chemical engineering technician. This course provides an opportunity for students to learn the role and responsibilities of a process operator through hands-on labs in a pilot plant. Students operate process units from the field and panel perspective. Through operation of a pilot plant as well as running experiments, students understand the operation of most common chemical plant process.

AECH2251 INSTRUMENTATION & CONTROL (LAB)

Prerequisites: AEPC1203

Co-requisites: AECH2121

Instrumentation and Control are essential components of chemical process control. This laboratory introduces students to process control systems. It provides students with the basics of proportional, integral, and derivative (PID) controls as well as an overview of more advanced systems and control strategies. Through experimental work, the students apply the basic operation principles of control systems and accessories of control system.

AECH2331 PROCESS EQUIPMENT

Co-requisites: AECH2111

Operation of chemical plants requires the need to understand the common process equipment and the method of operation. This course introduces students to the principles, operation, and general maintenance requirements of common processing equipment. Students learn to operate and maintain heat exchangers, pumps, compressors, turbines, valves, and other ancillary process equipment.

AECH2332 CHEMICAL & PROCESSING PLANT TROUBLESHOOTING

Prerequisites: AECH2241

Successful troubleshooting is a key success factor for chemical engineers and chemical engineering technician. Through this course, students establish and apply a general troubleshooting methodology to chemical process equipment. Definitions of good/normal performance are discussed for each process/equipment type covered. Criteria to use when evaluating possible problem solutions are examined. Students practice troubleshooting real-world chemical process equipment malfunctions. Through the operation of a pilot plant, students learn methods of troubleshooting, identify root cause analysis, and change malfunction devices.

AECH3000 WORK PLACEMENT

Prerequisites: Min 85 Credits

This is an on the job training opportunity that follows the successful completion of the second semester of the third year of the Bachelor of Science in Chemical Engineering program. The training provides students with college-approved work experience in an authentic, professionally relevant, work environment. Students are expected to learn, develop, and demonstrate high standards of behavior and performance normally expected in the work environment. The practical applications of the on the job training promotes students' awareness of key concepts and terminology in the field, encourage the development of professional autonomy and collaboration, and enhance the capacity to analyze and reflect on demonstrated abilities in the workplace.

AECH3101 APPLIED FLUID MECHANICS

Prerequisites: AECH2142

Chemical engineers need to be aware of fluid mechanics. This course introduces the laws and principles that govern incompressible fluid flow. To support theoretical studies, students conduct tests that demonstrate the real behavior of fluids while comparing findings to calculated values. The course emphasizes the application of theoretical principles to the practical mechanics that govern fluid flow. Through lectures, group exercises, students learn to solve fluid mechanics equations and calculate power requirements, friction, and propose different types of pumps and compressors for different applications.

AECH3132 CHEMICAL REACTION ENGINEERING

Prerequisites: AECH2122

This course introduces students to chemical reactors and addresses the study of batch and continuous stirred tank reactors. Students use simulation and laboratory work to safely and correctly start up, shut down, control, and troubleshoot reactors. Through lectures and exercises, students learn to size different reactor types.

AECH3222 FLUID MECHANICS & HEAT TRANSFER (LAB)

Prerequisites: AECH3101, AEMA3142

Chemical engineers need to be aware of fluid mechanics and heat transfer equipment. This course covers the basic laboratory tasks in understanding the principles that govern fluid flow and heat transfer. The course examines fluid flow for non-compressible fluids and extends the concepts to compressible flow. It also covers the fundamental aspects and quantification of different modes of heat transfer. Students perform laboratory activities to reinforce the theoretical concepts. Through experimental work, students shall be able to calculate energy loss and heat transfers in different media.

AECH3302 APPLIED THERMODYNAMICS

Prerequisites: MATH1020, PHYS1020

Thermodynamics is an essential component of chemical engineering science. This course presents the laws of thermodynamics and their applications. It covers different topics such as forms of energy, open and closed systems, work and heat, P-V-T properties of pure fluids and steam tables, the first two laws of thermodynamics, introduction to cycles, entropy concept (open and closed systems), and basic ideas of heat engines. Through lectures and exercises, students learn to apply the laws of thermodynamics in open and closed systems.

AECH3321 PROCESS UNIT DESIGN

Prerequisites: AECH2122

This course consolidates knowledge, experience, and skills gained by students from the chemical processing technology courses to solve open-ended chemical engineering and related industrial process design problems. Students develop competencies in screening the best alternative equipment for a proposed process or a treatment equipment using heuristics rules and then using commercial process simulator for optimizing the design and operation of several kinds of equipment. Students conduct hand calculations and simulator for sizing and costing the major individual equipment. Through simulation software, lectures, and hand calculations, student shall be able to design, size, and estimate cost of main process equipment in chemical industries.

Course Descriptions

AECH3331 TECHNOLOGY CAPSTONE I

Prerequisites: AECH2142

The capstone project enables the student completing a Diploma in the Chemical Processing Technology program to demonstrate the application of skills and knowledge developed throughout the program. Students taking this course work with minimal supervision on a project under the guidance of a faculty member. The student can work independently or in teams to carry out an in-depth study of a problem, design or technological application, and fully document and present their findings. At the end of this course, the student will have completed a proposal of their capstone project that may be completed in the following academic semester of their program.

AECH3332 TECHNOLOGY CAPSTONE II

Prerequisites: AECH3331

The Capstone project is an ultimate course where students show their knowledge skills and competencies built in previous courses. It enables the students completing the technology degree to demonstrate the application of skills and knowledge developed throughout the program. Under the guidance of a faculty member, students work individually or in teams on a project independently with minimal supervision to carry out an in-depth study of a problem, design or technological application, and fully document and present their findings. Through the span of the project research or design, students shall be able to submit project report to include all technical, economical and ethical analyses of the project outcomes

AECH4102 APPLIED DIFFERENTIAL EQUATIONS

Prerequisites: MATH2010

This course focuses on the application of mathematics to problems derived from chemical engineering fundamentals such as fluid mechanics, heat transfer, mass transfer, and reaction kinetics. It also covers the formulation and solution of ordinary and partial differential equations arising in chemical engineering or related processes or operations and mathematical approaches, both analytical and numerical, to solving ordinary and partial differential equations.

AECH4112 PROCESS SAFETY MANAGEMENT

Prerequisites: AECH1112, AECH2122, AECH2331

This is a professional Course (NEBOSH) that chemical engineers require as part of their academic program. In this course, students use industry-recognized standards and methodologies to assess risk, measure its magnitude, and develop plans to minimize and control it. Students review case studies from the oil and gas and chemical process industries to demonstrate the necessity for comprehensive risk management systems. Process safety analysis/risk management is applied. Through the delivery standard of NEBOSH materials and lectures, students learn to analyze multiple risks and safety aspects.

AECH4122 CHEMICAL INDUSTRIES & TECHNOLOGY

Prerequisites: AECH1103, CHEM3010

Main processes in chemical engineering in general, oil and gas industry specifically, rely heavily on mass transfer and separation processes. This course presents the concepts and techniques necessary for students to design and operate equilibrium-based multistage and continuous contacting unit operations in chemical process engineering. It familiarizes the students with the principles and applications of mass transfer processes such as gas-liquid, liquid-liquid, and solid-liquid systems. Through lectures and exercises, student shall be able to explain different separation processes.

AECH4210 MASS TRANSFER & SEPARATION PROCESSES

Prerequisites: AECH2331, AECH3321

Chemical engineering, in general, and the oil and gas industry, specifically, rely heavily on mass transfer and separation processes. This course presents the concepts and techniques necessary for students to design and operate equilibrium-based multistage and continuous contacting unit operations in chemical process engineering. It familiarizes the students with the principles and applications of mass transfer processes such as gas-liquid, liquid-liquid, and solid-liquid systems. Through lectures and exercises, students learn to explain different separation processes

AECH4211 PLANT DESIGN & ECONOMICS

Prerequisites: AECH3321

Plant design of chemical process and economics are key terminal knowledge in chemical engineering, therefore, it is very essential course for the chemical engineering senior students. This course allows students to explore the fundamentals of computer-aided simulation of chemical processes in complete plant design. Students use their process simulation project developed in the previous process unit design course to model, redesign, test, optimize, and integrate all processes in the selected plant. Students use Excel for estimation of the capital, manufacturing costs as well as economic and profitability analyses. Through software simulation and application of prior knowledge of chemical engineering sciences and safety aspects, student shall be able to design plants, optimize them, and cost estimate them.

AECH4221 CHEMICAL REACTION ENGINEERING (LAB)

Prerequisites: AECH3132

This course introduces students to experiments conducted on batch, continuous stirred tanks, and plug flow reactors. Students learn how to plan and independently realize laboratory experiments using different chemical reactors, including measuring reactant quantities, temperature control, and analyzing equipment. Through lab work, students understand and use the factors in chemical reactor design.

AECH4232 MATERIALS & CORROSION

Prerequisites: CHEM3010

This project-based course focuses on corrosion issues which are one of the significant challenges for chemical engineers while selecting the appropriate design materials. It introduces students to the physical and mechanical properties of materials commonly used in the chemical processing industries. Additionally, it explores the factors that promote the corrosion of these materials when used in industrial processes. Finally, students examine various means of controlling and monitoring corrosion and corrosion processes in chemical industries. Through presentations and project commencement, students understand different types of corrosion and protection and practice the skills to select suitable materials for equipment or utility design.

AECH4301 CAPSTONE PROJECT I

Prerequisites: AECH3321

Co-requisites: AEMA4100, COMM3010

Engineering students in their final year must demonstrate the knowledge, skills and competencies gained during the previous three years of study in a capstone project. Under the guidance of a faculty member, students work individually or in teams on a project independently with minimal supervision to carry out an in-depth study of a problem, design or technological application, and fully document and present their findings. At the end this course, students will have completed a proposal of their capstone project I that may be executed in Capstone Project II.

Course Descriptions

AECH4302 CAPSTONE PROJECT II

Prerequisites: AECH4301

The Capstone Project is an ultimate course where students show their knowledge skills and competencies built in previous courses. It enables the students completing the engineering degree to demonstrate the application of skills and knowledge developed throughout the program. Under the guidance of a faculty member, students work individually or in teams on a project with minimal supervision to carry out an in-depth study of a problem, design or technological application, and fully document and present their findings. Through the span of the project research or design, students shall be able to submit project report to include all technical, economical and ethical analyses of the project outcomes.

AEEL1100 FUNDAMENTALS OF ELECTRICITY

Prerequisites: MATH1010

This course introduces non-electrical applied engineering students to electrical power fundamentals and basic applications. This course covers engineering notation and prefixes and concepts of current, voltage, resistance, power, work, and efficiency. Additionally, it covers the applications of Ohm's Law, Kirchhoff's Voltage Law, Kirchhoff's current law and analysis of DC circuits, basics of Alternate Current (AC) theory and the application to identify characteristics of circuits and equipment commonly found in industrial installations.

AEEL1101 FUNDAMENTALS OF ELECTRICITY I

Electrical engineers, technology engineers, and technicians need significant knowledge of electrical systems. This course explores fundamental circuits, covering engineering notation and prefixes and concepts of current, voltage, resistance, power, work, and efficiency. Also discussed are topics such as applications of Ohm's Law, Kirchhoff's Voltage Law, Kirchhoff's current law, the analysis of DC circuits, networks analysis with DC current and voltage sources, branch-current analysis, and mesh and nodal analysis. Through lectures, discussions, and group work, student learn the basic concepts of electrical circuits.

AEEL1102 FUNDAMENTALS OF ELECTRICITY II

Prerequisites: AEEL1101

Electrical engineers, technology engineers, and technicians need significant knowledge of electrical systems. A continuation of AEEL1101, this course provides students with an understanding of AC circuit analysis using complex numbers and phasors. Topics include fundamentals of magnetism, inductance, fundamentals of AC, frequency characteristics, and series and parallel AC circuits. Students use Multisim software for applied knowledge and skills. Through lectures, discussions, and group work, students learn and apply concepts of AC electrical theory.

AEEL1200 FUNDAMENTALS OF ELECTRICITY (LAB)

Co-requisites: AEEL1100

This laboratory course introduces non-electrical applied engineering students to electrical power fundamentals and basic applications. This course covers engineering notation and prefixes and concepts of current, voltage, resistance, power, work, and efficiency. Additionally, it covers the applications of Ohm's Law, Kirchhoff's Voltage Law, Kirchhoff's current law and analysis of DC circuits, basics of Alternate Current (AC) theory and the application to identify characteristics of circuits and equipment commonly found in industrial installations.

AEEL1201 FUNDAMENTALS OF ELECTRICITY I (LAB)

Co-requisites: AEEL1101

Electrical engineers, technology engineers, and technicians need significant knowledge of electrical systems. This lab is intended to provide students with the hand-on skills in building and troubleshooting electrical circuits, using electrical equipment such as power supplies and developing competency in using measurement devices such as digital multi-meters. The labs include resistors, color codes, and power rating, introduction to Multisim software, series DC circuits, parallel DC circuits, series parallel DC circuits, Superposition principle, Thevenin's theorem and maximum power transfer. Through experimentation, simulation and group work, students use hands-on experience to put theoretical concepts into practice.

AEEL1202 FUNDAMENTALS OF ELECTRICITY II (LAB)

Prerequisites: AEEL1201

Co-requisites: AEEL1102

Electrical engineers, technology engineers, and technicians need significant knowledge of electrical systems. This lab provides students with hand-on skills in building and troubleshooting electrical circuits and using electrical equipment such as power supplies. Students also develop competency in using measurement devices such as digital multi-meters. Examples of lab topics include resistors, color codes, power ratings, an introduction to Multisim software, series DC circuits, parallel DC circuits, and series parallel DC circuits. Through experimentation, simulation, and group work, students are provided with hands-on experience to put theoretical concepts into practice.

AEEL2201 ELECTRONIC FABRICATION PRACTICES

Prerequisites: AEEL1102, AEEL1202

This course provides a practical introduction to electrical and electronic fabrication techniques. It also includes a comprehensive safety education component, including basic first aid, hazardous materials, and safety regulations. Besides learning to use basic hand tools and soldering techniques, students also learn about safety, oral and written communications, teamwork, problem solving, and troubleshooting. Through the practical fabrication of electronic projects using PCBs and other supporting components, students are given hands-on experience with hand and power tools in an electronic fabrication lab/workshop environment.

AEEL2102 POWER SYSTEMS I

Prerequisites: AEEL2111

An electric power system is a network of electrical components used to generate, transmit and distribute electric power. Electrical power systems are also at the heart of development of a sustainable energy supply, enabling renewable energy generation. This course familiarizes students with basic elements of power systems. The course also covers energy sources, basics of AC electrical power (real, reactive, and apparent power), voltage regulation, transmission line modelling, per-unit system fault analysis, and load flow analysis using numerical methods. Through a variety of lectures, assignments, and group discussions, students acquire the necessary knowledge of power system elements.

AEEL2103 FACILITIES & ELECTRICAL SYSTEMS

Prerequisites: AEEL2102

Electrical power systems engineers, technologists and technicians need significant knowledge of electrical systems design parameters. This course explores protection devices types and their performance curves, cable systems analysis, design of branch circuits for static and motor loads, panel schedules, load balancing, motor control centre, and earthing practices. Through a variety of lectures, assignments, and group discussions, students acquire the necessary knowledge of electrical systems design parameters.

Course Descriptions

AEEP2111 ELECTRICAL MACHINES

Prerequisites: AEEL1102

This course covers the basics of electrical machines and their applications. The course begins with a review of the electro-mechanical fundamentals of electrical machines and progresses to the operation and application of the major types of DC and AC motors, transformers, and generators in industry.

AEEP2112 ELECTRICAL PRACTICES

Prerequisites: AEEP2111

Understanding of safe working practice, reading elementary circuits diagram and schematics, skills of installation, testing and troubleshooting are essential for electrical industrial, commercial, and residential installation. This course provides a thorough understanding and safe using of electrical hand tools, electrical measuring and troubleshooting instruments, wires, and cable color code identification and insulation. It introduces motor installation, motor protection, motor starter installation, motor testing and troubleshooting, Arc flash, hazardous area classification and IEC & NEMA type enclosure. The course is delivered through lectures, related and selected videos, case studies, assignments, class exercises, and brain storming.

AEEP2113 HV EQUIPMENT TESTING AND MAINTENANCE

Prerequisites: AEEP2111

This course provides a thorough understanding and usage of electrical measuring, testing, and maintenance tools for high voltage power (HV) equipment for regular and special maintenance. The course focuses on learning maintenance and test theory and methodology for HV power transformer, power circuit breakers, high voltage cable and rotating machines. Course delivery includes lectures, related and selected videos, group-based case studies, assignments, class exercises and brainstorming.

AEEP2122 MOTOR CONTROLS & DRIVES

Prerequisites: AEEP2111, AETN2101

Electric motors used to drive industrial machines must be started, stopped, and protected in various different ways depending on the application and the type of motor used, and their speed must also be controlled. This course introduces students to motor control principles and fundamental concepts of motor drives. Students learn to identify electrical symbols (IEC and ANSI standards) and design basic to complex motor control systems. In addition, students learn to install, configure, operate, and troubleshoot soft starters and alternating current (AC) /DC drives. Through lectures, assignments, and group discussions, students acquire the necessary theoretical knowledge in this area.

AEEP2202 POWER SYSTEMS I (LAB)

Prerequisites: AEEP2211

Co-requisites: AEEP2102

An electric power system is a network of electrical components used for generation, transmission, and distribution electric power. Electrical power systems are also at the heart of development of a sustainable energy supply, enabling renewable energy generation. This is a hands-on lab course to familiarize students with basic elements of power systems. The course supports student learning through hardware and software simulations relating to energy sources, basics of AC electrical power, multi-phase power, voltage regulation, transmission line modelling, per-unit system fault analysis, and load flow analysis using numerical methods. The course is delivered through a set of lab exercises.

AEEP2203 FACILITIES & ELECTRICAL SYSTEMS (LAB)

Prerequisites: AEEP2202

Co-requisites: AEEP2103

This is a hands-on lab course that supports learning through design exercises relating to electrical power systems. Specifically, this course covers design of electrical branch circuits for static and motor loads, protection devices, wiring systems, panel schedules, load balancing. Through a variety of labs and group discussions, students acquire the necessary knowledge of power system design parameters.

AEEP2211 ELECTRICAL MACHINES (LAB)

Prerequisites: AEEL1202

Co-requisites: AEEP2111

Electrical machines play an important role in many industrial applications such as power systems, manufacturing factories, power plants, electrical vehicles, and home appliances. This course comprises a set of laboratory exercises to give the students hands-on experience with regards to electrical machines. Laboratory exercises allow students to become familiar with the construction, operation, troubleshooting, equivalent circuits, and performance of major electrical machines used in industry. This practical experience is important in preparing students for actual work in industry or elsewhere where their hand-on skills would be applied.

AEEP2212 ELECTRICAL PRACTICES (LAB)

Prerequisites: AEEP2211

Co-requisites: AEEP2112

In this course students are provided with a wide range of practical hands-on skills for low voltage (LV) electrical installations for industry, commercial building and residential homes. The course covers motor control relay installation, motor control center (MCC) installation, MCC disassembly, MCC troubleshooting, motor dismantling, commutator, brush rigging, slip ring inspection, motor stator (field) and rotor (armature) field winding identification, maintenance and troubleshooting of motor windings. Through installation, inspection, testing and troubleshooting students learn to use hands-on experience to put theoretical concepts into practice. The course is delivered through a number of labs that are based on the use of hand tools & test equipment like: digital multimeters, control relays, protection and overload units, growler, and megger.

AEEP2213 HV EQUIPMENT TESTING & MAINTENANCE (LAB)

Prerequisites: AEEP2211

Co-requisites: AEEP2113

This lab-based course provides a wide range of hands-on practical skills relevant to testing and maintenance of high voltage (HV) equipment. For testing and maintenance, the course focuses on power transformer, transformer insulating oil, power cables, Switchgear, and circuit breaker, disconnect switch and ground switch, insulator, and generator and motor. Through a series of labs students learn the usage of test equipment including digital multimeters, megger, oil tester, thermal scanner, and circuit breaker time travel tester. The safety of personnel is continually stressed throughout this course.

Course Descriptions

AEEP2222 MOTOR CONTROLS & DRIVES (LAB)

Prerequisites: AEEP2211, AETN2201

Co-requisites: AEEP2122

This course aims to provide students with practical skills needed to undertake development, installation, configuration, operation, and troubleshooting of industrial motor controls circuits and drives safely and efficiently. Emphasis is also placed on the development of useful practical skills in interpreting and drawing of diagram circuits. Through a set of hands-on lab exercises, students acquire the necessary practical skills to identify electrical symbols (IEC and ANSI standards) and design basic to complex motor control systems. In addition, students learn practical skills to install, configure, operate, and troubleshoot soft starters, DC drives, and alternating current (AC) drives.

AEEP2301 APPLIED PROGRAMMING

Prerequisites: AEEL1101, MATH1020

This course introduces students to the C/C++ programming language for solving mathematical and scientific problems and teaches them how to design, write, and implement programs. Topics covered include structured programming concepts, data types, decision statements, loop and iteration procedures, pointers, Input/output procedures, and files.

AEEP3000 WORK PLACEMENT

Prerequisites: Min 85 Credits

This on the job training opportunity follows the successful completion of the second semester of the third year of the Bachelor of Science in Electrical Engineering – Electrical Power & Renewable Energy. The training provides students with college-approved work experience in an authentic, professionally relevant, work environment. Students are expected to learn, develop, and demonstrate high standards of behavior and performance normally expected in the work environment. The practical applications of the on the job training promotes students' awareness of key concepts and terminology in the field, encourage the development of professional autonomy and collaboration, and enhance the capacity to analyze and reflect on demonstrated abilities in the workplace.

AEEP3101 INTRODUCTION TO EMBEDDED SYSTEMS

Prerequisites: AEEP2301

Embedded computing systems are essential to the operation of electronic devices and systems across a wide range of industries. They consist of both computer hardware and software components, which combined are designed to perform a specific task within a larger mechanical or electrical system. This course introduces students to the principles and practice of microcontroller systems engineering. The content includes configuration, programming, and interface of MSP432 microcontroller with external hardware using assembly and C programming language. The course focuses on the Texas Instruments MSP432 microcontroller. Through lectures and presentations, students learn the principles of operation of microprocessors and microcontrollers.

AEEP3102 POWER ELECTRONICS

Prerequisites: AEEP2122, AETN2101

Power electronics has a broad scope and a large number of electrically powered devices, and renewable energy systems have close connection with the field of power electronics. This course introduces students to the principles of modern power electronics and its applications. It includes power electronics circuits, power semiconductor devices, and converter topologies. The student learns the analysis and design techniques for different converters topologies that include AC-DC converters, DC-DC converters, DC-AC converters and AC-AC converters. Through lectures, students perform complex theoretical analysis of different power electronics converter architectures and its applications.

AEEP3111 POWER SYSTEMS II

Prerequisites: AEEP2102

This course provides an in depth theoretical and hands on approach to gas insulated substation design (GIS), theory and application of modern power systems protection schemes as applied to power networks. In this course, primary relay functions are investigated, as are characteristics of the systems abnormalities that can trigger a response from the protection system. It provides students with knowledge necessary to design GIS and address stability and control of power networks. Through lectures and presentations, students understand the importance of the variety of techniques used to properly protect power systems to ensure continuity of supply, minimize damage to expensive power systems equipment, and ensure the safety of the personnel.

AEEP3112 CONTROL SYSTEMS DESIGN

Prerequisites: AEEP3121

The control theory of electrical and mechanical system is important for industrial technology which is considered the basic science for robotics and automation. This course introduces important concepts of the analysis and design of control systems. Laplace transformation is introduced. Modelling of control systems are detailed using appropriate examples. Response analyses, root locus design, and frequency-response method are covered in this course in addition to state-space representation. Matlab and Simulink are used for the analysis and design. This course is taught through a variety of lectures and a co-requisite lab course using Matlab and practical equipment.

AEEP3121 ADVANCED ENGINEERING MATHEMATICS & APPLICATIONS

Prerequisites: MATH2010

Electrical engineering depends largely on signals and complex circuit analysis using advanced mathematical techniques. In this course, students review techniques of differential equations, first order and second order; integral combinations; growth and decay problems; the analysis and solution of source free RL and RC circuits; driven RL and RC circuits using differential integral calculus; sinusoidal analysis; the concept of phasors; and steady state response. This course also deals with waveform analysis and synthesis, time domain analysis, solution of differential equations using Laplace transforms, application of Laplace transforms to solve electric circuits, and derivation of transfer functions. In addition, this course includes Probability and Statistics concepts and its applications. Through lectures and exercises, students use advanced math techniques to analyze electrical signals and circuits

AEEP3122 RENEWABLE ENERGY CONVERSION I

Prerequisites: AECH2112

Renewable energy is expected to provide a central solution to our need for sustainable fuels. An understanding of renewable energy systems selection, installation, operation, and maintenance are essential for electrical engineers. In this course, students learn about solar radiation principles and measurement, PV Modules and arrays, energy storage, PV systems loads, charge controllers, maximum power point tracking, inverters, balance of systems components, photovoltaic system components and sizing, the design of a standalone PV system, wind energy system components and sizing, and the design of a stand-alone wind energy system. Students use software such as MATLAB/Simulink and PVsys in their course projects. The course is delivered through a variety of lectures, active learning activities and exercises, and projects.

Course Descriptions

AEEP3132 DISCRETE MATHEMATICS

Discrete math is essential to electrical engineering disciplines as it introduces students to the theoretical mathematical framework underlying key concepts in computing and programming. It is also intended to familiarize students with the nature of mathematical reasoning, deductive logic and proofs. Through lectures and exercises, students utilize number theory, sets, functions and sequences, relations, recurrence relations, counting techniques, logic and techniques of proof, graphs, and algorithms. This course prepares a student for further study in electrical engineering.

AEEP3201 INTRODUCTION TO EMBEDDED SYSTEMS (LAB)

Prerequisites: AEPP2301

Co-requisites: AEPP3101

Embedded computing systems are essential to the operation of electronic devices and systems across a wide range of industries. When developing an embedded system, one of the options is to base the computational hardware around a microcontroller unit (MCU) rather than a microprocessor unit (MPU). This course enables students to perform a number of hands-on lab exercises to improve their learning of microcontroller development environment, design of a microcontroller-based embedded systems, interfacing from both hardware and software perspectives and including various applications. Through lab work, students learn the principles of operation of microcontrollers and use common industrial controllers and dataloggers.

AEEP3202 POWER ELECTRONICS (LAB)

Prerequisites: AEPP2222, AETN2201

Co-requisites: AEPP3102

The power electronics lab gives students practical exposure and further emphasize on the theoretical concepts of various power electronics converters covered in power electronics course. It allows students to build and test basic power electronics converters, measure key parameters, calculate efficiency and losses for each converter topology. The lab component focuses on power electronics converter circuits such as DC-DC converters, AC-DC converter, AC-AC converter and AC-DC converter. Students learn about each converter, then simulate each of their behaviors using bread board and suitable software such as MATLAB/Simulink. In addition, students build example circuits using a bread board or Vero board. In a mini project component, students design, test, and build a DC-DC or AC-DC converter circuit.

AEEP3211 POWER SYSTEMS II (LAB)

Prerequisites: AEPP2202

Co-requisites: AEPP3111

This lab further emphasizes on the theoretical concepts covered in the Power Systems II lectures. Safety and hazards in power transmission and distribution networks are elaborated in detail; like the dangers of arch flash and its detailed analysis is covered in the first two lab. It allows students to design and simulate via ETAP commercial software a reliable power transmission and distribution system. The lab focuses on design and correct sizing of power systems protection devices, protective devices coordination, and design of protective relaying systems. In the mini project component, students have a choice of either designing a section of power network transmission and distribution system, with emphasis on protection and coordination or design a complete gas insulated substation (GIS). Students work on their allocated project during the labs and demonstrate their work at the end of the semester.

AEEP3212 CONTROL SYSTEMS DESIGN (LAB)

Prerequisites: AEPP3121

Co-requisites: AEPP3112

It is desirable that most engineers and scientists are familiar with theory and practice of automatic control. In this lab course, students design p controller, PI and PID controllers, simulate it using MATLAB/Simulink, and deploy the controller to embedded hardware such as Arduino Microcontroller. Also, students perform different experiments including: Proportional control of DC motor, Control system modelling, system response, controller design using root locus, system analysis and design using Frequency-Response, PID control of DC motor. Students use software/tools such as MATLAB/Simulink in the lab along with the lab hardware and software tools. This course is delivered through a number of hands-on practical lab activities, discussion, and projects.

AEEP3222 RENEWABLE ENERGY CONVERSION I (LAB)

Prerequisites: AECH2112

Co-requisites: AEPP3122

Renewable energy is a central solution to our needs for sustainable fuel. An understanding of the selection, installation, operation, and maintenance of renewable energy systems is essential for electrical engineers. In this lab-based course, students perform different labs to gain hands-on skills and knowledge related to renewable energy conversion. They learn about lab familiarization and safety, recording the characteristics of solar modules, investigating responses to partial shading, testing a PV system in direct mode (No battery), testing a stand-alone PV system with battery storage, finding faults in solar cells or PV modules, and investigating maximum power point tracking and wind energy system operations and performance. Through hands-on activities, discussion, and projects, students also learn about lab hardware and software tools such as MATLAB/Simulink and Posy's.

AEEP3312 TECHNOLOGY CAPSTONE PROJECT II

Prerequisites: AEPP3321

The capstone project enables the student completing an Advanced Diploma in the Electrical Power and Renewable Energy Engineering Technology program to demonstrate the application of skills and knowledge developed throughout the program. Students taking this course work with minimal supervision on a project, under the guidance of a faculty member. The student can work independently or in teams to carry out an in-depth study of a problem, design or technological application, and fully document and present their findings.

AEEP3321 TECHNOLOGY CAPSTONE PROJECT I

Prerequisites: Min 71 Credits

The capstone project enables the student completing an Advanced Diploma in the Electrical Power and Renewable Energy Engineering Technology program to demonstrate the application of skills and knowledge developed throughout the program. Students taking this course work with minimal supervision on a project, under the guidance of a faculty member. The student can work independently or in teams to carry out an in-depth study of a problem, design or technological application, and fully document and present their findings. At the end of this course, the student will have completed a proposal of their capstone project that may be completed in the following academic semester of their program.

Course Descriptions

AEEP4100 PROJECT MANAGEMENT

Prerequisites: AEEP4301 OR AEAC4311

It is necessary that engineers use proper management systems to execute required tasks and duties. This course provides a systematic and thorough introduction to all aspects of project management. The course underlines the importance of understanding the relation between projects and the strategic goals of an organization. Through presentations and lectures, students implement proper management styles to successfully manage projects from start to finish. The course emphasizes that project management is a professional discipline with its own tools, body of knowledge, and skills.

AEEP4111 RENEWABLE ENERGY CONVERSION II

Prerequisites: AEEP3122

This course aims to provide advanced knowledge about renewable energy sources, focusing on photovoltaic and wind energy systems design, simulation, and installation. Students learn how to integrate renewable energy systems and how to connect photovoltaic and wind energy systems to the grid using required standards and codes imposed by utility. Students also learn how to design a grid-connected PV and wind system and gain knowledge of battery backups for grid-connected systems, system performance monitoring, economic considerations, and the impact of renewable energy systems on the grid. Students use software such as MATLAB/Simulink and PVsys. These course concepts are delivered through lectures, active learning activities and exercises, and projects.

AEEP4112 ENERGY EFFICIENCY & STORAGE

Prerequisites: AEEP4111

In this course, students evaluate and compare different efficient technologies in commercial and residential sectors and compare energy storage systems. The following topics are be studied: energy efficient technologies in commercial and residential sectors, energy storage technologies, fuel cells, flywheels, supercapacitor, thermal storage, compressed air, hydroelectric pumping, conventional batteries - lead acid, nickel-cadmium batteries, lithium batteries, and future of storage. Students are expected to use software/tool such as MATLAB/Simulink, PVsys in their course projects. The delivery of the course includes lectures, active learning activities and exercises, and projects.

AEEP4122 SMART GRIDS

Prerequisites: AEEP3102, AEEP3202, AEEP3111, AEEP3211, AEEP3122, AEEP3222, AEEP3101, AEEP3201

The electric grid is currently drastically transformed to the Smart Grids. The Smart Grids technology allows two-way communications between the electric utility and its customers, and the sensing along the transmission lines. The course is delivered through a set of lectures and includes a hands-on assignment component aligned with the theoretical upgrades introduced in the course in the form of term projects. Students use software/tool (Python, C/C++, MATLAB/Simulink, eQuest, Energy+, GridLab-D, NetSim, etc.) on the project. Students select their project topic related to the Smart Grids and work in a group of 2-3 students to complete the term project/assignment.

AEEP4211 RENEWABLE ENERGY CONVERSION II (LAB)

Prerequisites: AEEP3222

Co-requisites: AEEP4111

Renewable energy is a central solution to our needs for a sustainable fuel. In this lab course, students gain deep understanding and hands-on skills related to renewable energy conversion. Different experiments are conducted to enhance student learning. These experiments include: lab familiarization and safety, recording the characteristics of solar modules, investigating response to partial shading, testing a PV system in direct mode (no battery, testing a standalone PV system with battery storage, faults in solar cells or PV modules, investigating maximum power point tracking, wind energy system operation and performance. Students learn usage of software/tools such as MATLAB/Simulink, PVsys in the lab along with the lab hardware and software tools. The delivery of the is through hands-on activities, discussion, and projects.

AEEP4212 ENERGY EFFICIENCY & STORAGE (LAB)

Prerequisites: AEEP4211

Co-requisites: AEEP4112

In this course, students complete labs to develop hands-on skills and knowledge related to energy efficiency and storage. Topics include lab familiarization and safety, energy storage systems with PV, the design and installation of the battery storage unit, the charging and discharging of batteries, characteristics and power curves of the fuel cell, flywheel energy storage, storage unit integration into Smart Grids, the thermal behavior of batteries, and the impact of energy efficient variable frequency drive and LED lights on electrical grids. Through hands-on activities, discussions, and projects in the labs, students learn to use software such as MATLAB/Simulink and lab hardware.

AEEP4301 CAPSTONE PROJECT I

Prerequisites: Min 80 Credits AND AEEP3102, AEEP3202, AEEP3101, AEEP3201, AEEP3111, AEEP3211, AEEP3122, AEEP3222

Co-requisites: AEEP4100

The capstone project enables the student completing the engineering degree to demonstrate the application of skills and knowledge developed throughout the program. Students work with minimal supervision on a project under the guidance of a faculty member. The student can work independently or in teams to carry out an in-depth study of a problem, design or technological application, and fully document and present their findings. At the end of this course, the student will have completed a proposal of their capstone project that may be completed in the following academic semester of their program.

AEEP4302 CAPSTONE PROJECT II

Prerequisites: AEEP4301

The capstone project enables the student completing the engineering degree to demonstrate the application of skills and knowledge developed throughout the program. Students work with minimal supervision on a project under the guidance of a faculty member. The student can work independently or in teams to carry out an in-depth study of a problem, design or technological application, and fully document and present their findings.

AEMA1102 HEALTH & SAFETY IN THE WORKPLACE

This introductory course explores the nature and dimension of workplace health, safety, and environment and focuses on the role played by both the employer and employee in the process. Course topics include health, safety, environment, hazard communication, and safety awareness.

Course Descriptions

AEMA1113 MATERIALS PRACTICES

Prerequisites: CHEM1010, PHYS1020

This introductory course explores materials properties and characterization, emphasizing metallic materials and alloys. Students learn about the essential properties of materials and how they are related to applications and processing. In addition, this course aims to ensure that students understand the importance of using the right material for specific applications based on a material's properties and service conditions.

AEMA1213 MATERIALS PRACTICES (LAB)

Prerequisites: AEMA1102

Co-requisites: AEMA1113

This laboratory course explores materials properties and characterization with an emphasis on testing the mechanical properties of metallic materials. Students learn and conduct different types of tests and experiments about important properties of materials. Additionally, students conduct tests related to heat treatment and sample preparation for metallographic analysis. Students learn to identify and handle samples from different metallic materials to conduct different tests and obtain quantitative and qualitative data about the properties tested.

AEMA1303 MACHINE SHOP PRACTICES

Prerequisites: AEMA1102

This introductory course is designed to give students knowledge and understanding of fundamental metal-removal and general machine shop concepts, which forms the basis for further studies in science and technology.

AEMA1312 ENGINEERING GRAPHICS

Prerequisites: AECH1201

Engineering graphics is the predominant means of communicating accurate information within industries pertinent to all engineering technology disciplines. From the simplest in-the-field sketch to the most advanced 3-D model, each may constitute a legal document. Engineers, in general, need to understand and construct engineering drawings. This course focuses on basic engineering graphic principles and standards to effectively communicate technical graphical design. It also provides the foundation for more advanced engineering graphics concepts. Through practical drawings, lectures, and studio work, the students learn to make a complete drawing of a simple object from scratch.

AEMA2101 WELDING FUNDAMENTALS

This introductory course provides students with basic knowledge in the fundamentals of welding. Topics covered are the fabrication of piping elements and tools and welding technology and processes. Some of the applications include tools to cut metal and non-metallic piping, methods of joining pipes and tubes, oxy-fuel cutting and welding processes, Shielded Metal Arc Welding (SMAW), Gas Metal Arc Welding (GMAW), Flux Cored Arc Welding (FCAW) and Gas Tungsten Arc Welding (GTAW/TIG). In addition, the course emphasizes safety rules to prepare students for the applications in the workshop.

AEMA2102 POWER PLANT COMPONENTS

This course aims to develop the basic skills needed to operate and maintain steam generation systems. The course explores steam generator design and construction, components, and operations and maintenance. In addition, other topics like fossil fuel burning systems, pressure systems legislation, codes, standards, and safety systems in steam plants are covered.

AEMA2103 PRINCIPLES OF MAINTENANCE

Prerequisites: AEMA2112, AEMA2131

This course introduces students to the basic principles of maintenance. Students become familiar with industrial safety and the three applied maintenance methodologies: breakdown, preventive, and predictive maintenance of industrial equipment and systems. Students also learn about the various functions of a typical maintenance department and the best practices.

AEMA2112 ROTATING EQUIPMENT MAINTENANCE

This course introduces students to the operation and general maintenance of internal combustion engines, compressors, pumps, gas turbines, gearboxes, fans, and blowers. Students conduct predictive and preventive maintenance tasks typically performed on rotating equipment. The course emphasizes safe work practices.

AEMA2113 HYDRAULICS & PNEUMATICS

Prerequisites: PHYS1020

This is an intermediate course in the design of hydraulic and pneumatic power systems. Throughout the course, students learn about the components of hydraulic and pneumatic systems and conduct tests demonstrating how different components and circuits work. As a project, students make calculations to size, source, and select system components and prepare a schematic diagram.

AEMA2121 MATERIALS & PROCESSES

Prerequisites: AEMA1213

This course is an introduction to materials and processes. Students learn about production, fabrication, and practices used in an industrial environment. In addition, this course gives an overview of non-metallic materials used in engineering applications and industry. Topics such as coating, surfaces, corrosion, and metal forming methods are covered.

AEMA2122 NON-DESTRUCTIVE TESTING

Prerequisites: AEMA2221

This course introduces students to techniques used to detect discontinuities in materials without destroying the component. Students learn about the source of some common defects, how they originate, and how they affect metallic objects' performance. Additionally, they learn how to detect, identify, evaluate, and categorize discontinuities using different non-destructive methods. Certain testing methods are also covered, such as visual testing, liquid penetrant testing, magnetic particle testing, eddy current testing, ultrasound testing, and radiography testing. The focus of the course is on testing weld samples.

AEMA2131 INDUSTRIAL MAINTENANCE MECHANICS

This course introduces students to the operation and maintenance of mechanical power transmissions. Students learn to disassemble and install components such as bearings and seals while doing visual inspections to determine the cause of component failures before reassembling the transmission. Students also have the opportunity to conduct proper maintenance for power transmission systems and their components.

Course Descriptions

AEMA2201 WELDING FUNDAMENTALS (LAB)

Prerequisites: AEMA1303

Co-requisites: AEMA2101

This introductory course allows students to learn hands-on skills and eventually practice the fabrication of piping elements and tools and welding technology and processes. Some of the applications include tools to cut metal and non-metallic piping, methods of joining pipes and tubes, oxy-fuel cutting and welding processes, Shielded Metal Arc Welding (SMAW), Gas Metal Arc Welding (GMAW), Flux Cored Arc Welding (FCAW) and Gas Tungsten Arc Welding (GTAW/TIG). In addition, the course emphasizes safety rules in applications in the workshop.

AEMA2202 POWER PLANT COMPONENTS (LAB)

Prerequisites: AEMA1102

Co-requisites: AEMA2102

The Power Plant Components laboratory course enhances engineering students' understanding and knowledge of basic principles and experimental methods. It highlights the operation of boiler and steam turbines and how to apply those concepts in practice. This course is designed to develop the basic skills needed to operate and maintain steam generation systems. The program deals with steam generator design and construction, components, and operations and maintenance. Other topics include fossil fuel burning systems, pressure systems legislation, codes, standards, and safety systems in steam plants. The course includes experimental objectives, practical applications, theory, equipment required to perform each experiment, experimental procedure, data collection and presentation of the results.

AEMA2203 PRINCIPLES OF MAINTENANCE (LAB)

Prerequisites: AEMA1102

Co-requisites: AEMA2103

In this course, students learn about and practice creating work orders, maintenance record keeping, and engaging in hands-on preventive and predictive maintenance tasks. In addition, this course offers practical experience in the maintenance of various mechanical devices.

AEMA2213 HYDRAULICS & PNEUMATICS (LAB)

Prerequisites: AEMA1102

Co-requisites: AEMA2113

This intermediate course focuses on the design of hydraulic and pneumatic power systems. Throughout the course, students learn how to assemble components, operate hydraulic and pneumatic systems, and conduct tests demonstrating different components and circuits' operation. As lab quizzes, students have to make calculations and answer questions about the operation and behavior of hydraulic and pneumatic systems. They also practice working with schematic diagrams. Most labs are run in rotation during the semester. Some labs might involve calculations done by all students simultaneously.

AEMA2221 MATERIALS & PROCESSES (LAB)

Prerequisites: AEMA1102

Co-requisites: AEMA2121

This laboratory course deals with materials and processes, emphasizing testing and the effect of different processes on materials. Students learn and conduct different types of testing and experiments about processes such as the manufacturing of plastics. Students use different manufacturing methods for polymers, such as injection moulding, blow moulding, and 3D printing. Additionally, students learn to demonstrate the ability to conduct tests related to surface properties of materials, such as electroplating and corrosion. Students study other manufacturing methods, such as sand casting and gravity die casting. Cold-working manufacturing processes such as metal rolling and bending are also covered.

AEMA2222 NON-DESTRUCTIVE TESTING (LAB)

Prerequisites: AEMA1102

Co-requisites: AEMA2122

This course introduces students to practical techniques that detect discontinuities in materials without destroying the component. Students learn and practice performing the test, interpreting results, and evaluating different types of discontinuities. In addition, students learn about testing equipment, calibration, and how to use them to access unknown samples and components. Visual testing, liquid penetrant testing, magnetic particle testing, eddy current testing, ultrasound testing, and radiography testing methods and techniques are covered.

AEMA2231 INDUSTRIAL MAINTENANCE MECHANICS (LAB)

Prerequisites: AEMA1102

Co-requisites: AEMA2131

The Industrial Maintenance Mechanics laboratory course is designed to enhance engineering students' understanding and knowledge of experimental methods and the basic principle of operation and maintenance of mechanical power transmissions and apply those concepts in practice. This course provides students with an overview of ten different laboratory experiments and their practical applications. Students disassemble and install components such as bearings and seals while doing visual inspection to determine the cause of component failure before reassembling the transmission. The student also conducts proper maintenance for power transmission systems and their components, practical applications, theory, the equipment required to perform each experiment, experimental procedure, data collection and presentation of the results.

AEMA2232 ROTATING EQUIPMENT MAINTENANCE (LAB)

Prerequisites: AEMA1102

Co-requisites: AEMA2112

Basic knowledge about various Rotating Equipment is required in various areas of their design, operation and maintenance in an industry. The Rotating Equipment Maintenance laboratory course is designed to enhance engineering students' understanding and knowledge of experimental methods and the basic principle of Rotating Equipment and apply those concepts in practice. This course provides students with an overview of eight different Rotating Equipment laboratory experiments and their practical applications. The course includes experimental objective, practical applications, theory, the equipment required to perform each experiment, experimental procedure, data collection and presentation of the results.

AEMA2311 COMPUTER AIDED DESIGN I

Prerequisites: AEMA1312

This is a project-oriented course, which includes application of computer aided drafting (CAD) software in the drawing of mechanical components, assemblies, and systems. CAD software is a tool that enables users to produce engineering drawings more accurately and with greater efficiency. Students learn to interpret, prepare, and create technical drawings and other technical documents which meet engineering standards.

Course Descriptions

AEMA3000 WORK PLACEMENT

Prerequisites: Min 85 Credits

This on the job training opportunity follows the successful completion of the second semester of the third year of the Bachelor of Science in Mechanical Engineering – Maintenance Engineering. The training provides students with college-approved work experience in an authentic, professionally relevant, work environment. Students are expected to learn, develop, and demonstrate high standards of behavior and performance normally expected in the work environment. The practical applications of the on the job training promotes students' awareness of key concepts and terminology in the field, encourage the development of professional autonomy and collaboration, and enhance the capacity to analyze and reflect on demonstrated abilities in the workplace.

AEMA3111 MULTIVARIATE CALCULUS

Prerequisites: MATH2010

This is a course in advanced calculus and statistics. After a brief introduction to selected topics in multivariate calculus, students are introduced to solution techniques in first order ordinary differential equations (with specific applications) and partial differential equations. The course then explores introductory concepts in probability and statistics, leading to some standard results in both discrete and continuous distribution theory.

AEMA3121 APPLIED FLUID MECHANICS

Prerequisites: MATH1020, PHYS1020

Fluid mechanics principles are very important to most engineering disciplines because they are required to correctly design systems or solutions. This course helps students understand the theoretical mechanics that govern fluid flow and describes dimensions and units, continuum fluid mechanics, properties of fluids, fluid statics, standard atmosphere, manometry and pressure measurement, and the forces on submerged planes. It also covers flow characteristics (laminar and turbulent flow, steady and unsteady flow, and stream lines), flow analysis (control volume/control system and differential approaches for mass, momentum, and energy conservation), and applications of the conservation equation, energy losses, and Bernoulli equations.

AEMA3142 APPLIED HEAT TRANSFER

Prerequisites: AECH2142

Heat transfer applications and equipment are essential components for building knowledge and skills for engineers. This course builds on students' prior knowledge by providing an overview of advanced heat transfer principles and how they can be applied to solve practical problems in the design of heat transfer systems and a wide variety of engineering problems. Students acquire both quantitative and perceptive capability for dealing with heat transfer problems. Through engineering calculations, applying heat transfer principles, and discussions, students shall be able to analyze different types of heat transfer as well as understand the operation of major heat transfer equipment.

AEMA3221 APPLIED FLUID MECHANICS (LAB)

Prerequisites: AEMA1102 OR AECE1340

Co-requisites: AEMA3121

Basic knowledge about fluid mechanics is required in various areas of water resources engineering such as designing hydraulic structures and turbomachinery. The applied fluid mechanics laboratory course is designed to enhance engineering students' understanding and knowledge of experimental methods and the basic principle of fluid mechanics and apply those concepts in practice. This course provides students with an overview of six different fluid mechanics laboratory experiments and their practical applications. The course includes experimental objective, practical applications, theory, the equipment required to perform each experiment, experimental procedure, data collection and presentation of the results.

AEMA3301 MECHANICS, STATICS & DYNAMICS

Prerequisites: AEMA1102, MATH1020, PHYS1021

This course is an introductory mechanics course. Students are provided with the opportunity to develop an understanding of several key concepts related to the field, including the analysis of static objects, concepts of force, moment, and mechanical equilibrium, concentrated and distributed forces in various systems such as beams, frames and trusses. The forces on bodies in motion are also explored using the basics of kinetics and kinematics.

AEMA3302 STRENGTH OF MATERIALS

Prerequisites: AEMA3301

Co-requisites: MATH2010

This course provides a basis for machine element design and structural analysis with a focus on the deformation of materials under applied loads and associated stress distributions. Students use mathematical calculations and strength of materials theory or basic numerical methods to solve and analyze problems related to the stress and deformation in engineering structures, materials, and mechanical components.

AEMA3311 COMPUTER AIDED DESIGN II

Prerequisites: AEMA2311

This project-oriented course provides students with the opportunity to apply advanced mechanical design and drawing techniques to 3D modelling software. Using SolidWorks software, or other parametric based application, students learn basic part and assembly feature design skills commonly used in mechanical designs. Students also learn how to translate designs to drawings for proposals, manufacturer documentation, and quality control documents.

AEMA3321 TECHNOLOGY CAPSTONE PROJECT I

Prerequisites: COMM3010, RSST3002

This course is the capstone project for students completing the Advanced Diploma in the Mechanical Engineering Technology program. Applying the skills and knowledge developed throughout the program, students work in teams to create a project proposal under the guidance of a faculty member but with minimal supervision. The proposal involves the study of a problem, design, or technological application which is implemented in the following academic semester of their program in capstone II.

Course Descriptions

AEMA3322 MAINTENANCE ENGINEERING

Prerequisites: AEMA2203

This course applies the reliability centered maintenance (RCM) approach to developing a comprehensive maintenance program based on failure mode and effects analysis (FMEA). Students analyze selected industrial equipment in a project and create a comprehensive preventive and predictive maintenance (PPM) program. Students also use a computerized maintenance management system (CMMS) to create a database and generate scheduled work orders. Business and management aspects of maintenance as well as problem solving techniques are discussed.

AEMA3332 TECHNOLOGY CAPSTONE PROJECT II

Prerequisites: AEMA3321

This course enables students completing the advanced Diploma in the Mechanical Engineering Technology program to apply the skills and knowledge developed throughout the program in implementing the project proposal from in Capstone I. Working in teams, under minimal supervision but with the guidance of a faculty member, students carry out a study of a problem, design or technological application and then provide a gap analysis between the project proposal and implementation.

AEMA4100 PROJECT MANAGEMENT

Prerequisites: AECH2103

Engineering professionals require a proper understanding of management systems tools, knowledge, and skills to execute their duties and tasks. This course provides a systematic and thorough introduction to all aspects of project management. The course underlines the importance of understanding the relation between projects and the strategic goals of an organization. Through presentations and lectures, students are provided the opportunity to implement proper management styles to successfully manage projects from beginning to end.

AEMA4111 APPLIED DIFFERENTIAL EQUATIONS

Prerequisites: MATH2010

This course focuses on the application of mathematics to problems derived from mechanical engineering fundamentals such as fluid mechanics, heat transfer, and other related applications. It also covers the formulation and solution of ordinary and partial differential equations arising in mechanical engineering or related processes or operations and mathematical approaches, both analytical and numerical, to solving ordinary and partial differential equations.

AEMA4121 PIPELINE PROTECTION & MAINTENANCE

Prerequisites: AEMA2222

This course provides students with a background in the operation, inspection, and maintenance of pipelines, including a technical overview behind pipeline components and operation. Pipeline operation is studied to investigate routine maintenance issues. Pipeline construction is discussed to provide knowledge of replacement and repair requirements. Safety management is also discussed as a priority for pipeline operation.

AEMA4122 QUALITY CONTROL

Prerequisites: AEMA3311, RSST3002

Industry depends on precision manufacturing of all its components. This precision is made possible by the expertise of staff who can operate the appropriate measuring tools, and who can evaluate the uncertainty and accuracy of measurements made. With a focus on applications in the oil and gas, and manufacturing industries, this course examines core principles of precision measurements, along with current and emerging measurement technologies.

AEMA4142 APPLIED HEAT TRANSFER FOR ENGINEERS

Prerequisites: AEMA3121

Heat transfer applications and equipment are essential components for building knowledge and skills for engineers. This course builds on students' prior knowledge by providing an overview of advanced heat transfer principles and how they can be applied to solve practical problems in the design of heat transfer systems and a wide variety of engineering problems. Students acquire both quantitative and perceptive capability for dealing with heat transfer problems. Through presentations, course work, and discussions, students are provided the opportunity to analyze different types of heat transfer as well as understand the operation of major heat transfer equipment.

AEMA4301 CAPSTONE PROJECT I

Prerequisites: RSST3002

Co-requisites: AEMA4100, COMM3010

This course is the capstone project for students completing a degree in the Mechanical Engineering. Applying the skills and knowledge developed throughout the program, students work individually or in teams with minimal supervision but under the guidance of a faculty member. Students study a problem, design, or technological application and fully document and present their findings. Students also learn how to manage their projects and how to conduct research for their literature review. The final product for this course is a proposal for a project to be completed in Capstone II.

AEMA4302 CAPSTONE PROJECT II

Prerequisites: AEMA4301

This course enables students completing a degree in the Mechanical Engineering to apply the skills and knowledge developed throughout the program. Working individually or in teams, under minimal supervision but with the guidance of a faculty member, students study a problem, design, or technological application and fully document and present their findings.

AEMA4311 MACHINE DESIGN

Prerequisites: AEMA3302

In this project-oriented course, students apply analytical and numerical methods to design mechanical components based on various design criteria. Students examine the designing of mechanical machinery for functionality and safety. Using problem-solving techniques and the principles of mechanics and material strength, students develop the ability to design new machines and modify existing equipment to meet new objectives.

AEMA4312 APPLIED CNC & CAM

Prerequisites: AEMA2221, AEMA3311

This is an advanced course in mechanical design and manufacturing that introduces students to an automated machining process that integrates computer-aided manufacturing software (CAM) and computer numerical control (CNC) to design and manufacture products. Students are responsible for the initial design, drafting, program generation, machine and tool set up, and machining of a project part. Students also analyze and specify requirements to optimize product manufacturing.

AEMA4332 FACILITIES MAINTENANCE MANAGEMENT

Prerequisites: AECH3302, AEMA2311, AEMA3322

This course applies previously learned concepts in preventive and predictive maintenance, thermodynamics, and fluid mechanics to the design, operation, and maintenance of building systems.

Course Descriptions

AEPC1203 BASIC INSTRUMENTATION

Prerequisites: AEEL1100 & AEEL1200 OR AEEL1101 & AEEL1201

Engineering students need basic instrumentation knowledge to understand how processes and their control work. This introductory course to process instrumentation and control familiarizes students with the tools and equipment used in process automation and control. Students learn basic theory before having hands-on practical experience with the five major measurements and their control. The course includes safety, oral and written communications, teamwork, problem-solving and troubleshooting, and instrumentation drawings. Through coursework and presentations, students understand the concepts of instrumentation, microprocessors, and control logic.

AETN1102 NETWORK FUNDAMENTALS

Prerequisites: AETN1202

Telecommunication and Network engineers, technology engineers, and technicians must understand the basics of networks and network technology before learning about network routing and switching. This course introduces students to the network architectures, models, protocols, and networking elements that connect users, devices, applications, and data through the Internet and across modern computer networks. Through lectures, coursework, and group discussions, students are provided the opportunity to build simple local area networks (LAN), develop IPv4 and IPv6 addressing schemes, and perform basic router and switch configurations.

AETN1112 DIGITAL ELECTRONICS

Prerequisites: AEEL1101

Co-requisites: AETN1212

Telecommunications and Network engineers, technology engineers, and technicians need to understand the basics of digital electronics. This course introduces students to the field of digital electronics. Students learn design and diagnosis techniques applicable to digital electronics. The course also teaches microprocessor programming techniques using assemblers and debuggers and provides training in computer interfacing techniques. Through lectures and group work, students learn to identify digital signals and apply logic functions to combinational and synchronous systems.

AETN1202 NETWORK FUNDAMENTALS (LAB)

Prerequisites: AETN1102

Telecommunication and Network engineers, technology engineers, and technicians must understand the basics of networks and network technology before learning about network routing and switching. In this lab, students build, configure, test, and troubleshoot basic communications networks using various simulation and testing tools such as Packet Tracer, Tera Term, Ping, Traceroute, etc. Through lab work, students design, implement, and test IPv4 subnets using VLSM and FLSM addressing schemes. Students also implement, troubleshoot and test IPv6 subnets.

AETN1212 DIGITAL ELECTRONICS (LAB)

Prerequisites: AEEL1201

Co-requisites: AETN1112

This course introduces students to the field of digital electronics and their practical applications by having them design and apply diagnosis techniques to digital electronics. This course also teaches microprocessor programming techniques using assemblers and debuggers and provides training to the students in computer interfacing techniques. Through practical lab work, students are taught the principles of combinational and synchronous logic together with microprocessors operations.

AETN2101 ANALOG ELECTRONICS

Prerequisites: AEEL1102

This course explores the description, operation, and application of simple electronic components with an emphasis on semiconductor theory. Analysis techniques involving diode equivalent circuits are introduced and expanded to transistor DC biasing and AC analysis of amplifier systems. The study of operational amplifiers with emphasis on circuit analysis and applications is also covered. The above areas, along with analogue-to-digital and digital-to-analogue conversion are developed with a view to interfacing sensors with computer equipment. Through lectures and presentations, students learn the principles of analog electronic devices, analog to digital, and digital to analog conversion techniques.

AETN2103 MICROPROCESSORS & MICROCONTROLLERS

Prerequisites: AETN2121

Co-requisites: AETN2203

The world of telecommunications and networking relies heavily on the use of devices built with microprocessors and microcontrollers. This course introduces students to the principles and practice of microcontroller systems engineering. The content covers the configuration, programming, and interfacing of microcontrollers with external hardware using assembly and higher-level programming languages. Through lectures and presentations, students learn the principles of microprocessor and microcontroller operation.

AETN2111 NETWORK SWITCHING & ROUTING

Prerequisites: AETN1102

Co-requisites: AETN2211

Switching and routing is at the core of modern complex computer networks. This course focuses on switching and routing technologies that support small-to-medium business networks, including wireless local area networks (WLAN) and security concepts. Students learn about key switching and routing concepts as well as basic LAN security threats. Through lectures and presentations, students are provided with the opportunity to learn about the operation of switching and routing within and between LANs and WLANs.

AETN2112 ENTERPRISE NETWORKS

Prerequisites: AETN2211

Co-requisites: AETN2212

To design networks, engineers need to understand the architecture of networks. This course examines the technologies and considerations related to designing, operating, and troubleshooting scalable enterprise networks, including wide area network (WAN) technologies & quality of service (QoS) mechanisms. Students also gain skills in troubleshooting enterprise networks. Through lectures and presentations, students gain an understanding of the network architecture and protocols that are used with WAN access technologies. After completing this course and the associated lab, students are eligible to attend CISCO's CCNA Certification Exam.

AETN2121 ANALOG & DIGITAL COMMUNICATION

Prerequisites: AEEL1102, MATH1020

Knowledge of analog and digital modulation and communication techniques are essential for telecommunications engineers, technology engineers, and technicians. This course provides a thorough introduction of the basic principles and techniques used in analog and digital communication. The course introduces analog and digital modulation techniques, communication transmitter and receiver design, baseband and bandpass communication techniques, line coding techniques, and noise analysis. Through lectures and presentations, students can understand and evaluate the performance of various communication techniques.

Course Descriptions

AETN2122 WIRELESS COMMUNICATION SYSTEMS

Prerequisites: AETN2121

Telecommunications engineers, technology engineers, and technicians need to have a solid understanding of various communication systems and their development. This course provides a basic understanding of modern communications systems. Students gain an appreciation of multiple access techniques, wireless transmission, cellular networks, 3G, 4G, and 5G air interface technologies, satellite communications, and radars. Through lectures and demonstrations, students gain an understanding of a variety of modern wireless communication systems.

AETN2201 ANALOG ELECTRONICS (LAB)

Prerequisites: AEEL1202

Co-requisites: AETN2101

This is a hands-on lab and project-based course that allows students to build electronic circuits to help them better understand the different behaviors and functions of analog electronics. The lab component focuses on silicon-based components, transistor amplifiers, operational amplifiers, and instrumentation amplifiers. Students first learn the theory of each component then simulate each of their behaviors using Multisim Live. Students also build example circuits using components that are breadboarded on the NI protoboard, interacting with their circuits using NI ELVIS III instruments. In the project component of this course, students design, test, and build a voltage level indicator or a DC power supply circuit.

AETN2203 MICROPROCESSORS & MICROCONTROLLERS (LAB)

Prerequisites: AETN2221

Co-requisites: AETN2103

The world of telecommunications and networking relies very heavily on the use of devices built with microprocessors and microcontrollers. This course enables students to perform a number of hands-on lab exercises to improve their learning of microprocessor and microcontroller development environment, design of a microcontroller-based systems, interfacing from both hardware and software perspectives and including various applications. Through lab work, students learn the principles of operation of microcontrollers and use common industrial controllers and dataloggers.

AETN2211 NETWORK SWITCHING & ROUTING (LAB)

Prerequisites: AETN1202

Co-requisites: AETN2111

Switching and routing knowledge is essential to understanding how modern complex networks operate. In this lab, students create, configure, test, and troubleshoot VLANs, 802.1Q trunks, inter-VLAN routing, EtherChannel between the switches, DHCPv4 servers and relays, and IPv4 and IPv6 static and default routes. In addition, students learn to configure a wireless router and connect it to a PC. Through lab work, students also learn the operation of switching and routing within and between LANs and WLANs.

AETN2212 ENTERPRISE NETWORKS (LAB)

Prerequisites: AETN2121

Co-requisites: AETN2112

To design networks, telecommunication and network engineers and technology engineers need to understand the architecture of networks. In this lab, students build, configure, test, analyze, and troubleshoot single-area OSPFv2, extended access control lists. They also analyze DNS traffic. Through lab work, students investigate DNS traffic and WAN technologies and configure different protocols and network architectures. After completing this lab and the associated course, students are eligible to attend CISCO's CCNA Certification Exam.

AETN2221 ANALOG & DIGITAL COMMUNICATION (LAB)

Prerequisites: AEEL1202

Co-requisites: AETN2121

Knowledge of analog and digital modulation and communication techniques are essential for telecommunications engineers, technology engineers, and technicians. This course covers a broad range of introductory analog and digital telecommunications topics through a series of hands-on laboratory experiments. The lab experiments are designed to allow students to build, measure, experiment with, and demonstrate the theoretical concepts introduced in AETN2121. Through this lab work, students are provided the opportunity to understand and evaluate the performance of various communication techniques.

AETN2222 WIRELESS COMMUNICATION SYSTEMS (LAB)

Prerequisites: AETN2221

Co-requisites: AETN2122

This lab-oriented course is comprised of a series of hands-on laboratory exercises through which students explore various wireless communication system topics using software defined radio (NI USRP and LabVIEW software tools). Using these laboratory exercises, students implement single carrier and multicarrier communication systems and investigate real-world communication signals.

AETN2302 APPLIED PROGRAMMING I

Prerequisites: MATH1020

Programming is an essential skill in analyzing, designing, and implementing communication protocols and systems. This course is an introduction to the Python programming language for students without prior programming experience. The course covers computer-programming concepts like basic operator, numeral systems, Boolean logic, data types, containers, functions, conditions, loops, as well as Python programming language syntax, semantics, and the runtime environment. Students learn to accomplish basic Python coding tasks and understand the fundamental notations and techniques used in object-oriented programming. Upon successful completion of this course, students can take the industrial certification exam, Certified Entry-Level Python Programmer (PCEP).

AETN3101 CYBER SECURITY

Prerequisites: AETN2112

Co-requisites: AETN3201

Because networks facilitate collaboration and sharing of data and resources within and across institutions, cyber security must be robust, and IT professionals must understand how this security works. This experience-oriented course helps students acquire the skills necessary to obtain an entry-level network security position. It provides both a theoretically rich and hands-on approach to cyber security design, management, and support. Through lectures and presentations, students learn a variety of techniques used to properly secure a network.

Course Descriptions

AETN3102 ANTENNAS & WAVE PROPAGATION

Prerequisites: AETN3111

Co-requisites: AETN3202

Antennas are a critical part of wireless communication systems. This course provides a comprehensive study of antenna fundamentals, including types of antenna and antenna radiation characteristics. It introduces the basics of radiating elements and the effect of the propagation of radio waves. The course presents fundamental theory together with techniques for the practical design, measurement, and application of a wide variety of antennas. Propagation topics related to numerous communication systems are also covered. Through lectures and presentations, students explore and calculate antenna parameters using principles of wave propagation with a goal to selecting the most appropriate antenna for a given application.

AETN3111 APPLIED ELECTROMAGNETICS

Prerequisites: MATH1020

To design and deploy proper communications channels, telecommunications and technology engineers must understand the principles of electromagnetics in wired and wireless applications. This course covers the basics of static electric and magnetic fields and applications. Topics covered include Maxwell's equations, propagation and reflection of plane waves, transmission lines, guided waves and microwaves, and radiation and antennas with applications in wired and wireless communications systems. Through presentations and lectures, students investigate and calculate different wave parameters in various communications media.

AETN3112 NETWORK MANAGEMENT

Prerequisites: AETN3122

Once a network is designed and implemented, it is essential to monitor, manage and troubleshoot its operation. This introductory course explains the different technologies used in network management and their relation to each other. It also introduces both theoretical and practical aspects of computer network management, including architectures, protocols, and standards. The course provides a solid technical foundation for students to successfully navigate network management topics and apply those concepts to specific situations. An accessible overview of network management also covers the services running over those networks. Through lectures, students are introduced to network management philosophies and the tools available to manage and monitor networks.

AETN3122 TELECOMMUNICATIONS NETWORKS

Prerequisites: AETN2111

Telecommunications and technology engineers need to understand current telecommunication network and industry trends. This course provides an overview of the telecom networks that provide broadband multimedia services. Students learn about market and technology drivers of the evolution of telecom networks, from the early days of analogue voice networks to today's optical packet networks. Through lectures and presentations, the course emphasizes current and emerging telecom network technologies such as IP telephony, fifth generation (5G) mobile networks, internet protocol television (IPTV), internet and data centers, and multiprotocol label switching (MPLS) applications such as Layer 2 and Layer 3 virtual private networks (L2VPNs and L3VPNs).

AETN3201 CYBER SECURITY (LAB)

Prerequisites: AETN2212

This lab course helps students acquire the skills necessary to obtain an entry-level network security position. Employing hands-on practice in cyber security in a logical, technology-driven sequence, the course provides students with the skills necessary to implement and adequately support cyber security measures in an enterprise environment. Through lab work, students learn hands-on techniques using industry standard approaches to configure security hardware such as routers, switches, servers, and firewalls. Upon successful completion of this course, students are eligible to take certification exams in cyber security.

AETN3202 ANTENNAS & WAVE PROPAGATION (LAB)

Prerequisites: AETN2222

Co-requisites: AETN3102

Antennas are a critical part of wireless communication systems. This antenna lab provides students with practical experience in measuring basic antenna parameters, building antenna systems, and using antenna test benches to investigate and analyze the various antenna systems covered in the antenna and wave propagation course. Through lab work, students investigate and analyze antenna systems for suitability in given applications.

AETN3203 WORK PLACEMENT

Prerequisites: Min 85 Credits

This on-the-job training opportunity follows the successful completion of the second semester of the third year of the Bachelor of Science in Electrical Engineering -Telecommunications and Network Engineering program. The training provides students with college-approved work experience in an authentic, professionally relevant work environment. Students learn, develop, and demonstrate high standards of behavior and performance normally expected in the workplace. The practical applications of the on-the-job training promote students' awareness of key concepts and terminology in the field, encourage the development of professional autonomy and collaboration, and enhance the capacity to analyze and reflect on skills demonstrated in the workplace.

AETN3221 LINUX OPERATING SYSTEM

Prerequisites: AETN2302

Linux is the operating system behind most Networking Devices and telecommunications equipment. This course covers the fundamentals of Linux as an operating system, its basic open-source concepts, and its command line. In a prescriptive, step-by-step lab environment, students are provided with hands-on access to a Linux virtual machine to practice, explore, and trial Linux command line concepts. Through programming sessions, students learn to use and configure Linux as well as to perform network configuration.

AETN3222 APPLIED PROGRAMMING II

Prerequisites: AETN2302

Building on material learned in the Python programming course, this course covers concepts such as modules and packages, string and string methods, list methods, exceptions, object-oriented programming, generators, lambdas, and file processing. Through programming application sessions, students complete coding tasks related to the more advanced aspects of programming in the Python language, including the fundamental notions and techniques used in object-oriented programming. Upon successful completion of the course, students can take the industrial exam for Certified Associate-Level Python Certified Associate Programmer (PCAP).

Course Descriptions

AETN3331 TECHNOLOGY CAPSTONE I

Prerequisites: AETN2103, AETN2203

Co-requisites: COMM3010

The capstone project enables students completing the advanced diploma in engineering technology to demonstrate the application of skills and knowledge developed throughout the program. With minimal supervision under the guidance of a faculty member, students work independently or in teams to carry out an in-depth study of a problem and apply troubleshooting and configuration techniques to technological applications. Students fully document and present their findings in a proposal for their capstone project that is completed in the following academic semester of their program.

AETN3332 TECHNOLOGY CAPSTONE II

Prerequisites: AETN3331

The capstone project enables students completing the advanced diploma in engineering technology to demonstrate the application of skills, knowledge, and competencies developed throughout the program. With minimal supervision under the guidance of a faculty member, students work independently or in teams on a project to carry out an in-depth study of a problem and apply troubleshooting and configuration techniques to technological applications. Students fully document and present their findings in a written report and oral presentation that includes a technical, economic, and ethical analyses of the project outcomes.

AETN4101 CONTINUOUS & DISCRETE-TIME SIGNALS & SYSTEMS

Prerequisites: MATH2010

In this course, students learn the basic concepts of Signals & Systems in engineering. After a review of complex numbers, vectors, and matrices, the course focuses on the introduction of continuous and discrete-time signals and systems by examining linear time-invariant (LTI) systems. Students then learn advanced mathematical techniques such as Laplace transform, Z-transform, and Fourier transform. These are important tools that have several applications, such as their utilization in communication systems and signal processing.

AETN4112 ENTERPRISE UNIFIED COMMUNICATIONS

Prerequisites: AETN2112

Co-requisites: AETN4212

Telecommunication, network, and technology engineers need to understand the architecture of networks before they can design them. This course examines the technologies and considerations related to designing, operating, and troubleshooting scalable enterprise networks, including wide area network (WAN) technologies and quality of service (QoS) mechanisms. Students also gain skills in troubleshooting enterprise networks. Through lectures and presentations, students gain an understanding of network architecture and protocols used together with WAN access technologies.

AETN4121 MICROWAVE ENGINEERING

Prerequisites: AETN3111

The understanding of microwave transmission and concepts is essential for telecommunications engineers and technology engineers as all modern wireless systems use this spectrum range. This course introduces microwave principles including microwave transmission modes, transmission lines with their applications, impedance matching and microwave network analysis. Moreover, the course presents waveguide components and applications, microwave tubes and applications, microwave electronics such as diodes, attenuators, RF switches, phase shifters, transistors, amplifiers and LNA. Through lectures and presentations, students analyze and calculate microwave properties, study current microwave systems, and study the effect of microwaves on the human body.

AETN4122 ADVANCED ENGINEERING MATHEMATICS & APPLICATIONS

Prerequisites: AETN4101

Telecommunications specialists require a deep understanding of signals and complex circuit analysis using advanced mathematical techniques. This course reviews topics such as techniques of first and second order differential equations, integral combinations, growth and decay problems, and the analysis and solution of source free RL and RC circuits. Students also learn mathematical techniques and apply these to analyze circuits. Other topics include waveform analysis and synthesis, time domain analysis, and solution of differential equations using Laplace transforms. This course also includes probability and statistics concepts and their applications.

AETN4212 ENTERPRISE UNIFIED COMMUNICATIONS (LAB)

Prerequisites: AETN2212

Co-requisites: AETN4112

Unified communication for the transportation of voice, video, and data on a single network and technology is rapidly evolving. In this course, students work in a hands-on lab environment to build, configure, test, and troubleshoot unified communications networks using various hardware, simulations, and testing tools such as Packet Tracer, Tera Term, Ping, and Traceroute.

AETN4221 MICROWAVE ENGINEERING (LAB)

Prerequisites: AETN3202

Co-requisites: AETN4121

The understanding of microwave transmission and concepts is an essential for telecommunications engineers and technology engineers as all modern wireless systems use this spectrum range. This course introduces microwave principles including microwave transmission modes, transmission lines with their applications, impedance matching and microwave network analysis. Moreover, the course presents waveguide components and applications, microwave tubes and applications, microwave electronics such as diodes, attenuators, RF switches, phase shifters, transistors, amplifiers and LNA. Through lectures and presentations, students analyze and calculate microwave properties, study current microwave systems, and study the effect of microwaves on the human body.

AETN4301 CAPSTONE PROJECT I

Prerequisites: AETN3102, AETN3202

Co-requisites: AEMA4100, COMM3010

The capstone project enables students completing an engineering degree to demonstrate the application of skills and knowledge developed throughout the program. With minimal supervision under the guidance of a faculty member, students work independently or in teams on a project to carry out an in-depth study of a problem, design, or technological application. Students fully document and present their findings in a proposal for their capstone project that is completed in the following academic semester of their program.

AETN4302 CAPSTONE PROJECT II

Prerequisites: AETN4301

The capstone project enables students completing an engineering degree to demonstrate the application of skills and knowledge developed throughout the program. With minimal supervision under the guidance of a faculty member, students work independently or in teams on a project to carry out an in-depth study of a problem, design, or technological application. Students fully document and present their findings in a written report and oral presentation.

Course Descriptions

AHHG1110 ANATOMY & PHYSIOLOGY I

This course is the first part of the study of Human Anatomy and Physiology. In this part, students build an understanding of the organization of the human body from chemicals to cells to tissues, and explore the anatomy and physiology of the integumentary, skeletal, muscular, nervous and endocrine systems. The relationship between form (anatomy) and function (physiology) is emphasized and provides a fundamental understanding of these systems in disease states. Selected pathophysiological topics are included in this course to add an introduction to the Pathophysiology course and relevancy to students with an interest in careers in the health sciences.

AHHG1210 ANATOMY & PHYSIOLOGY II

Prerequisites: AHHG1110

This course is the second part of the study of Human Anatomy and Physiology. In this part, students explore the anatomy and physiology of the digestive, cardiovascular, lymphatic, respiratory, urinary, and reproductive systems as well as the special senses. The relationship between form (anatomy) and function (physiology) is emphasized and provides a fundamental understanding of these systems in disease states. Selected pathophysiological topics are included in this course to add an introduction to the Pathophysiology course and relevancy to students with an interest in careers in the health sciences.

AHHG1310 INTRODUCTION TO PATHOPHYSIOLOGY

Prerequisites: AHHG1210

Health Science professionals need to be able to recognize and understand disease pathologies and the resulting health consequences. This lecture-based course introduces students to the fundamentals of pathophysiology which is the study of structural and functional changes in cells, tissues, and organs of the body that cause or are caused by disease. Students understand the mechanisms of disease processes and are provided the background knowledge for future studies on the preventative and treatment practices.

AHHG2010 MICROBIOLOGY

Health Science students need to understand the classification of different microorganisms and how they contribute to disease. Students learn how to identify, classify, grow, isolate, and eliminate microorganisms in lecture and lab sessions. Students are able to prevent the spread of microbial disease in the health care/workplace setting through the application of infection control measures.

AHHG2030 BIostatISTICS

Biostatistics is essential for health care professionals to ensure that research in health-related fields is supported by reliable evidence. This course provides an introduction to healthcare data management, analysis, and interpretation in the classroom and lab setting. Student learn to use SPSS to organize and query statistical data, data manipulation, data cleaning, graphical displays, and data analysis using a range of statistical procedures. Students are expected to complete reports interpreting data analysis from statistical software. Students learn to answer a study question and/or validate or reject a research hypothesis using advance statistical methods.

AHHG2060 BIOCHEMISTRY FOR HEALTH CARE

Prerequisites: AHHG2100

This course is designed to be a general introduction to biochemical compounds, processes, and concepts for students who have had general chemistry and are interested in a medically-oriented, general biochemistry course. Course delivery contains cellular biology with membrane transport, enzymology, the flow of genetic information including a general understanding of amino acid, carbohydrate and lipids. Students learn the complex material through PowerPoint lectures, discussions, and presentations.

AHHG2070 MEDICAL TERMINOLOGY

This course introduces students to the language of medicine. Students gain an understanding of basic elements, rules of building and analyzing medical words, and medical terms associated with the body as a whole. The focus of the course is on accurate spelling and pronunciation of terms and building knowledge of basic medical vocabulary with an emphasis on prefixes, suffixes, roots, and combining vowels. Anatomical, physiological and pathological terminology are covered and applied in the context of electronic health records. In addition to medical terms, common abbreviations applicable to each system are interpreted.

AHHG2080 ETHICS IN HEALTH CARE

This is an introductory course in health care ethics, legal issues, and workplace concerns. The student understands, appreciates, and evaluates commonly encountered ethical, legal, and professional problems in the workplace. Through course content, lectures, selected readings, and student discussion, ethical and legal theories are examined together with what constitutes professional behavior, values, and practical wisdom. These concepts are applied to current issues related to healthcare professionals.

AHHG2100 ORGANIC CHEMISTRY FOR HEALTH CARE

Prerequisites: CHEM1030, CHEM1031

This course aims to teach students the basic concepts of organic chemistry that illustrates the properties and behavior of major biomolecules. It is a fundamental course that facilitates student comprehension and competencies in building the foundation for other advanced courses. The course discusses molecular representation and nomenclature, atomic structure and bonding, stereochemistry, acid-base equilibrium, and heterocycles. Furthermore, students analyze different reaction mechanisms in recognizing major biomolecules' behavior and activities. Students learn through didactic lectures, group discussions and hands on practical activities in the state-of-the-art chemistry and VR lab.

AHHG4010 QUALITY IN HEALTH CARE

In this course, students are introduced to the fundamentals of patient safety, evaluation of quality and quality measures and principals of quality improvement. Furthermore, patient safety trends, the components of quality measures, their construction and evaluation are explored. Students review and create quality measures within their chosen field and develop a quality improvement project to improve a process or outcome. Through variety of lectures, problem solving sessions, group activities, and project work, the students learn to apply the principles of quality improvement in their field of study.

Course Descriptions

AHHG4020 LEADERSHIP IN HEALTH CARE

This course introduces the students to healthcare leadership and management concepts and skills that will enable them to deliver effective and safe patient care to a diverse population within the context of a dynamic health care system. A major focus of this course is for students to critically think and clearly communicate about the unique challenges faced by leaders in healthcare settings. Students are exposed to practical techniques, foundational concepts and theories through projects, case studies, and in-class activities designed to simulate the daily scenarios encountered by leaders.

AHHG4110 HEALTH SCIENCES RESEARCH I

This course is designed to equip students with skills to structure and develop a research proposal using solid research methodology for a selected health topic. It emphasizes finding sources, evaluating source material, and writing literature reviews. This course also discusses effective and ethical solutions to research problems, development of research questions and hypotheses, and focuses on the principles of research designs used in both quantitative and qualitative social research. Students practice creating a survey questionnaire and deciding on a data collection mechanism. At the end of this course, students will have completed proposals of their research project, submitted an IRB report, and conducted a CITI exam.

AHHG4210 HEALTH SCIENCES RESEARCH II

Prerequisites: AHHG4110

This course is a continuation of AHHG4110, in which students implement the research project proposed and planned for. This course introduces students to data collection methods and data analysis using the statistical analysis software. Meaningful interpretation of results and providing evidence-based recommendations are core to this course. Students are able to write a research paper and potentially submit it to a peer-reviewed journal or topic-related health magazine.

AHHG4310 HEALTH SCIENCES RESEARCH III

Prerequisites: AHHG4110

This course is designed to teach students scientific poster design and production based on their research projects. Students develop posters presenting their research project creatively and in accordance with standard content, design, and assessment considerations. The poster includes a summary of the study design, methodology, and findings. Aspects of writing, design, and use of Microsoft Word are emphasized, in compliance with APA standards. Students who complete the course will have produced a poster suitable for presentation in the SHS Student Competition Conference.

AHPT2101 PHARMACY COMPUTER SYSTEMS

Pharmacy computer systems play a vital role in pharmacy practice. In this course, students learn the fundamentals of both community and hospital pharmacy computer systems. The student develops skills in accurate and efficient data entry, retrieval of information, and the generation of computer labels using actual pharmacy computer systems. Students also learn to interpret sample prescriptions, identify dosage forms and techniques to ensure data integrity. Through a variety of lectures, group work, practical laboratory sessions, and simulated prescriptions the students are presented the necessary knowledge, skills and technical abilities to deliver high-quality patient care in the pharmacy environment.

AHPT2102 PHARMACEUTICAL CALCULATIONS

Prerequisites: MATH1010

In this course, students become familiar with basic pharmaceutical calculations; a working knowledge of the various numeral, symbols, ratio and proportion for interpretation of prescription including conversion of different measurement systems in pharmacy or pharmaceutical industry. Furthermore, students solve problems related to drug strength, dilution, intravenous flow rate including pediatric dosage calculation. The course also emphasizes pharmaceutical business calculations. Through a variety of lectures problem solving sessions, group work, and utilization of technology, students develop calculation skills related to pharmaceuticals.

AHPT2103 PHARMACOLOGY I

Prerequisites: CHEM1030, CHEM1031, AHHG1210

In this first of a two-part course, students are given an in-depth understanding of the therapeutic agents and classes, mechanisms of action, side effects, drug interactions, adverse events, and monitoring parameters. Topics include foundation issues, special populations, neurologic and psychiatric disorders, endocrinologic disorders, and immunologic disorders. Students have the opportunity to apply the discussed therapeutic principles in patient cases and scenarios. The course is conducted through lectures, group activities, discussions, and presentations. The goal of the course is to support students in the development of robust knowledge of therapeutics and commitment to patient care.

AHPT2201 PRESCRIPTION PROCESSING

Prerequisites: AHPT2101

Prescription processing and dispensing medication to the patients is a fundamental task of a pharmacy technologist in a community pharmacy. The course introduces students to the prescription dispensing process in a community pharmacy. This includes collecting necessary information from patients, interpreting and entering the prescription in pharmacy software, filling the prescription with the correct drug, quantity, and instructions. Furthermore, students practice independent double checking of prescriptions with zero tolerance for inaccuracy. Prescription billing and third-party adjudication are also covered in the course. The course delivery includes extensive hands on training on entering prescriptions and dispensing medications together with lectures and demonstrations.

AHPT2202 PHARMACOLOGY II

Prerequisites: AHPT2103

This is the second course in Pharmacology which introduces students to additional topics in Pharmacology. Students build on the knowledge gained in Pharmacology (I) by discussing additional therapeutic agents and classes, mechanisms of action, side effects, drug interactions, adverse events, and monitoring parameters. Topics include respiratory disorders, cardiovascular disorders, renal disorders, ophthalmic disorders, and oncologic disorders. Students apply the discussed therapeutic principles in patient cases and scenarios. Various learning strategies are utilized in the delivery of the sessions such as lectures, group activities, discussions, and presentations with the goal of supporting students in the development of robust knowledge in therapeutics as well as commitment to patient care.

Course Descriptions

AHPT2203 COMMUNITY PHARMACY PRACTICE

This course covers a wide range of topics relevant to Community Pharmacy Practice. Students develop an understanding of the principles of patient self-care, facilitating behavior change, and non-prescription medications. Various learning strategies are utilized in the delivery of the sessions such as lectures, group activities, discussions, and presentations with the goal of students having a strong foundation of knowledge and skills in the development of non-prescription therapeutic plans for patients under the direct supervision of the pharmacist.

AHPT2301 PHARMACY REGULATIONS & PROFESSIONALISM

Pharmacy technologists require a fundamental knowledge of pharmacy law and regulations as these affect all aspects of the practice of pharmacy. This course introduces the student to principles of law, professionalism, and ethics in pharmacy. Students identify and interpret the laws and regulatory requirements associated with pharmacy establishment, professional registration and the dispensing of prescription and non-prescription products. To protect the public and ensure patients' well-being, students gain an understanding of relevant pharmaceutical laws and regulations required to carry out their duties with professionalism, skill, and authority. A variety of lectures, group discussions, assignments and workshop sessions help students acquire the relevant knowledge and skills required of a pharmacy technologist to work within the legal framework on a daily basis.

AHPT2302 PHARMACY MANAGEMENT & INVENTORY CONTROL

Pharmaceutical manufacturing operations depend on Good Manufacturing Practice (GMP) to assure that products are consistently produced and controlled according to quality standards. This course examines the history, rationale, purpose, and GMP requirements applicable to the manufacturing of pharmaceutical products and the consequences of inaction. Students learn the requirements of quality assurance, quality control, and compliance with GMP applicable to pharmaceutical industries. These requirements are needed to avoid making mistakes and to deliver solutions in the production of manufactured goods. Through a variety of lectures, group discussions, assignments, and workshop sessions, students acquire the relevant knowledge and skills required of a pharmacy technologist to work within the pharmaceutical industry.

AHPT3101 HOSPITAL PHARMACY PRACTICE

Prerequisites: AHPT2101, AHPT2102

In this course, the students become familiar with hospital pharmacy practice. Students learn key concepts of hospital and hospital pharmacy organizational structure, policies and procedures, hospital pharmacy job responsibilities, hospital drug distribution, and the use of automation.

AHPT3102 ASEPTIC TECHNIQUE

Prerequisites: AHPT2102

The compounding of sterile preparations is a major responsibility of the pharmacy technologist and requires high-quality standards to ensure preparation quality and patient safety. This course provides instruction and training in sterile compounding and aseptic technique principles based on current USP requirements. The student learns a series of process validation procedures which include aseptic garbing, hand washing techniques, laminar airflow hood cleaning, and large and small volume parenteral preparation. This course also covers quality control and assurance, total parenteral nutrition (TPN), aseptic calculations, and safe handling of antineoplastic drugs. Through a variety of lectures, problem solving sessions, and practical laboratory sessions, students become acquainted with compounding sterile preparations and working in the aseptic environment.

AHPT3103 NONSTERILE COMPOUNDING

Prerequisites: AHPT2101, AHPT2102

Compounding of pharmaceuticals is an essential skill that a pharmacy technologist must have. This course focuses on preparation and essential techniques of nonsterile compounding. The students process compounding prescriptions with zero tolerance in making errors. Course content includes extemporaneous preparation of ointment, cream, solution, suspension, and capsules. Furthermore, history of compounding, pharmaceutical forms, preparation and product formulae is discussed including a review of pharmaceutical calculations related to extemporaneous compounding and percentage of error. Students learn through lecture, practical activities, and hands-on training in a fully equipped nonsterile compounding lab.

AHPT3104 MEDICATION SAFETY & DRUG RECONCILIATION

Patient safety is an integral part of drug dispensing including when patient is transitioning from one care of facility to another or from home to hospital. This course is designed to enhance student understanding of safe medicine practice and preventing medication error in drug dispensing and distribution. Students learn the technique of medication reconciliation in every transition of patient care. The course content includes the art of patient interviewing, verifying and documenting the current medication and adopting to the new medication order. In addition, a review of prescription and drug order, therapeutic drug classification, standard dosage range is included. Through a variety of lectures, discussions, case presentations and hands on activities, students learn to verify patient medication list ensuring safety.

AHPT3200 CLINICAL WORK TERM

Prerequisites: Successful completion of all prior pharmacy courses

The clinical work term course is designed to transform the knowledge and skill acquired through didactic and practical classes in school to the real-life professional setup. This twelve-week (35h/week) clinical placement enables the student to apply the fundamental principles of the pharmacy technician learned within the program to the workplace. It ensures that graduating students develop the working skills to practice effectively in a hospital or community pharmacy setting. As part of their duties, students follow the instructions and assigned tasks delegated by the respective preceptor. They prepare intravenous admixtures, non-sterile compounds, and unit dose medications in a hospital setting. In a community pharmacy, students dispense medication to patients, maintain inventory, and receive payments. Students are supervised and evaluated by the preceptor and closely monitored by the instructor through frequent site visits and consultations.

Course Descriptions

AHPT3301 DRUG DISCOVERY & DEVELOPMENT

Drug discovery and development from molecules to a refined drug has become a time-consuming complex procedure involving a multidisciplinary team. In this course, students are exposed to stages of drug development including the phases of clinical trial. Students explore the drugs at molecular level, the appropriate receptor site, and toxicological analysis of a newly developed pharmaceutical. Furthermore, the role of genetics and nanotechnology in drug discovery is covered in this course. Students learn the complex material through lectures, discussions, and presentations.

AHPT3302 REGULATORY AFFAIRS & PHARMACEUTICAL JURISPRUDENCE

The pharmaceutical industry is one of the most highly regulated industries worldwide where strict policies and guidelines are placed to govern its activities. This course introduces students to the current legislations and policies that regulate the lifecycle of drugs starting from drug discovery and pre-clinical studies to drug manufacturing, clinical studies, and marketing. Students gain thorough knowledge about how safe and effective drugs are approved and registered from designated regulatory authorities. In addition, students learn the major pillars of pharmaceutical jurisprudence such as practicing pharmacy and dispensing prescription drugs, narcotics, and psychotropics from a local perspective. Using didactic lectures, group discussions, case studies, and audio-visual teaching aids, students acquire the necessary knowledge and skills in the field of regulatory affairs and pharmaceutical jurisprudence.

AHPT3303 GOOD MANUFACTURING PRACTICE

Pharmaceutical manufacturing operations depend on Good Manufacturing Practice (GMP) to assure that products are consistently produced and controlled according to quality standards. This course examines the history, rationale, purpose, and GMP requirements applicable to the manufacturing of pharmaceutical products and the consequences of inaction. Students learn the requirements of quality assurance, quality control, and compliance with GMP applicable to pharmaceutical industries. These requirements are needed to avoid making mistakes and delivering solutions in the production of manufactured goods. Through a variety of lectures, group discussions, assignments, and workshop sessions, students acquire the relevant knowledge and skills required of a pharmacy technologist to work within the pharmaceutical industry.

AHPT4101 PHARMACEUTICAL PROCESS DESIGN

The design and management of the large numbers of processes involved in the pharmaceutical industry is quite complex and requires a set of analytical and critical thinking skills to produce a successful business. This course introduces students to the process design principles that are essential to enhancing the productivity of the pharmaceutical industry. Students learn the historical evolution of process design and management. In addition, they gain a thorough understanding of the five key elements that must be considered in any process including man, machine, materials, methods, and environment. Moreover, students learn the challenges related to modern pharmaceutical manufacturing and how could it be improved. Using a combination of didactic lectures, case studies, and small-group projects, students gain the required knowledge and skills that prepare them to excel in developing a robust design for any pharmaceutical process.

AHPT4102 PHARMACEUTICAL ANALYSIS

The course provides a comprehensive introduction to analytical chemistry relevant for chemical quality control of pharmaceutical raw materials and final drug products and for determination of drugs and metabolites in biological samples.

AHPT4103 PHARMACOGNOSY

This course covers a wide range of topics and concepts addressing medicinal plant features. Students develop an in-depth understanding of the medicinal plant biotechnology, medicinal and aromatic plant substances, phytopharmaceuticals and marker constituents, drugs from marine sources, drugs from mineral origin, aromatherapy, and biomedical values of important herbs. Various learning strategies are utilized in the delivery of the sessions such as lectures, group activities, discussions, and presentations with the goal of the student gaining a robust foundation of knowledge in pharmacognosy and phytochemistry.

AHPT4201 BIOPHARMACEUTICS & PHARMACOKINETICS

This course covers a wide range of concepts in biopharmaceutics and pharmacokinetics. Students develop an understanding of the principles of pharmacogenetics, drug receptor theories, advances in membrane transports, and functional physiology. Various learning strategies are utilized in the delivery of the sessions such as lectures, group activities, discussions, and presentations. The goal is for the student to have a strong foundation of knowledge in the development of safer drug therapy in patients, allowing individualizing dosage regimens, and improving therapeutic outcomes.

AHPT4202 VACCINE DEVELOPMENT

Pharmacy computer systems play a vital role in pharmacy practice. In this course, the student learns the fundamentals of both community and hospital pharmacy computer systems. The student develops skills in accurate and efficient data entry, retrieval of information, and the generation of computer labels using actual pharmacy computer systems. Students also learn to interpret sample prescriptions, identify dosage forms, and techniques to ensure data integrity. Through a variety of lectures, group work, practical laboratory sessions, and simulated prescriptions the students acquire the necessary knowledge, skills, and technical abilities to deliver high-quality patient care in the pharmacy environment.

BIOL1001 INQUIRY-BASED BIOLOGY

This course explains key biological concepts such as cell biology, cellular organization, the diversity of life and classification, human physiology, and selected concepts of ecology from a student driven, inquiry-based perspective. Students are involved in group work and guided class discussions to further their understanding. Students learn how the scientific method is used to formulate hypotheses, test and answer questions, and contribute to everyday life from a biological point of view. Students also design and carry out their own basic scientific experiments to gain experience with the scientific method and learn the importance of collecting and analyzing data as well as communicating results.

BIOL1002 INTRODUCTION TO BOTANY

An understanding of living organisms helps to develop an appreciation of life. This course is an introduction to the diversity of plants, their structure, and their significance. Topics also include classification, identification, and nomenclature of angiosperms. This course includes theory and directed investigations to help enhance understanding.

BIOL1003 FUNDAMENTALS OF ECOLOGY

The study of ecology helps to develop an appreciation for the relationship between living organisms and their physical environment. This course covers the essential principles of ecology from physical environment to evolution and adaption, energy flow, population, communities, and ecosystems. Through lecture and directed activities, students learn about diversity, competition, natural selection, climate change, migration, extinction and more.

Course Descriptions

BIOL1004 INTRODUCTION TO GEOLOGY

This course explores the world of geology, both physical and historical, with emphasis on its relevance to other major disciplines. Basic principles of the geosciences are examined and used to illustrate the important contributions geology has made to our knowledge and understanding of the world today. This course is delivered through lectures, presentations, and case studies.

BIOL1030 BIOCHEMISTRY & MICROBIOLOGY

Prerequisites: BIOL1031

The study of biochemistry and microbiology is important to students interested in any health science profession as it strengthens their understanding in what happens inside the human body and other organisms at the cellular level. This course provides students with a brief introduction to cells, the types of molecules and reactions that happen inside cells, and the different types of cells (including microbes and viruses). Besides lectures and course readings, students strengthen their understanding of biochemistry and microbiology topics through online activities and experiential learning in the co-requisite laboratory.

BIOL1031 BIOCHEMISTRY & MICROBIOLOGY (LAB)

Prerequisites: BIOL1030

An understanding of the different systems in the human body is essential for people working in health science professions. This course introduces students to the anatomy and physiology of the human body with emphasis on regulatory mechanisms and adaptations that maintain homeostasis. Students learn basic chemical processes, and cellular and tissue physiology for select body systems. This course is taught through lectures, readings, and videos with the information then being applied in a weekly lab.

BIOL1110 ANATOMY & PHYSIOLOGY I

For people working in health science professions, an understanding of the different systems in the human body is essential. This course introduces students to the anatomy and physiology of the human body with an emphasis on regulatory mechanisms and adaptations that maintain homeostasis. Students learn basic chemical processes as well as cellular and tissue physiology for select body systems. This course is taught through lectures, readings, and instructional videos. Knowledge learned through these means is then applied in weekly, hands-on labs.

BIOL1210 ANATOMY & PHYSIOLOGY II

Prerequisites: BIOL1110

Understanding how the human body is put together and functions is essential for those working in a Health Science profession. This course is the second part of the study of Human Anatomy and Physiology. It investigates the organization of the human body including the cardiovascular, endocrine, nervous, and urinary systems. The course includes theory, laboratory work, and virtual simulations to enhance the understanding of the anatomy and physiology of these systems.

BIOL1310 INTRODUCTION TO PATHOPHYSIOLOGY

Prerequisites: BIOL1210

Health Science professionals need to be able to recognize and understand disease pathologies and the resulting health consequences. This lecture-based course introduces students to the fundamentals of pathophysiology, which is the study of structural and functional changes in cells, tissues, and organs of the body that cause or are caused by disease. Students are provided the opportunity to explore the mechanisms of disease processes to provide the background knowledge necessary for future studies on the preventative and treatment practices.

BIOL2010 MICROBIOLOGY

Co-requisites: BIOL2011

Health Science students need to understand the classification of different microorganisms and how they contribute to disease. In this course, students learn how to identify, classify, grow, isolate and eliminate microorganisms through lecture and the co-requisite laboratory sessions. Students learn to prevent the spread of microbial disease in the health care/workplace setting through the application of infection control measures.

BIOL2011 MICROBIOLOGY (LAB)

Prerequisites: BIOL2010

Laboratory sessions help to enhance student understanding of the concepts learned in lecture. This course allows students to explore how microorganism grow and are managed first hand, thus enhance what they learn in their lecture course.

BKFT1001 PRINCIPLES OF FINANCE

A comprehensive introduction to finance concepts is the foundation of content area knowledge for business and finance students. This course introduces the five fundamental principles of finance and then surveys the core values to business operations provided by the core finance functions. Topics included are: the five principles of financial management, the valuation of financial assets, investment in long term assets, capital structure and dividend policy and working capital management. Through lectures, lab exercises, videos and discussions, students learn to use a financial calculator and a look-up table to make financial management decisions.

BKFT2001 BANKING & FINANCIAL INSTITUTIONS

Prerequisites: BKFT1001

A foundational knowledge of operations in banking and financial institutions can allow students to understand the backbone of the banking industry. In this course, students survey the importance and functions of commercial, Islamic and central banks as well as the World Bank and IMF. Other major financial institutions like the stock exchange, insurance and other non-banking finance companies are also studied. Learning activities include lectures, discussions, basic fact-finding projects and presentations.

BKFT3001 FINANCIAL RISK MANAGEMENT

Prerequisites: ECON2010

Risk is both inevitable and a cause for concern in banking. Banks in recent years, like most businesses, have experienced extraordinary changes that significantly increased the need for proper risk management. In this course, students study the importance and impact of mitigating the most important risks banks and many other businesses face -Credit, Market, Operational and Liquidity risk. The framework of the recommended global standard of Basel III is used to study financial risk management through highly interactive activities, including case studies, discussions, article reviews and a group project and presentation.

BKFT3005 STRATEGIC FINANCIAL DECISION MAKING

Prerequisites: BKFT1001

Financial management and financial decision-making are integral functions in any business operation. In this course, students learn to effectively perform key financial functions while keeping the strategic goals of the organizations in focus. Students apply the strategic financial management process while planning, budgeting, forecasting, mitigating risk, decision-making, and analyzing & developing business solutions. These topics are benchmark topics for future management accountants and financial professionals. Corporate social responsibility, while making financial decisions is explored. Learning activities are highly interactive and include lectures, case studies, discussions, article reviews and a group project and presentation.

Course Descriptions

BKFT3007 PRINCIPLES OF CORPORATE FINANCE

The study of Corporate Financial Management, which addresses the core concepts, questions and decisions which sit behind the creation of corporate value (Investment Decisions, Financing Decisions, Dividend Decisions) are a key part of any student's engagement with the discipline of financial management. The course introduces students to core concepts regarding the objectives of finance, how capital is first raised, then deployed into wealth-creating operations and then how wealth is then returned to the providers of capital optimally. At the end of the course, the student should be able to demonstrate in-depth knowledge of the fundamentals of corporate finance and develop the skills and ability to analyze corporate finance decisions in both quantitative and qualitative terms.

BKFT3010 PERSONAL FINANCE & WEALTH PLANNING

Prerequisites: BKFT1001

Knowledge of how an individuals' financial requirements change throughout their lifetime and how financial products can be used to satisfy differing needs and circumstances is important in understanding how to effectively assist clients of all ages. In this course, students learn how to assist clients in planning their finances at various stages of life. Students undertake both directed and independent learning through lectures, presentations, and workshops.

BKFT4001 FINANCIAL INNOVATION IN MARKETS & TECHNOLOGIES

Prerequisites: BKFT2001

This course is designed to provide students with the knowledge and skills required to critically examine financial innovation and its consequences on markets, institutions and broader society. Students study the progress of financial innovation and the stages of financial technology development. They acquire the necessary skills to critique the technological advancements and innovations in the banking industry, capital markets and insurance market. They also examine how government policies can help or hinder the speed & breadth of innovation in the financial world. Learning activities in this course are highly interactive and include lectures, discussions, case studies, research projects, and presentations.

BKFT4010 PORTFOLIO MANAGEMENT

Prerequisites: BKFT3007

Understanding advanced techniques in asset allocation and portfolio management and applying them in real-world investment casework, is a skill that will benefit students in their financial management careers. This course teaches the theory and skills necessary to design, execute, and evaluate investment proposals that meet financial objectives. Through the use of both quantitative tools and qualitative decision-making, students learn to model asset price procedures and empirical research findings using cases, projects, and real-time portfolios that require hands-on application of the material.

BKFT4015 DERIVATIVES & RISK

Prerequisites: BKFT3005

Understanding key risk management instruments such as futures, forwards swaps, and options can help transform risk within the financial system. The main objective of this course is to help students gain the intuition and skills needed for pricing and hedging of derivative securities, and for using these for investment, risk management, and prediction purposes. Through lectures, seminars and Excel-based workshops, students will discuss a wide range of applications and real-life cases, including the use of derivatives in asset management, the valuation of corporate securities such as stocks and corporate bonds, interest rate derivatives, credit derivatives, as well as crude oil derivatives and currency derivatives.

BL1012 FOUNDATION BIOLOGY

Prerequisites: FL1130

Co-requisites: FL1140

This course introduces students to the fundamental principles of biology including the cell, cell processes, and genetics. Students also learn how the scientific method is used in biology.

BUSG2001 INTRODUCTION TO ENTREPRENEURSHIP

This is an introductory course that presents basic business concepts related to entrepreneurship to students through interactive classes. It aims to help students understand the entrepreneurs' mindset and how they identify, evaluate, and select business opportunities, transforming ideas into feasible ventures. Throughout the course, students engage in researching and assessing the feasibility of a business idea. Through participation in workshops, such as ideation, and exploring opportunities, students learn to apply fundamental business concepts to a business model to determine its potential for success.

BUSG2002 PROJECT MANAGEMENT

This course introduces students to the fundamental concepts of project management throughout the project life cycle. Utilizing the project management framework standardized by the Project Management Institute (PMI), students review project management processes, knowledge areas, and the tools and techniques used to manage projects from their initiation to closeout. Other topics include the importance of stakeholders, work breakdown structure (WBS), critical path analysis, risk analysis, and earned value management (EVM).

BUSG2010 QATAR BUSINESS LAW

A basic understanding of local business law is essential for every businessperson. This course introduces students to the legal system in Qatar by exploring topics such as legislation related to the oil and gas industry, company establishment in Qatar, contract law, securities, data protection, privacy and communications law, labor laws, residency and foreign worker hiring, tort laws, international laws, and current topics in the law relevant to Qatar. Through application of the lecture materials and the legislation itself, this course allows students to resolve various business-related scenarios that require the use of Qatar law in the problem-solving process.

BUSG2301 WORK PLACEMENT

Prerequisites: Min 54 Credits

This internship course augments students' knowledge, skills, and competencies in program specific courses completed at the diploma level. Students have an opportunity to practice and reflect on content and theories covered in the classroom environment. Students are able to undertake their work integrated learning in a broad spectrum of work environments such private organizations, public sector and non-profit organizations.

BUSG4101 PRACTICUM IN BUSINESS

Prerequisites: Min 90 Credits

This course provides students with professional coaching experience to build a successful career in the real world of business organizations. The course is designed for applied learning where the knowledge accumulated during the program is applied to real-life cases such as establishing a business, starting a new business venture, or developing skills in computer programs. By offering several certification-based modules, the course prepares students to be job ready for work environments with collaboration and leadership skills to efficiently start their careers.

Course Descriptions

BUSG4201 CAPSTONE PROJECT

Prerequisites: BUSG4101

The objective of the Capstone Project is for the students to apply the theoretical and applied knowledge they have acquired during their degree program. In teams, students have the opportunity to conduct either a research-based dissertation or develop a business plan for an entrepreneurial venture under the supervision of an experienced academic supervisor and in collaboration with faculty, industry, and/or other stakeholders. This course allows students to develop skills related to analytical research as well as market analysis and entrepreneurial planning for the competitive business environment.

BUSG4301 WORK PLACEMENT

Prerequisites: BUSG4201

This internship course augments students' knowledge, skills, and competencies in program specific courses completed at the undergraduate level. Students have an opportunity to analyze practical work-related issues, recommend strategies to address the concerns, practice and reflect on content and theories covered in the classroom environment. Students are able to undertake their work integrated learning in a broad spectrum of work environments such private organizations, public sector, and non-profit organizations.

BUSG5010 ADVANCED BUSINESS RESEARCH METHODS

Research skills are essential for success in advanced education and in the workplace. This course provides the theoretical and practical knowledge required to develop a research-based project in the final semester of a master's program. The course develops students' understanding of quantitative, qualitative, and mixed research methods for use in analyzing integrated macro and micro paradigms in business management fields. Through a variety of methods, this course also presents students with concepts related to social network research design, literature review, research methods, sampling techniques, data collection, and application of statistical tools to interpret the data.

BUSG5020 DECISION MAKING & NEGOTIATION

Decision-making and negotiation skills are essential for any businessperson. This course explores decision-making and negotiation theories, processes, and techniques for students' competency development. The course provides opportunities to develop advanced skills in decision-making, effective negotiation, and relationship management. Through a variety of case studies, class discussions, simulations, and evidence-based research, students develop negotiation appraisal skills which lead the negotiation process.

BUSG5030 CORPORATE SOCIAL RESPONSIBILITY & GOVERNANCE

In recent years, businesses have come to understand the importance of social responsibility and governance. This course examines the development and application of corporate social responsibility (CSR) and corporate citizenship as multidisciplinary concepts and their implications in the workplace. Students are tasked with evaluating risks, integrating CSR practices into core business strategies, and designing successful CSR policies that take contextual implications into account. Through a descriptive and applied approach, students also discuss the role of corporate governance in developing responsible corporate citizens as well as its importance in formulating and implementing effective CSR strategies.

CH1012 FOUNDATION CHEMISTRY

Prerequisites: FL1120

Co-requisites: FL1130, MA1029

The course introduces students to the fundamental concepts of chemistry including the atom, compounds, and chemical reactions. Students also learn to do chemical calculations related to moles and stoichiometry.

CHEM1010 GENERAL CHEMISTRY I

Prerequisites: CHEM1011

Chemistry is the study of matter and how it interacts with other matter, making it an essential science for engineers. This course aims to provide students with the basic principles of general chemistry by introducing the structure of matter and units of measurements before moving onto the types of chemical reactions, stoichiometric calculations, periodic table properties, chemical bonding, and molecular geometry. The final section explores solutions and electrochemistry so that students develop a deeper understanding of concepts in their technical courses, from a molecular point of view. Students study the theory through lectures and videos then apply this knowledge to chemical problems.

CHEM1011 GENERAL CHEMISTRY I (LAB)

Prerequisites: CHEM1010

Laboratory courses enhance student understanding by helping them visualize abstract concepts through experimental investigations. This course introduces students to the chemistry laboratory and provides the opportunity to further student understanding of the basic chemistry concepts studied in General Chemistry I.

CHEM1020 GENERAL CHEMISTRY II

Prerequisites: CHEM1010, CHEM1011

Co-requisites: CHEM1021

Chemistry is used in many engineering fields like manufacturing, production facilities, and making more valued chemicals for long-lasting products. This chemistry course extends students' prior knowledge of basic chemical concepts to more complex chemical interactions. This course starts with in-depth stoichiometry calculations as they relate to chemical reactions in particular acid-base chemistry and chemical equilibrium. It then introduces students to gases, thermochemistry, chemical kinetics, hydrocarbon chemistry and metallurgy. Students use their problem-solving skills to apply theoretical knowledge to practical problems that could be found in engineering.

CHEM1021 GENERAL CHEMISTRY II (LAB)

Prerequisites: CHEM1010, CHEM1011

Co-requisites: CHEM1020

Chemistry laboratory courses enhance student understanding by helping them visualize abstract chemistry concepts through experimental investigations. This course allows students to further their chemical understanding of theoretical concepts through practical experiments. Students learn new laboratory techniques as they study chemical concepts such as thermochemistry, acids and bases, hydrocarbons, and chemical kinetics.

CHEM1030 HEALTH SCIENCES CHEMISTRY

Prerequisites: CHEM1031

Chemistry has many applications in the healthcare field. Topics to be covered include matter, measurements, the atom, the periodic table, chemical bonding, formulas, reactions, and stoichiometry, gas laws, chemical kinetics and equilibrium, electrochemistry, acids and bases. Nuclear chemistry including its applications are also explored. Through lectures and class discussions, students extend their knowledge and relate it to their profession.

Course Descriptions

CHEM1031 HEALTH SCIENCES CHEMISTRY (LAB)

Prerequisites: CHEM1030

Laboratory courses enhance student understanding by helping them visualize abstract concepts through experimental investigations. This course allows students to further their chemical understanding of theoretical concepts through experimentation as they learn new laboratory techniques to study the concepts outlined in Health Science Chemistry.

CHEM1040 APPLIED SCIENCE FOR ALLIED HEALTH

Prerequisites: CHEM1041

Understanding general scientific principles is essential to understanding the world around us; this is particularly true for Health Sciences professionals. In this course, principles of chemistry and physics are studied as they apply to the practice of health sciences. Major topics include bonding, matter, solutions, equilibrium, electrochemistry, thermochemistry, and kinetics. These concepts are taught through lectures and course readings. Knowledge learned through these means is then applied in weekly, hands-on labs in the co-requisite course.

CHEM1041 APPLIED SCIENCE FOR ALLIED HEALTH (LAB)

Prerequisites: CHEM1040

Laboratory courses enhance student understanding by helping them visualize abstract concepts through experimental investigations. This course allows students to further their chemical understanding of theoretical concepts through practical experiments. Students learn new laboratory techniques as they study chemical concepts related to applied science, such as gas laws, phase changes, chemical equilibrium, buffers, and electrochemistry.

CHEM3010 PETROCHEMISTRY

Prerequisites: CHEM1020

Co-requisites: CHEM3011

The petroleum industry is based on an understanding of the chemistry of petroleum products. This course provides students a greater understanding of the concepts that form the basis of chemical technology in the petroleum industry. It provides an overview of the fundamental petrochemical separation and conversion process of petroleum and natural gas which are prominent in the hydrocarbon processing industry. Through lectures and class discussions, students explore these topics and relate them to the local industry of today.

CHEM3011 PETROCHEMISTRY (LAB)

Prerequisites: CHEM1021

Co-requisites: CHEM3010

Laboratory courses enhance student understanding by helping them visualize abstract concepts through experimental investigations. This course further develops students' experimental techniques in the chemistry laboratory and provides them the opportunity to explore the behavior of basic organic chemicals, which are the building blocks of the petrochemical industry. The experimental study/testing of chemical and physical properties of hydrocarbon and non-hydrocarbon groups found in the petroleum industry further students' understanding of the concepts studied in Petrochemistry.

COMM1010 ENGLISH COMMUNICATION I

Communication skills are an essential part of both workplace professionalism and career advancement. This course is designed to give students a solid foundation in reading and writing skills and to prepare them for success in their programs of study and future careers. Through lectures and a variety of reading and writing assignments, students are provided with the opportunity to develop proficiency in fundamental communication skills in English.

COMM1020 ENGLISH COMMUNICATION II

Prerequisites: COMM1010

Communication skills are an essential part of both workplace professionalism and career advancement. Building on the skills learned in English Communication I, this course is designed to help students direct their reading and writing abilities toward generating research reports in their program of study. By critically interpreting and analyzing information and data and then using this information and knowledge in various forms of workplace communication, students are encouraged to achieve proficiency in evidence-based reporting in oral and written formats.

COMM3010 RESEARCH & REPORTING

Prerequisites: COMM1020

The ability to independently research and report on a topic becomes increasingly important at the higher levels of study in a university program. By individually locating, evaluating, and summarizing secondary research sources, and organizing their data, students analyze research in relation to a problem they are solving, draft a proposal, write a final report, and present their research to their peers. Lectures and assignments guide students as they develop their final report.

COMP1401 INTRODUCTION TO COMPUTERS & INFORMATION SYSTEMS

This course equips students with the necessary skills to work efficiently and professionally in our digital era. Topics include an introduction to computers and computer systems, networking, efficient usage of the Web, and essential cyber security aspects. The second part of the course focuses on the best practices and usage of office applications, such as word processors and presentation and spreadsheet software, that are needed in their other courses and in most professional environments. The course is delivered through short lectures, online content, labs, and assignments that help students practice their skills.

COMP2201 TECHNICAL PROJECT

Prerequisites: Min 39 Credits

The Technical Project course enables students, under the supervision of a faculty supervisor, to demonstrate both technical and practical skills and knowledge developed throughout their program. Students taking this course also acquire experience in reporting and self-learning skills through research in technical documentation.

COMP2301 WORK PLACEMENT

Prerequisites: COMP2201

Students participate in an experiential learning eight-week work placement where they demonstrate the skills, knowledge, and abilities gained throughout their studies in the two year Diploma of Information Technology program. During this on-the-job experience, students develop their employability and technical skills, further enhancing their personal growth. Students experience different business cultures, public, private, and not-for-profit sectors, and/or small and large organizations throughout the work placement. Students learn from their new network of contacts and by widening their perception of life and career choices.

Course Descriptions

COMP4101 PRACTICUM

Prerequisites: Min 80 Credits

This course provides students with professional coaching experience to build a successful career in the real world of business organizations. The course is designed for applied learning. The knowledge accumulated during the program is devoted to real-life cases such as establishing a business, starting a new business venture, or developing skills in computer programs. By offering several certification-based modules, the course prepares students to be job ready for work environments and, with collaboration and leadership skills, to efficiently start their careers.

COMP4201 CAPSTONE PROJECT

Prerequisites: COMP4101

The Capstone course enables students to demonstrate technical and managerial skills and knowledge developed throughout their four years Bachelor's degree. Students taking this course work under the supervision of a faculty supervisor and complete various modules to fulfill all the requirements for a specific project related to their IT major.

COMP4301 WORK PLACEMENT

Prerequisites: COMP4201

Students participate in experiential learning to develop transferable work skills and abilities such as interpersonal skills, organizational skills, critical thinking, and communication skills. Students apply theoretical concepts related to information technology practices to tasks assigned by their faculty and workplace supervisors. Participation in the work term is determined through a competitive process based on the successful completion of all the courses. It represents students' second professional work experience in a business environment to evaluate their career choice in Information Technology.

DACS2101 DISCRETE STRUCTURES

Prerequisites: INFS1101

This course introduces students to the fundamental discrete structures required for computing. Students are encouraged to analyze problems related to discrete structures and find correct solutions backed by clear and precise proof. Topics covered include logic and proving methods; sets, functions, sequences and summations; numeral systems; logic gates and simple combinational circuits; induction; counting tools and discrete probability; relations, graphs and trees. The course is delivered through lectures, tutorials and exercises and relies on a reference textbook backed by D2L content.

DACS2201 INTRODUCTION TO DATA & CYBER SECURITY

Prerequisites: INFT2101

This course introduces students to the core concepts underpinning Data and Cyber Security. It discusses the fundamental concepts of cyber security, identifies major threats and attack vectors, different ways to mitigate them and how to apply cyber-hygiene principles to secure personal data. The topics covered span the full spectrum of cybersecurity as a discipline at an introductory level, including technical aspects such as malware, cryptography, network security, authentication and access control. In addition, the course highlights organizational, human, and societal components of cyber security.

DACS3101 APPLIED CRYPTOGRAPHY

Prerequisites: DACS2101

Cryptography has indeed crept into everything, and everyone uses it daily without knowing. This course covers fundamental aspects of modern cryptography, which is the cornerstone of cybersecurity. The course starts by reviewing historical ciphers, and their application. It then moves to essential building blocks of modern cryptography: stream, ciphers, block ciphers, asymmetric cryptosystems and hash functions. Mathematical concepts underpinning these technologies, such as modular arithmetic, elements of number theory and elliptic curves, are also covered. Finally, the course introduces cryptographic protocols that combine previously introduced tools to solve practical problems such as password security, digital signature and secure communications. The course relies on lectures and exercises for the theoretical concepts and emphasizes the implementation of different algorithms in a high-level programming language.

DACS3201 NETWORK SECURITY

Prerequisites: INFT3101

This course aims to develop the network security skills required in an enterprise network setting. It enables students to use systems, tools, practices, and relevant technologies to elaborate and implement a security plan for an enterprise network. The topics covered in this course are secure network access, network security protocols and technologies such as Firewalls, IDS/IPS, VPN, network security policies, secure network design, deployment and configuration of security controls (including NAT/PAT) and protocols, and management of security solutions. The course is delivered using lectures, tutorials, simulation software, and hands-on labs and exercises.

DACS3202 CYBER SECURITY ANALYTICS & VISUALIZATION

Prerequisites: DSAI2201

This course demonstrates the power of analytics and visualizations for cyber security monitoring and management. First, it covers the process of unstructured data to wisdom extraction by explaining the fundamental aspects of a monitoring architecture and statistical tools to analyze logs and visualize the results. Additionally, it covers other analytic concepts by augmenting logs and gathering threat intelligence, using machine learning algorithms, garnering the power of big data and presenting the output in efficient synthetic and actionable visual artefacts targeted at different audiences. The course is delivered through lectures, labs, and projects to allow students to practice these skills in real-world use cases.

DACS3203 SECURE SOFTWARE DEVELOPMENT

Prerequisites: INFS3102

This course introduces students to the fundamental design principles of secure software development. By the end of this course, students are able to write secure code with appropriate documentation and analyze security considerations at each phase of the software development lifecycle. The topics include software security requirements, fundamental design principles of secure software, secure coding and implementation, and finally testing a secure software application. The course is delivered using lectures, tutorials, and exercises and it relies on a reference textbook backed by D2L content.

Course Descriptions

DACS3301 PRIVACY IN THE DIGITAL ERA

Prerequisites: DACS2201

This course examines the fundamental concept of digital privacy in the modern world from technological, legal, organizational, human and societal perspectives. Students review the key concepts of privacy, then they assess the evolution of privacy in the digital area and in particular the numerous threats to individual privacy. The course then describes a wide-spectrum of privacy enhancing technologies, the international legal regulations that protect privacy, how organizations manage and comply with privacy regulations, before debating data privacy as a captivating concern and benefit to individuals and societies. This course is delivered using lectures, in-class activities/exercises, group work, and case studies.

DACS4101 SECURITY ENGINEERING PRINCIPLES

Prerequisites: DACS3101

This course explores the best engineering practices to develop secure systems. It covers cyber security risk assessment and management, including cost benefit trade-offs. It then examines general secure design principles, followed by identity and access management as a first line of defense for any system. Students then examine the interplay between component and system security, and finishes with human aspects that impact organizational security such as psychology and usability or social engineering and the importance of training to mitigate these risks. The course alternates between lectures, labs, and cases studies to immerse the students in the field.

DACS4102 WEB SECURITY

Prerequisites: INFS3201

This course equips the student with the skills needed to assess cyber threats against web systems and to deploy solutions that can protect against cyber-attacks. Topics include the HTTP protocol, web browsers, web servers, authentication and authorization attacks, information leaks, XSS attacks, CSRF attacks, injection attacks, DoS attacks, session hijacking, XML attacks, the HTTPS and encryption. The course is delivered using lectures, tutorials, and assignment exercises, and it relies on a reference textbook backed by D2L content.

DACS4103 SCRIPTING FOR CYBER SECURITY

Prerequisites: INFS3102

This course equips students with system and network programming skills for cyber security operations. It covers scripting in bash, including searches using regular expressions, data collection and analysis, real-time monitoring and security administration in bash. The second part of the course builds strong scripting skills in a higher-level programming language, such as python, to interact with system processes, manipulate files to extract metadata, analyze logs, program the network, and investigate and manipulate network packets. The course is delivered using lectures and online resources describe on D2L with a strong emphasis on practicing efficient scripting skills in the context of cyber security operations.

DACS4105 CYBER PHYSICAL ARCHITECTURES & PROTOCOLS

Prerequisites: INFT3101

This course introduces the principles, tools, models, and processes essential to cyber-physical system development, such as model-based development methods, basics of feedback for task scheduling, modern verification, and validation techniques, and their integration in today's industrial development processes. This course focuses on the design and operation of secure and safe Cyber Physical Systems (CPS). Students learn the general architecture of CPS in different domains including public infrastructure, control mechanisms, communication protocols in CPS, and programming of Programmable Logic Controllers (PLCs).

DACS4202 PENETRATION TESTING

Prerequisites: DACS3203

This course explores advanced tools and techniques used by ethical hackers to complete a penetration test on a system. The topics include an overview of the cyber kill chain, in-depth coverage of vulnerability exploitation in enterprise and web-based systems, post exploitation techniques, and attack countermeasures. The course is delivered using lectures and tutorials with emphasis on hands-on training by using a variety of labs, assignment exercises, and a project, and it relies on a reference textbook backed by D2L content.

DACS4203 IOT & OT HACKING

Prerequisites: DACS2201, INFS3102

This course is designed to equip the students with skills to perform ethical penetration testing of Internet of Things (IoT) devices and environments, including Industrial IoT devices used in Operational Technology (OT). It covers the threat landscape of IoT and OT, and the security testing methodology to follow in an ethical penetration testing of an IoT environment. The rest of the course covers various techniques to hack the network, the hardware, the radio interface of IoT devices and even IoT applications exploitation. The course is delivered through short lectures and hands-on labs to practice the techniques on a popular IoT platform.

DACS4204 CLOUD SECURITY

Prerequisites: DACS3201

This course deals with security considerations pertaining to cloud environments and deployment of applications in a cloud environment. The course starts by introducing the main cloud computing concepts, the references architectures and the main design principles of secure cloud computing. It then covers data security, infrastructure security, application security and security operations in a cloud context, and finishes by addressing specific risks and legal frameworks of cloud computing. The course is delivered by means of lectures and practical lab deployments, with additional content on D2L to provide a pathway towards obtaining a certification such as ISC2 CCSP or CSA CCSK.

DACS4205 DIGITAL FORENSICS

Prerequisites: DACS3203

In this course, students are equipped with the skills needed to perform digital forensics, in the context of either threat hunting or legal digital investigation. The course covers the legally admissible forensics process including documentation, and proceeds with the technical aspects starting with physical acquisition of storage media (disk cloning), analysis of the filesystem and the main memory. The course further covers investigation of online activity and finishes with aspects of mobile and wearables forensics. The course is delivered through lectures, tutorials, case studies and hands-on experimentation during labs where students experiment with state-of-the-art forensics tools.

Course Descriptions

DACS4206 SECURITY MONITORING & INCIDENT RESPONSE

Prerequisites: DACS3202

This course advocates a proactive approach to security monitoring. Students learn about Defensible Security Architectures, Network Security Monitoring (NSM and Continuous Security Monitoring (CSM) as it relates to organizations. Student further learn about multi-tier Security Operation Centers (SOC) and their corresponding architecture, tools and processes, to monitor the infrastructure, analyze threats, detect anomalies that could indicate cybercriminal behavior, trigger the incident response process against identified threats, the involved stakeholders, the lessons learned from an incident to build up threat intelligence and improve the cyber security posture of the organization. The course is delivered using lectures, tutorials and exercises and it relies on a reference textbook backed by D2L content, as well as hands-on practice in a lab equipped with SOC capabilities.

DACS4208 INDUSTRIAL CONTROL SYSTEMS SECURITY

Prerequisites: DACS4105

This course introduces the overall background and essentials of Industrial Control Systems (ICS). Students become familiar with ICS/OT security concepts, secure architecture, threat models, and ICS/OT security standards and best practices. Likewise, they learn to understand and explain the role of industrial control systems (e.g., SCADA systems) in industry and identify unique cybersecurity risks associated with them. This course provides hands-on training for understanding, protecting, and securing Industrial Control Systems (ICS) from cyber-attacks and includes a red team versus blue team exercise conducted within an actual Control Systems environment. Throughout the course, exercises and demonstrations inspired by actual cases and incidents in the ICS world enable learners to advance their knowledge in the field of ICS security.

DACS4210 CYBER SECURITY POLICIES, STRATEGIES & PROCEDURES

Prerequisites: DACS3301

This course provides students with information on the origin of cyber security policy, governance structures for policy creation, selection and implementation of policy, and audit and control functions to ensure compliance and efficacy. Students are exposed to the national and international policy and legal considerations related to cybersecurity and cyberspace such as privacy, intellectual property, cybercrime, homeland security (i.e., critical infrastructure protection) and cyberwarfare, and the organizations involved in the formulation of such policies. The course also focuses the foundations of cybersecurity, including threats and vulnerabilities as well as the tools, technologies, and strategies used to manage them.

DCMP1001 MEDIA THEORY & PRACTICE

In this course, students are introduced to the major key thinkers and movements that have framed, and continue to frame, the way we understand the production and consumption of media, its meaning and its affect. Understanding of the technological building blocks that make up digital media & culture, & of the ways they come together to shape myriad facets of life. Applying key conceptual models and critical approaches to media texts, students develop an understanding of the way media practices and consumes information.

DCMP2001 DIGITAL COMMUNICATION STRATEGIES

Prerequisites: DCMP1001

A Digital Communication Strategy is a systematically planned and organized communication campaign across selected digital media that aims to increase awareness, sales, and brand loyalty. This course introduces students to the major strategic decisions that can be taken that allow for the development and documentation of a strategy for a particular product or service.

DCMP2005 DIGITAL MEDIA COMMUNICATION

Prerequisites: MRKT2003

This course is an introduction to the production components of digital media communication. Through hands-on activities using industry-relevant software, students explore the core technical components of digital media communication, including a broad overview of image, publishing, audio, video and animation production and authoring tools. Throughout the course students build a portfolio of work showcasing their technical digital communication production skills.

DCMP2010 INTRODUCTION TO JOURNALISM

In this course, students are introduced to basic journalism skills and are exposed to a wider philosophical understanding of the journalist's responsibility to society. The course provides a basic survey of the field and instruction in the fundamentals of journalistic writing, interviewing, and editing.

DCMP2015 INTRODUCTION TO VISUAL COMMUNICATIONS

Visual communications is an essential skill for effectively communicating ideas, information, and perspectives to diverse audiences in a variety of contexts. Students learn about the theories of visual perception and psychology underlying visual design principles, and strategies for the composition of visual elements to produce effective and compelling visual communications.

DCMP2020 PRINCIPLES OF PUBLIC RELATIONS

In this course, the students are introduced to the theory and practice of public relations, how public relations operates in organizations, its impact on publics, and its functions in society. Students study the professional development of the field; concepts, issues, and principles in the practice; and models and theories guiding the practice.

DCMP2025 GRAPHIC DESIGN FUNDAMENTALS

Prerequisites: MATH1010

This course explores the fundamental elements of graphic design especially as related to the development of visual languages and product branding. Students learn about color and shape, typography and iconography. Throughout the course students use the appropriate digital technologies to develop digital graphic media.

DCMP2030 NEWSWRITING TECHNIQUES

Prerequisites: COMM1020

In this course, students learn how to structure a news article, write to journal and industry standards, develop an effective headline and a strong introduction and how to incorporate and attribute quotations. The course also makes students aware of the importance and methods of gaining and validating information and of the possible legal consequences of presenting inaccurate or biased material. Finally, this course looks at the different styles of writing used by different papers, magazines and other publications.

Course Descriptions

DCMP2040 FUTURE DIGITAL JOURNALISM & MEDIA

Prerequisites: DCMP1001

In this course, students gain experience and practice in important areas while learning to create interesting stories using various digital channels. The course gives students the confidence to tell stories in any media and to learn any new technology or medium you might require for your journalism. Finally, the course explores what digital journalism entails: Is it unique from typical offline reporting? What are the values that endure? What is different? What does digitally native storytelling entail, as well as its benefits and drawbacks?

DCMP2050 STRATEGIC STORYTELLING

Prerequisites: DCMP1001

The course equips students with a theoretical and practical understanding of strategic/directed storytelling. It introduces background and analysis for how storytelling has evolved in the digital landscape, requiring communicators to rethink concepts of audience, engagement, use of trusted sources, and dynamic updating. Topics include Wonder, Wisdom and Delight, Storytelling vs. Strategic Storytelling, Communications and Human Nature, The Age of the Educated Consumer, Walt Disney: An Empire of Storytelling, Asymmetry, Branding in International Relations, Stories and the Infinite Game, Thought Leadership, Privacy, Crisis Simulation, The Age of Personalization, and Content Marketing Applied.

DCMP3001 DIGITAL MEDIA ENTREPRENEURSHIP & INNOVATION

Prerequisites: DCMP2001

This is an introductory course that presents basic concepts related to digital entrepreneurship and innovation. The course aims to help students understand the digital entrepreneurs' mindset, how they identify, evaluate, and select business opportunities, transforming ideas into a feasible venture. Students identify the components of a business plan and how it can be used to attract investors and manage a digital innovation.

DCMP3011 INTRODUCTION TO VISUAL ANALYTICS

Prerequisites: DCMP2015

Visual analytics allow decision makers to make sense of large and diverse data sets. In this course, students explore ways to visualize, analyze, and to effectively communicate data from a variety of sources using a range of visualization methods, strategies, and tools. The course is delivered through a series of lectures, case studies, and practical activities.

DCMP3021 MEDIA TECHNOLOGY

Prerequisites: DCMP1001

In this course, students are introduced to the technological aspects of media. Starting from the physical theory of sound and image, students are exposed to a panorama of techniques and technology relating to digitization of media: from encoding and compression to storage and transmission. The course is delivered in the format of lectures followed by practical activities to apprehend the importance of technology, its performance, and limitations.

DCMP3031 USER INTERFACE/USER EXPERIENCE (UI/UX)

Prerequisites: DCMP2025

In this course, students are introduced to the fundamental theories and concepts of user experience and user interface. The students gain practical and theoretical experience in the fundamental aspects of human perception, cognition and learn the design, implementation, and evaluation of interfaces.

DCMP3041 MEDIA ETHICS

Prerequisites: Min 60 Credits

This course introduces students to a select ethical and legal concepts necessary to ensure responsible content creation for traditional and digital communication platforms. Students develop a basic understanding of ethical and legal dilemmas faced in journalism, public relations and entertainment media. Topics include disinformation, fake news, defamation, etc., in traditional and digital media including social media. It also explores frameworks available to protect intellectual property rights, and the invasion of privacy and security.

DCMP4005 AUDIO & RADIO PRODUCTION

Prerequisites: DCMP3021

In this course, students are introduced to basic techniques for recording, editing, mixing and exhibiting film and television sound. It introduces the field of audio production for film and television, along with post-production audio techniques. Instruction in the operation of radio technology and introduction to the production of radio programs is provided as well as opportunity for practical experience with the university radio station.

DCMP4015 VIDEO & FILM PRODUCTION

Prerequisites: DCMP3021

In this course, students are introduced to the principles, process and software needed for video production. Students learn how to take a story concept and translate that into actual video production. Storyboarding, video production techniques and editing with software form the core components of this course.

DCMP4025 DIGITAL & ALTERNATIVE MEDIA PRODUCTION

Prerequisites: DCMP3021

What is digital media production? What are the most appropriate types of digital media to meet our needs? How do we deliver the digital media to our audience? What tools do we use to produce the various media types? In this course students learn to use digital media production tools to create digital imagery, audio, video, and extended reality (XR) media to meet a range of needs and audiences.

DCMP4035 DIGITAL PROTOTYPING & MANUFACTURING

Prerequisites: DCMP2025

In this course, the students learn how to identify product concepts for machine designs with commercial viability. Design teams conduct market research and investigate the intellectual property space surrounding their concepts before rapidly iterating them into a final prototype using digital manufacturing (e.g., 3D CAD files manifested through robotic printing or machining); advanced training on these tools are provided, and quantitative marketing is used as feedback. Prototypes evolve into more complex designs as time goes on. Scale-up (cost, pricing, tooling) issues for mass manufacturing, as well as quantitative analysis of machine designs, are considered.

DCMP4045 3D MODELLING & VIRTUAL REALITY

Prerequisites: DCMP2025

This course introduces students to the fundamentals of 3D Modeling, surfacing, and animation. Students gain skills to model objects, visualise and light scenes, animate, and render short 3D movies that can be used in video games, architectural visualization, television and feature films. Topics covered include an introduction to the 3D Modeling and 3D sensing technologies, 360-degree cameras, VR apps and tools, and hands-on experience in creating 3D models.

Course Descriptions

DSAI2201 INTRODUCTION TO DATA SCIENCE & AI

Prerequisites: INFS1201

This course introduces broad foundational topics in data science. It examines various machine-learning algorithms and provides students with efficacious computational and statistical techniques. Topics include descriptive statistics, conditional probability, Naive Bayes' theorem, data munging, Matplotlib basics, machine learning algorithms, and introduction to reinforcement learning. The course is delivered through interactive lectures and practical lab sessions in which students are involved in utilizing the tools and methods used for data acquisition and cleaning, as well as analyzing, manipulating, and evaluating datasets and making predictions.

DSAI3201 MACHINE LEARNING

Prerequisites: INFS3102, MATH1030, MATH1050

This course provides students with both the theoretical underpinnings of machine learning and the practical know-how implementation of algorithm design techniques needed for solving real-life problems. Students develop a profound understanding of the theoretical relationship between algorithms as well as gain ML skills such as linear and logistic regression, regularization, probabilistic inference and SVMs. Python is the focal programming language used in this course, being a high-level and dynamic language suitable for performing machine learning tasks. The course is delivered through interactive lectures and practical lab sessions in which students are interactively involved in implementing and evaluating different machine learning algorithms.

DSAI3202 PARALLEL & DISTRIBUTED COMPUTING

Prerequisites: INFS3104

This course assists students to build solid theoretical as well as practical foundations in Parallel, Concurrent, and Distributed Programming. Parallel Programming prepares students to use popular Java frameworks and write parallel programs for multicore platforms. Concurrent Programming enables students to mediate efficiently and accurately the use of shared resources in parallel programs, and to learn how to use basic concurrency constructs in Java. Distributive Programming enables students to use multiple nodes in a data center as well as popular distributed programming frameworks for Java programs. Topics include task, functional, and loop parallelism; data flow synchronization; thread and locks; critical sections; actors; concurrent data structures; distributed map-reduce; client-server; programming; and multithreaded server. The course is delivered through interactive lectures and practical lab sessions.

DSAI3203 FUNDAMENTALS OF AI

Prerequisites: DACS2101

This course provides students with the fundamental knowledge and skills needed to engage in current and future Artificial Intelligence industries. The course explores the intelligent agent structure and its relationship with its environment. Students learn to compare search algorithms based on their accuracy, suitability, and efficiency. This course guides students in representing knowledge and reasoning using propositional and predicate logic. The course adopts one of the state-of-the-art logical programming languages to solve real world problems. This course helps students explain and solve planning problems, covering classical, heuristics, and hierarchical planning. Lectures and computer labs are used to deliver the background knowledge and impart the practical skills that this course aims to provide.

DSAI3204 IOT APPLICATION DEVELOPMENT

Prerequisites: INFS3201

This course aims to provide students with the essential knowledge of IoT ecosystem and facilitate a quick engagement in IoT App development. The students are able to describe the IoT development lifecycle. This course covers the necessary knowledge to connect sensors with a microcontroller. Students use one of the state-of-the-art programming languages to add the business logic to the microcontroller. This course demonstrates the configurations between microcontrollers and Wifi, cellular, or Gateway. This course illustrates the process of storing the sensors' readings on cloud and premises database. Students are able to build a mobile App that receives push-notifications based on the sensors' readings. Lectures and computer labs are used to deliver the background knowledge and impart the practical skills that this course aims to provide.

DSAI3301 DATA ANALYSIS & VISUALIZATION

Prerequisites: DSAI2201, MATH1040

This course aims to provide students with a state-of-art techniques in data analytics and visualization. It equips the students with advanced visualization tools so they can perform data analysis and presentation of practical complex real-world projects. Topics include importing and storing data from Json files, Web, and SQL Databases; data visualization (Seaborn library); data estimation using Statsmodels library and its powerful built in Time Series Analysis Tools; and data clustering (unsupervised learning). Finally, the students use Tableau to create varied diagrams, dashboards, and stories and use them to draw business conclusions.

DSAI4101 APPLIED DEEP LEARNING & NEURAL NETWORK

Prerequisites: DSAI3201

The course provides theoretical underpinnings as well as practical training in deep learning. In this course, students are instructed to build, train, and apply fully connected deep neural networks (FCNNs). They are also trained to develop test sets and analyze bias/variance for building deep learning applications. The course offers mechanisms of diagnosing errors in a machine learning system and prioritizing strategies for mitigating errors. Students are able to implement and apply a variety of optimization algorithms, build a convolution neural network, including recent variations such as residual networks, and apply convolution networks to visual detection and recognition tasks.

DSAI4102 APPLIED DATA MINING

Prerequisites: DSAI3201

This course aims to provide students with the essential knowledge to analyze large data sets and discover rules that direct decision making process. This course covers the concepts and the applications of data mining. The course examines the necessary statistical principles for data mining like hashing and similarity. Students are able to format unstructured data into an abstract representation like, graph, vector, matrices or set. The course uses one of the state-of-the-art programming languages to solve and evaluate different pattern discovery and cluster analysis techniques. Lectures and computer labs are used to deliver the background knowledge and impart the practical skills that this course aims to provide.

Course Descriptions

DSAI4103 ADVANCED BUSINESS ANALYTICS

Prerequisites: MATH1040, DSAI3301

This course exposes students to the best data analytics practices executed in business world. Students gain practical skills in building conceptual models of business, extracting and manipulating data using SQL code, applying statistical methods for data analysis, developing models for decision making, and effectively interpreting and presenting analytic results. Topics include predictive modeling techniques, cluster analysis, Monte Carlo simulation, optimization techniques, and results presentations strategies.

DSAI4104 FUNDAMENTALS OF IOT

Prerequisites: INFT2101

This course examines the fundamental concepts of IoT. Topics include sensing, actuation, basics of IoT networking, machine to machine communication, introduction to Arduino, introduction to Raspberry, cloud computing, fog computing, smart cities, connected vehicles, smart grid, industrial IoT, and data analytics. Students apply the techniques learned to real-life case studies.

DSAI4106 EMBEDDED SYSTEMS & IOT

Prerequisites: INFT2101

This course covers embedded systems and IoT for building devices that can sense and act on the physical world. Students are instructed to design, implement, and test microcontroller based embedded systems. Topics include CPUs and FPGAs, OS kernels, Contiki and Cooja Simulation, Arduino Shields and Libraries, Basic C programming for Arduino, Debugging, UART Protocol Synchronization, Electrical Components, Sensors and Actuators, WiFi Shield, Raspberry Pi, Linux Basics, Python for Raspberry Pi, GUI, Server Code, Network Libraries, and Camera Module.

DSAI4201 SELECTED TOPICS IN DATA SCIENCE

Prerequisites: DSAI4101

The course offers an in-depth study of selected topics and methods from various sectors in Data Science (DS), Artificial Intelligence (AI) as well as Machine Learning (ML) applications that include robotics, sports, education, health, and medicine. In this course, students are required to present selected papers that reflect the current and emerging methods and trends in DS, AI, and ML.

DSAI4202 INFORMATION RETRIEVAL

Prerequisites: DSAI3201

The course introduces the core concepts of modern text-based information retrieval systems. It equips the students with the theoretical and practical knowledge needed to design and implement an information retrieval system. The course introduces several state-of-the-art IR concepts such as efficient text indexing, Boolean and vector space retrieval models, evaluation, and interface issues; Web search including crawling, link-based algorithms, and Web metadata; text/Web clustering, classification; and text mining and image retrieval.

DSAI4205 AUTONOMOUS IOT

Prerequisites: DSAI3202

This course covers autonomous devices that connect and share information without human intervention. IoT includes robotics, autonomous vehicles, drones, and smart home devices. This course is designed with a focus on hands-on experience. In addition to the lectures, there are multiple laboratory sessions and demonstrations to implement the theoretical understanding of various concepts.

ECON1001 GLOBAL ECONOMIC CONCEPTS

This course provides an introduction to the field of global or international economics. Students learn how the world economy functions by first surveying the basic economic concepts that drive the global economy. Students then learn about the organizations and agreements that facilitate the effectiveness of global effectiveness. There are also opportunities to reflect and debate on the major economic benefits globalization provides to people and nations, as well as the most serious problems it causes. The course is delivered in a practical way that even students with little background in business or economics can easily understand. Real-world case studies, current news, videos, lectures, and group activities ensure the course is relevant and valuable to students.

ECON2010 BUSINESS ECONOMICS

This course enables students to gain an understanding of microeconomics and macroeconomics and to be able to apply their principles for informed economic decision-making. The course focuses on best practices used to address economic decision-making by individuals, businesses, and governments under different market systems. Students learn the relationship of demand and supply in a microeconomic context and aggregate demand and supply in a macroeconomic setting. Students learn the concept of gross domestic product (GDP), the principles of international trade, and the application of monetary and fiscal policy and their impacts on GDP. In this course, students apply academic theory to practical learning situations using a problem-solving approach.

EFFL1001 EFFECTIVE LEARNING

Upon entry in the university academic environment, students are introduced to the expectations and study skills that are particularly relevant for their First-Year experience, including strategies and tools to support their studies and to give them a better understanding of themselves as learners. In this course, students become aware of the full range of campus resources available to support their learning, including multimedia tools to support time management, oral presentations and portfolio documentation. Through individual and group project work, students develop a greater appreciation of the need to define their educational and career goals clearly and to develop the habits and skills, which enables them to achieve these goals.

EFFL1002 APPLIED & EXPERIENTIAL LEARNING

In a university environment focused on applied technical education, a hands-on and applied understanding of experiential learning and how to be effective problem-solvers, communicators, planners, team members, and leaders is important. Students in this course learn to merge key software applications to collaboratively solve case studies in a team environment. Through group and individual project work, students learn to communicate in a group dynamic and use the software tools they need to be successful learners in an applied, experiential learning environment and throughout their program.

EN1101 TECHNICAL ENGLISH I

Prerequisites: A minimum score of 20 on the UDST Placement Test

This course is designed for students with English proficiency at the Basic User – Elementary level (CEFR Low A2) and is taught in an integrated approach. It aims to improve students' listening, speaking, reading, writing, vocabulary, grammar, and phonology for communicating and interacting in English. The course focuses on both familiar and less familiar contexts of language use and incorporates straightforward, concrete topics related to home, school, lifestyle, and work. Upon completion, students will have attained English proficiency at the Basic User – Elementary level (CEFR High A2).

Course Descriptions

EN1201 TECHNICAL ENGLISH II

Prerequisites: EN1101

This course is designed for students with English proficiency at the Basic User – Elementary level (CEFR High A2) and is taught in an integrated approach. It aims to improve students' listening, speaking, reading, writing, vocabulary, grammar, and phonology for communicating and interacting in English. The course focuses on less familiar contexts of language use and incorporates straightforward, concrete topics related to home, school, lifestyle, and work. Upon completion, students will have attained English proficiency at the Independent User – Intermediate level (CEFR Low B1).

EN1301 TECHNICAL ENGLISH III

Prerequisites: EN1201

This course is designed for students with English proficiency at Basic User – Elementary level (CEFR High A2) and is taught in an integrated approach. It aims to improve students' listening, speaking, reading, writing, vocabulary, grammar, and phonology so that they can communicate and interact in English. The course focuses on less familiar contexts of language use and incorporates straightforward, concrete topics related to home, school, lifestyle, and work. Upon completion, students will have attained English proficiency at the Independent User – Intermediate level (CEFR Low B1).

EN1401 TECHNICAL ENGLISH IV

Prerequisites: EN1301

This course is designed for students with English proficiency at the Independent User – Intermediate level (CEFR Low B1) and is taught in an integrated approach. It aims to improve English skills in listening, speaking, reading, writing, grammar and phonology in professional contexts, so students can communicate and interact in English. The course focuses on less familiar contexts of language use, and incorporates straightforward, concrete topics related to home, school, lifestyle, and work. Upon completion, students will have attained English proficiency at the Independent User – Intermediate level (CEFR Mid B1).

ET1145 ELECTRICAL FUNDAMENTALS I

Prerequisites: SE1005, TN1000, TN1005

This course introduces students to electrical fundamentals including the basic concepts of electricity, Ohm's Law, capacitance, and inductance, as well as the practical application of electrical measuring instruments. Students learn basic principles of electrical circuits, how to use and manipulate formulas to analyze circuits, and how to safely perform routine electrical measurements.

ET1155 ELECTRICAL FUNDAMENTALS II

Prerequisites: SE1005

Co-requisites: ET1145

This course introduces students to the electrical fundamentals of alternating current (AC) electricity for single-phase electricity and three-phase electricity.

ET1203 BASIC DC THEORY I

Prerequisites: SE1001

This course introduces students to the fundamentals of direct current (DC) electrical theory and the hands-on practical use of electrical measuring instruments. Students learn basic principles of electrical circuits and how to safely perform routine electrical measurements. They also learn the fundamentals of Ohm's Law.

ET1205 CONDUCTORS & CABLES

Prerequisites: MA1015, MA1020, SE1005, TN1000, TN1005

This course introduces students to the characteristics, installation, and inspection of conductors and cables. Students learn international tables as well as standards. Emphasis is placed on workplace safety while developing the skills to safely handle conductors and cables.

ET1215 ELECTRICAL DRAWINGS

Prerequisites: SE1005

This course introduces students to various drawings used in the electrical industry. Students gain practical experience using drawings to create and trace a circuit.

ET1225 ELECTRICAL TRANSFORMERS

Prerequisites: SE1005

Co-requisites: ET1215

This course introduces students to the components, characteristics, applications, and operations of electrical transformers. Students gain knowledge and applied skills regarding single and three phase transformers and their connections to perform basic maintenance checks.

ET1240 AC GENERATORS

Prerequisites: SE1005, TN1000, TN1005 ET1145, ET1155, ET1215, ET1266

This course introduces the components, characteristics, applications, and operations of alternating current (AC) generators. Applying safe operating procedures, students gain the knowledge and skills necessary to operate AC generators as stand-alone power sources as well as in parallel with other sources of power.

ET1255 HAZARDOUS AREAS

Prerequisites: SE1005

This course introduces students to the various electrical equipment required for installation in hazardous areas of oil, gas, and petrochemical plants. The course provides an overview of hazardous area classification, appropriate permits required to work in hazardous areas, and an introduction to industry standard electrical explosion proof equipment. Safe work practices while operating in hazardous areas are emphasized.

ET1266 ELECTROMAGNETIC DEVICES

Prerequisites: ET1145, ET1155, SE1005, TN1000, TN1005

Co-requisites: ET1215

This course introduces students to the operations, characteristics, and applications of various electrical relays, contactors, and solenoids. Students learn about electrical relays, contactors, and solenoid basic operating principles. Using an electrical circuit drawing, students also learn to draw, install, and operate electrical relays, contactors, and solenoids.

ET1300 SWITCHGEAR & PROTECTION

Prerequisites: SE1005

This course introduces the classification and application of low, medium, and high voltage switchgear. The course also provides an overview of the types, applications, and selection of low voltage circuit breakers. Students learn how to remove, install, and administer multiple tests of circuit breakers from training switchboards, as well as how to identify the voltage and current ratings of fuses. Using standard maintenance procedures, students develop the skills to assist in the operation and testing of industrial standard low and medium voltage switchgear.

ET1303 BASIC DC THEORY II

Prerequisites: SE1001, ET1203

This course continues the learning related to the fundamentals of direct current (DC) electrical theory. Students learn the basic principles of electrical circuits and how to use and manipulate formulas to analyze circuits.

ET1304 ELECTRICAL DRAWINGS

Prerequisites: ET1203

Co-requisites: ET1303

This course introduces students to various drawings used in the electrical industry. Students gain practical applied experience in using drawings to create and trace a circuit.

Course Descriptions

ET1312 POWER SUPPLY AND UPS

Prerequisites: SE1005, ET1155

This course introduces the operation, characteristics, and applications of different power supplies including uninterruptible power supplies (UPS). In a hands-on setting, students learn how to connect and operate UPS systems following safe procedures.

ET1315 ELECTRIC MOTORS

Prerequisites: SE1005, TN1000, TN1005

This course introduces the components, characteristics, applications, and operation of electrical motors. Students learn about electromechanical fundamentals and how to read and record information drawn from motor drawings and nameplates. They also learn how to identify common motor connections.

ET1320 MOTOR CONTROLS AND DRIVES

Prerequisites: SE1005, TN1000, TN1005

Co-requisites: ET1315

This course introduces students to motor controls and concepts. Students learn to identify electrical symbols and to use these symbols in preparing and interpreting electrical motor control and drive schematics. Students also learn to install, operate and troubleshoot soft starters and alternating current (AC) drives.

ET1325 PLC I

Prerequisites: SE1005, TN1000, MA1020

This course introduces students to general programmable logic controllers (PLC) concepts, programming languages, and related techniques. In this course, students use both physical input and output (I/O) devices, internal bits, and Human Machine Interface (HMI) to monitor and control industrial applications.

ET1330 WORKSITE PRACTICUM

This 24-week course is a requirement for Technician Certificate (Electrical) students. The practicum workweek is a minimum of 30-hours, or as required by the employer. During the practicum, students demonstrate the competencies acquired from the successful completion of all Electrical program courses. In an industrial setting, program competencies are undertaken by student trainees in conjunction with workplace maintenance / operations staff and assessors. Students are expected to apply knowledge and skills gained from the Electrical program, while demonstrating the high standards of behavior that is expected within an industrial environment. TCP students are assessed by their employer using an assessment scheme co-developed by the University and employer and verified by the University.

ET1335 PLC II

Prerequisites: SE1005, TN1000, MA1020

Co-requisites: ET1315, ET1320, ET1325

This course continues the study of programmable logic controllers (PLC). Students learn the theory and applied skills related to general PLC concepts for discrete controls with analog inputs, analog control, and remote input/output.

ET1402 SINGLE-PHASE ELECTRICITY

Prerequisites: ET1203

This course introduces the principles and characteristics of single-phase alternating current (AC). Students gain the fundamental knowledge to distinguish between direct current (DC) and AC. They learn about capacitors and inductors as well. Students also perform calculations related to single-phase electricity.

ET1403 THREE-PHASE ELECTRICITY

Prerequisites: ET1402

This course introduces students to the fundamentals of three-phase alternating current. Students develop an understanding of the benefits of three-phase electricity as compared to single-phase electricity. Students apply hands-on skills related to three-phase connections and mathematical calculations.

ET1404 CONDUCTORS & CABLES

Prerequisites: TC1101, TC1102

Co-requisites: ET1402

This course introduces students to the characteristics, installation, and inspection of conductors and cables. Course learning activities have been designed to familiarize students with International Electrotechnical Commission (IEC) tables and standards, and to provide them with the applied skills to safely handle conductors and cables.

ET1500 ELECTRICAL TRANSFORMERS

Prerequisites: ET1304, ET1403

This course introduces students to the fundamental components, characteristics, applications, and operations of electrical transformers. It provides students with key knowledge and applied skills regarding single and three phase transformers, connections, and basic maintenance checks.

ET1501 THREE-PHASE INDUCTION MOTORS

Prerequisites: TC1101, TC1102, ET1304, ET1403

This course introduces students to the components, characteristics, applications, and operations of three-phase induction motors. Students gain practical experience in reading and recording information drawn from three-phase induction motors. They also prepare and perform common motor connections. Working with bearings, students disassemble, change, and re-assemble a three-phase induction motor.

ET1502 SINGLE-PHASE INDUCTION MOTORS

Prerequisites: ET1501

This course introduces students to the components, characteristics, applications, and operations of single-phase motors. Students engage in hands-on training in installing and operating single-phase motors using fuses and circuit breakers.

ET1503 ALTERNATING CURRENT GENERATORS

This course introduces students to the components, characteristics, applications, and operations of alternating current (AC) generators. By applying safe operating procedures, students gain the knowledge and skills to operate AC generators as stand-alone power sources as well as in parallel with other sources of power.

ET1504 DIRECT CURRENT MOTORS

Prerequisites: ET1502

This course introduces students to the basic components, types, characteristics, applications, and operation of direct current (DC) electrical motors. The students learn how to interpret information pertaining to DC electrical motors, specifically the details found on technical drawings and motor nameplates. They also learn how to control the speed of a DC motor as well as how to change its bearings.

ET1505 CIRCUIT BREAKERS & FUSES

Prerequisites: SE1001

This course provides students with an overview of the types, applications, and selections of low and high voltage circuit breakers. Students apply knowledge and develop practical skills to remove, install, and administer multiple tests of circuit breakers from training switchboards. As well, they learn to identify the voltage and current ratings of fuses.

Course Descriptions

ET1506 RELAYS & CONTACTORS

Prerequisites: ET1304

This course introduces students to the fundamental operations, characteristics, and applications of various electrical relays and contactors. Students learn the basic operating principles for electrical relays and contactors. Students also learn how to draw electrical relays and contactors and how to install and operate them based on circuit drawings.

ET1507 UPS & INVERTERS

Prerequisites: ET1505, ET1506

This course introduces students to the fundamental operations, characteristics, and applications of uninterruptible power supply (UPS) systems and inverters. In a hands-on setting, students learn how to connect and operate UPS systems and inverters following safe procedures.

ET1508 POWER SUPPLIES & RECTIFIERS

Prerequisites: ET1303, ET1304

This course introduces students to the main components, characteristics, applications, and operations of power supplies and rectifier circuits. Students apply practical skills to electrical power supplies, rectifier circuits, chargers, and batteries.

FE2101 FOUNDATION ENGLISH I

Prerequisites: Successful completion of Foundation English I-level score on the UDST English Placement Test

Co-requisites: FE2102

This course is for students with English proficiency at the Basic User level of CEFR Low A1. It is taught using an integrated approach, and aims to improve students' spoken and written communication skills in English. It focuses on routine and familiar contexts of language used with topics related to self, home, school, lifestyle, and work. Upon course completion, students will have English proficiency at the Basic User level of CEFR High A1.

FE2102 CONVERSATIONAL ENGLISH I

Prerequisites: Foundation English I-level score on the UDST English Placement Test

Co-requisites: FE2101

This communication course is for students with English proficiency at the Basic User level of CEFR Low A1. It aims to improve students' speaking production, interaction, phonology, and vocabulary for effective real-world spoken communication. It focuses on routine, and familiar contexts of language used with everyday topics related to self, home, school, lifestyle, and work. Upon course completion, students will have English proficiency at the Basic User level of CEFR High A1.

FE2103 FOUNDATION ENGLISH II

Prerequisites: Successful completion of Foundation English II-level score on the UDST English Placement OR FE2101

Co-requisites: FE2014

This course is for students with English proficiency at the Basic User level of CEFR Low A2. It is taught using an integrated approach and aims to improve students' spoken and written communication skills in English. It focuses on familiar and less familiar contexts of language used with topics related to home, school, lifestyle, and work. Upon course completion, students will have English proficiency at the Basic User level of CEFR High A2.

FE2104 CONVERSATIONAL ENGLISH II

Prerequisites: Successful completion of Foundation English II – level score on the UDST English Placement Test OR FE2102

Co-requisites: FE2013

This communication course is for students with English proficiency at the Basic User level of CEFR Low A2. It aims to improve students' speaking production, interaction, phonology, and vocabulary, for effective real-world spoken communication. It focuses on both familiar and less familiar contexts of language used, with everyday topics related to home, school, lifestyle, and work. Upon course completion, students will have English proficiency at the Basic User level of CEFR High A2.

FL1110 ACADEMIC ENGLISH I

Prerequisites: Academic English I-level score on the UDST English Placement Test

This course is for students with English proficiency at the Basic User level of CEFR High A1. It is taught using an integrated approach, and aims to improve students' ability to complete activities in English with competence. The course focuses on familiar and less familiar contexts of language used with topics related to home, school, lifestyle, and work. Success strategies are embedded within the course. Upon course completion, students will have English proficiency at the Basic User level of CEFR Low A2.

FL1120 ACADEMIC ENGLISH II

Prerequisites: Academic English II-level score on the UDST English Placement Test OR FL1110

This course is for students with English proficiency at the Basic User level of CEFR Low A2. It is taught using an integrated approach, and aims to improve students' ability to complete activities in English with competence. The course focuses on familiar and less familiar contexts of language used with topics related to home, school, lifestyle, and work. Success strategies are embedded within the course. Upon course completion, students will have English proficiency at the Basic User level of CEFR High A2.

FL1130 ACADEMIC ENGLISH III

Prerequisites: Academic English III-level score on the UDST Placement Test OR FL1120

This course is for students with English proficiency at the Basic User level of CEFR High A2. It is taught using an integrated approach. It aims to improve students' ability to complete activities in English with competences. The course focuses on a range of language contexts, including unfamiliar and academic topics. Success strategies are embedded within the course. Upon course completion, students will have English proficiency at the Independent User level of CEFR Low B1.

FL1140 ACADEMIC ENGLISH IV

Prerequisites: Academic IV-level score on the UDST Placement Test OR FL1130

This course is for students with English proficiency at the Independent User level of CEFR Low B1. The course is taught using an integrated approach, and aims to improve students' ability to complete activities in English with competence. The course focuses on academic contexts of language use, and incorporates topics related to information technology, business, engineering, and health science. Success strategies are embedded within the course. The course prepares students for their future program of studies. Students who complete this course are better able to write a variety of standardized, internationally recognized English assessment tools. Upon course completion, students will have English proficiency at the Independent User level of CEFR High B1.

Course Descriptions

FSSS1000 STUDENT SUCCESS SEMINAR

This course provides students with the applied understanding of what is required to be successful students and how to be effective problem-solvers, communicators, planners, and team members. Students also learn to use software tools needed to be successful learners in an experiential learning university setting.

GARC1001 QATAR HISTORY & SOCIETY

History shapes beliefs, our understanding of events and their causes, and provides the context for future actions. This course familiarizes students with the major events and influences that led to the formation of Qatar as an independent state in 1971. Also covered is the formation of the Gulf Cooperation Council and how the complex diplomatic relations among member states influences the economic development of Qatar. Through the perspective of socio-political history, this course examines the modernization of Qatar as a richly diverse, multi-cultural society

GARC2001 HUMAN DEVELOPMENT IN QATAR

In a span of decades, Qatar has rapidly modernized with huge investments in human capital, education, health, and infrastructure. This course introduces students to the history and ongoing efforts for socio-economic development in Qatar. Using the Qatar Vision 2030 as a framework, students develop critical thinking and understanding of the process of human development. Each week a different theme is covered, focusing on a specific aspect of development. Students are encouraged to debate and discuss in class the merit and value of these approaches. The second part of the course also covers regional perspectives, putting Qatar's experience within the broader context of human development across the Arab world.

GARC2002 GLOBALIZATION & ENVIRONMENT

It is important that students understand the nexus between globalization and the environment as many of our contemporary challenges relate to it. This interdisciplinary course examines multiple perspectives on ecological, social, political, cultural, and economic drivers. Students embark on a multi-level analysis of diverse topics such as international cooperation, the global economy, science and technology and the context of Qatar. Along with participation in debates and quizzes, students plan and execute a small project related to one of the primary case studies that is explored throughout the semester

GN1002 GENERAL ENGLISH I

Prerequisites: General English I-level score equivalent on the UDST English placement test OR FE2103 AND FE2104

This course is designed for students with English proficiency at the Basic User level of CEFR Low B1 and is taught using an integrated approach. The course aims to improve students' ability to communicate and interact in English. The course focuses on less familiar contexts of language use, and incorporates straightforward, concrete topics related to home, school, lifestyle, and work. Upon completion, students will have attained English proficiency at the Independent User level of CEFR Mid B1.

GN1003 GENERAL ENGLISH II

Prerequisites: General English II-level score equivalent on the UDST English placement test OR GN1002

This course is designed for students with English proficiency at Independent User level of CEFR Mid B1 and is taught using an integrated approach. The course aims to improve students' ability to communicate and interact in English. The course focuses on less familiar contexts of language use, and incorporates straightforward, concrete topics related to home, school, lifestyle, and work. Upon completion, students will have attained English proficiency at the Independent User level of CEFR High B1.

HCMT1001 INTRO TO HEALTHCARE ORGANIZATIONS & OPERATIONS

Healthcare professionals require a basic understanding of how the healthcare system operates. This course introduces students to the structure of the healthcare industry and its supporting businesses (Insurance, suppliers, logistics, transportation). It also explores how the industry has evolved over the last few decades and in particular how its administration and regulation have developed.

HCMT2001 HOSPITAL FUNCTIONS & MANAGEMENT

Prerequisites: HCMT1001

Healthcare professionals need to be prepared to work in large hospital environments. This course provides a basic understanding of how the healthcare system operates. Students are provided with the opportunity to explore the structure and organization of a large hospital and learn the roles of various specialists and departments. Part of this course involves several visits to the largest hospitals in Qatar so that the department functions can be contextualized.

HCMT3001 HEALTH SOCIAL & PUBLIC POLICY

Prerequisites: HCMT2001

This course places healthcare within the broader context of social and public policy and develops a detailed understanding of the role of governments in the regulation and provision of healthcare. It also explores the emerging theme of wellness education and the role of legislation and taxation in mitigating public health risk.

HCMT3002 HEALTHCARE DATA PROTECTION & MANAGEMENT

Prerequisites: HCMT2001

Healthcare data is often personal and therefore subject to increasing legislation across the globe. Data must be protected, but it is also essential in the effective treatment of individual patients. This course explores the complex balance between access to individualized data and the need for data privacy. In addition, students examine the value of using broader data trends in a society to recognize emerging healthcare and treatment issues. This is a complex and fast-moving area which is increasingly at the cutting edge of emerging information technologies.

HCMT3003 PATIENT MANAGEMENT & SERVICE EXCELLENCE

Prerequisites: HCMT2001

Healthcare professionals must understand that patients are not passive recipients of medical care; rather, they are active participants in the decision-making process. This course examines various models and mechanisms for patient communication and management. It also involves a review of patient needs and their perception of service excellence within the context of the modern hospital and clinical settings.

HCMT3004 HEALTH ECONOMICS

Prerequisites: HCMT2001

Healthcare provision is one of every country's most important and complex financial responsibilities. This course examines the economic principles that impact healthcare and influence how health policies are designed. Features such as supply and demand, equity, efficiency, and market forces are explored along with financing systems, the complexities of the labor market, and the notion of health and social justice.

Course Descriptions

HCMT3005 HEALTHCARE INFORMATICS

Prerequisites: HCMT2001

In recent decades, technological advances have dramatically changed how healthcare is delivered. This course examines the various uses of information technology within the healthcare industry, including the organization and analyses of health records to improve patient care. Central to this course is the exploration of the electronic recording of patients' status and treatments in a secure environment with specific access controls so that only authorized people can obtain this data. Healthcare informatics also relates to the scheduling or allocation of resources and inventory to medical staff and patients, including bed and room spaces, treatment rooms, specific types of treatment, and patient food and diet preferences.

HCMT3006 RISK MANAGEMENT IN HEALTHCARE SETTINGS

Prerequisites: HCMT3002

Hospitals and their grounds pose certain risks and hazards to both staff and patients. In this course, students develop a systematic skill set in identifying and classifying these risks. Students also learn methods of risk mitigation that can be used in various situations and locations. At the end of the course, students undertake a risk audit of a live environment and write a report to evaluate and minimize these risks.

HCMT3007 HEALTH SCIENCE RESEARCH & REGULATIONS

Prerequisites: RSST3001

The ability to collect, evaluate, and put to good use current health sciences research is an essential skill for all healthcare professionals. This course investigates the importance of research in all areas of healthcare. In addition, students learn the international regulations and best practices in undertaking human subject research.

HCMT4008 TRENDS IN HEALTHCARE

Prerequisites: HCMT3003

In our rapidly changing world, it is important that healthcare professionals keep up to date with current trends. In this course, working under the supervision of a faculty member, small groups of students identify and examine a contemporary trend in healthcare. Questions to be explored include: what is the trend? how do we know it is a trend? what statistics or measures relate to it? what are its causes and effects? and how should healthcare professionals respond to it? Students are provided with the opportunity to display their findings in a poster presentation and to make a formal presentation about their selected trend.

HCMT4009 HEALTHCARE CAREER PLANNING

Prerequisites: HCMT2001

Career opportunities in the healthcare industry are numerous and varied. This course provides an opportunity for students to explore and plan their personal careers in the area of Healthcare. After exploring the range of professional positions that are commonly available within healthcare, students select their industry entry positions and their ideal mid-career positions. They then plan how this career trajectory can be achieved.

HRMG1001 PRINCIPLES OF HUMAN RESOURCE MANAGEMENT

A deep understanding of a field of study is not possible without a mastery of the basic principles. This course provides a foundation to the study of human resource management (HRM) and introduces students to the human resources (HR) functions that are studied in detail throughout the HRM degree program. This course is designed to enable students to determine specific areas of interest that may help to direct them in selecting work placements, projects, and future career directions.

HRMG2020 EMPLOYEE RELATIONS

Good employer-employee relations are essential to the smooth operation of any organization. This course provides an overview of various theories, methods, and concepts involved with building, maintaining, and improving positive employer-employee relations within the workplace. The course explores topics such as the alignment of organization strategies with employee relations strategies, the grievance process, dispute resolution, and international trends which may impact the employer-employee relationship. Through practical application techniques such as analyzing case studies, role plays, and debates, the course provides students with an opportunity to develop an understanding of the connection between employee engagement and employee productivity.

HRMG3010 HUMAN RESOURCE PLANNING & SELECTION

Prerequisites: HRMG1001

This course introduces students to the principles, practices and strategies of staffing involved with planning the human resource (HR) function in today's diverse workplace by resourcing plans support. Students build connection between human resources planning and acquisition functions of human resource management. Further, the students learn reliability and validity of performance predictors and demonstrate various talent acquisition techniques and practices to attract talented individuals using digital channels, case studies, and application assignments.

HRMG3020 QATAR EMPLOYMENT LAW

This course explores the legal principles and statutory regimes governing the relationship between employees and employers in Qatar. The course includes a review of the current and expected changes to the legal landscape and focuses on developing policies and procedures to ensure compliance by a public, private or quasi-governmental organization.

HRMG3030 OCCUPATIONAL HEALTH & SAFETY

In this course, students are introduced to current standards and practices related to safety, health, and wellness. Students learn methods to effectively manage a disability claim from initial injury, through return to work, to the creation of modified work programs. The student analyzes current organizational policies and/or procedures related to absence management, disability management and/or employee wellness.

HRMG3040 PERFORMANCE MANAGEMENT

Prerequisites: HRMG3010

This course focuses on the importance of an effective performance management system within organizations. The course reinforces the concept that performance management is an ongoing process of planning, facilitating, assessing, and improving individual and organizational performance. Students explore the value and purpose of performance management. Students learn about the performance management process and strategic planning, setting performance standards, effective performance appraisals and employee development plans, performance coaching, and team performance. Students then have the opportunity to apply various performance management practices and techniques using case studies and application assignments.

Course Descriptions

HRMG3050 TRAINING & DEVELOPMENT

Prerequisites: HRMG1001

This course aims to provide students with knowledge and experience of training needs analysis in relation to organizational objectives, training design, methods and considerations of delivery implementation as well as the evaluation of processes and outcomes. This course encourages students to develop innovative ideas and engage with learning and development solutions that arise from training due to the use of technology and social networks to implement their learning to the workplace. In this course, students also identify development methods, evaluation and career development plans available to organizations as a tool to increase employee engagement.

HRMG4010 INTERNATIONAL HUMAN RESOURCE MANAGEMENT

Prerequisites: HRMG1001, MGMT2010

The course examines the evolving nature of international human resource management. Students are exposed to human resource practices in an international context. In particular, this course focuses on distinguishing between domestic and international HRM, global organization structures, management of cultural diversity in organizations, staffing and talent management in a global context, global leadership development, compensation and benefits management in the international enterprise and performance management of international assignees.

HRMG4020 COMPENSATION & BENEFITS

Prerequisites: HRMG1001

This course explains the processes and techniques involved in planning, designing, and administering an organization's compensation and benefits strategy. Students develop skills and knowledge to interpret a pay structure by conducting a thorough job analysis, developing a pay structure based on the job description, job specification and conducting a job evaluation. Students evaluate compensation and rewards and distinguish between the pay discrimination and wage gap. The students also consult historical salary surveys to learn how to apply the data to various scenarios through case studies and application assignments.

HRMG4030 ORGANIZATION DESIGN & DEVELOPMENT

Prerequisites: MGMT2010

This course introduces students to the practices and the processes that support organizations to configure and align the organization's structure to its competitive environment. Students apply methods for diagnosing organizational change and developing strategies to incorporate new design; propose suitable organizational interventions based on the challenges faced during the transformation. Students learn how to improve the organizational performance using organizational design techniques and interventions such as leadership, group dynamics, training, culture, and employee wellbeing to ensure sustainability.

HRMG4040 ARTIFICIAL INTELLIGENCE IN HUMAN RESOURCE MANAGEMENT

Prerequisites: HRMG3010, MISY2010

Human resources is undergoing a massive transformation in the wake of the Big Data revolution. Artificial Intelligence (AI) is reinventing human resources in a way not seen before by automating the repetitive task of hiring, onboarding, learning, and development, allowing HR teams to focus more on creative and strategic work. This course explains the role of artificial intelligence in various HR functions. Students explore the types of artificial intelligence technologies that could support/automate the HR functions and also the challenges in adopting AI technology.

HRMG4081 PSYCHOLOGY IN HUMAN RESOURCE MANAGEMENT

Prerequisites: MGMT2010

This course develops an understanding of psychology in Human Resource Management. Students engage in exploring contemporary workplace issues and the role industrial psychologists play in addressing such issues. Topics include, the history of industrial psychology, the impact of job design on employee behavior and performance, leadership's role in creating an engaging work environment, motivational theories used by industrial psychologists to enhance employee commitment and performance, and most importantly, the process of developing a performance-based culture without compromising on employee's work-life balance.

HRMG4083 LABOR FORCE ENGINEERING

Prerequisites: HRMG3010

This course offers students an opportunity to analyze current and potential workforce requirements in a national or an international business and identifying workforce gaps against future needs. Acting as a strategic human resource business partner, students conceptualize and apply practical Human Resources Management (HRM) skills throughout this course. Students analyze the short term and long-term development plans to enhance the HR planning process. Based on this information, and an appraisal of the current Human Resources (HR) and workforce positioning of the company, students interpret key contemporary labor market trends and develop an executive report with an implementation plan to present to the business.

HRMG4084 MANAGING DIVERSITY & INCLUSION

Prerequisites: MGMT2010

This course examines the importance of workforce diversity in gaining competitive business advantage. Students are exposed to workplace behaviors and the trends in creating a workplace that is conducive to employees' well-being. Students appreciate the concept of diversity and inclusion, and analyze the key trends and changes that have shaped the demand and supply of labor in recent years. In addition, students examine the impact of inequality on organizational performance, employee engagement and work culture in general.

HRMG4091 CREATIVITY & INNOVATION IN THE WORKPLACE

Prerequisites: MGMT2010

Students are introduced to creativity and innovation in a business context. Students explore strategies for implementing creative thinking for the purpose of innovation in the workplace. To enhance creativity, students participate in a self-discovery process; including the exploration of employable competencies and the development of a growth versus fixed mindset. Students are challenged to think beyond the traditional human resource functions and to apply creative and innovative techniques. Throughout the course; theories, issues and practices are explored focusing on real world implications.

HRMG4092 HUMAN RESOURCE ANALYTICS

Prerequisites: HRMG3040

This course introduces students to human resource analytics and the use of human resource metrics to improve decision making. This is a hands-on course that equips students to align HR metrics to business strategy by identifying and applying basic data analysis. Students learn how to apply descriptive analytics to identify and recommend solutions to business issues and decisions in: recruitment, selection, onboarding, retention, performance management, training & development, and succession planning. Students measure the ROI (Return on Investment) and create HRM dashboards that are aligned to business strategy.

Course Descriptions

HRMG4093 STRATEGIC HUMAN RESOURCE MANAGEMENT

Prerequisites: HRMG3010

This course is designed to provide students with an understanding of the principles and practices of strategic human resource management in organizations. Students gain a practical knowledge of human resources strategy and the role of the HR practitioner as strategic partner to the business. Students have an opportunity to apply their own decision-making skills through class discussion and participation; through the examination of current theory, students are provided with an initial understanding of how strategic management of human resources relates to other organizational functions. Students further investigate how core competencies and competitive capabilities are developed at the individual, group, and organization levels.

HRMG4094 QUALITY PRACTICES IN HUMAN RESOURCE MANAGEMENT

Prerequisites: HRMG3040

This course examines the relationship between human resource management practices and the philosophy of continuous improvement in system and processes that leads to an organization's performance. Students are exposed to continuous improvement techniques in HR to evaluate organizational strategy and performance. Students learn the application of Six Sigma approach, 5S Model, theory of constraint model, and other quality control tools in aligning the HR functions with organization's strategic objectives and building the organization culture that is based on a philosophy of continuous improvement.

HRMG5010 CONTEMPORARY ISSUES IN HUMAN RESOURCES

Today's rapidly changing workplace has increased the need for both breadth and depth of knowledge in human resource management. This course provides knowledge in human resource topics, including an in-depth analysis of current issues in the field. Students explore present and emerging strategic human resource challenges in the global marketplace and the best practices for individual and organizational transformation. Students gain knowledge from case studies, experiential exercises, activities, group discussions and presentations. They also learn to synthesize and integrate human resource concepts as well as to evaluate the effectiveness of an organization.

HRMG5020 PEOPLE ANALYTICS

Current advances in analytics technologies have created tremendous opportunities for human resource specialists. This course explores the use of data to improve how organizations manage people. It aims beyond human resource analytics to include workforce analytics and customer insights to drive organizational performance. Students expand their data fluency by exploring how Big Data can be managed (mismanaged) and used (misused) to inform people-related issues, opportunities, and decisions. Through a variety of methods, students apply analytic skills, tools, and techniques to diagnose the dynamics that influence individual, team, and organizational performance and create action-oriented recommendations.

HRMG5030 LEADING STRATEGIC HR TRANSFORMATION

Prerequisites: HRMG5010

Change is the one constant in today's marketplace, and human resource specialists must be able to cope with transformation. This course is designed to equip students with strategic HR tools that add value and insights to an organization and align HR initiatives with business strategy. The course focuses on the theory and practice of HR transformation and on the creation of vertical and horizontal alignment of strategies to improve HR decision-making, processes, systems, and best practices in value creation for stakeholders. Students develop these skills through case studies, discussion boards, webinars, and lectures.

HRMG5040 DIGITAL HUMAN RESOURCES

Prerequisites: HRMG5010

New digital technologies have the potential to revolutionize HR departments around the world. This course explores revolutionary and disruptive technological trends that go beyond conventional HR functions. Students have an opportunity to examine current technologies such as Artificial Intelligence (AI), HR shared service centers, Human Resource Information Systems (HRIS), and others to understand how they enhance and empower HR functions. Students gain practical insights through real-world case studies, applied tools, and a thorough study of best practices to develop and execute digital HR strategies to achieve a competitive advantage in this fast-changing digital age.

HRMG5099 HUMAN RESOURCE MANAGEMENT THESIS

Prerequisites: BUSG5010

Complex problem solving in the field of human resources requires close attention to the issue in question. This course provides students with the opportunity to intensively explore the applied aspect of human resource strategy. Students analyze HR concerns, define the research problem, evaluate methodological approaches in a chosen research area, and finally design and implement an appropriate research strategy. The outcome of this course is based on comprehensive independent research in the field of HRM.

HRMG6081 GLOBAL TALENT MANAGEMENT

Prerequisites: HRMG5010

Doing business in a globalized world requires a specialized worldview and skill set. This course is designed to explore human resource functions in multinational organizations operating globally. In this course, students evaluate the challenges associated with the implementation of global talent management strategies and policies in a dynamic environment. They reflect on the complex set of environmental and organizational factors that affect talent management in multinationals, applying HR strategies for employee development, engagement, and retention that address diversity and inclusion issues. Through a variety of methods, students engage in consultations involving legal challenges, HR functions, and management of virtual talent in multinational organizations.

HRMG6082 CULTURE & DIVERSITY MANAGEMENT

Geography is no longer a barrier to employment, and human resource departments must be able to accommodate the needs of economic migrants. In this course, students critically assess the models, theories, and frameworks of cross-cultural management and apply tools to formulate HR strategies in a multi-cultural setting. Students also analyze the opportunities and challenges of diversity and inclusion in the workplace. Through class discussions, self-reflections, case studies, and critical thinking applications, students explore the global mindset and gain advanced knowledge of cultural and diversity issues to prepare them to lead in dynamic, multicultural organizations.

HRMG6083 MANAGING CHANGE IN MULTINATIONAL CORPORATIONS

Prerequisites: HRMG5010

The international business environment is changing rapidly. This course is designed to address the strategic importance of managing change globally. This course provides students with both the conceptual framework and the practical skills needed to design, implement, and evaluate effective change in multinational corporations. Through a variety of methods, students develop skills to analyze change in an international context; manage resistance to change and serve as a global change agent.

Course Descriptions

HRMG6091 ORGANIZATIONAL DEVELOPMENT & CHANGE

Prerequisites: HRMG5010

As the business world changes, organizations must adapt or stagnate. This course discusses advanced organization development (OD) tools and methods to increase organization effectiveness. It offers comprehensive OD knowledge related to models, change management and interventions for organization transformation. Through a variety of methods, students evaluate theories and apply practical problem-solving techniques with OD interventions to address real-world challenges and implement organizational change.

HRMG6092 TALENT MANAGEMENT & DEVELOPMENT

Finding the right person for the right position is a constant challenge for every human resources department. In this course, students analyze human resource practices and approaches to identify talent and manage employee performance. In addition, students are exposed to HR analytics to attract, develop, and retain talent in organizations. Students apply research as well as explore talent management techniques through case analysis, lectures, and real-world scenarios. The course also provides the opportunity for students to develop core competencies to drive employee engagement and performance through coaching.

HRMG6093 DESIGN THINKING & CREATIVITY

Design thinking, creativity, and innovation are essential human resource competencies to help deal with uncertainty, complexity, and problems within the workplace. In this course, students explore the concept of design thinking to enhance creativity and learn human-centric approaches to idea generation to build innovation in an organization. This course discusses theoretical concepts and models to incorporate innovative hands-on approaches to prototyping, stimulating creativity, and testing. The course provides students with an opportunity to understand industry best practices by using case studies and shared industry successes.

HSDH1270 PRINCIPLES & ISSUES IN DENTAL HYGIENE

Prerequisites: BIOL1010, CHEM1040, CHEM1041, BIOL1030, BIOL1031

Dental hygiene is a complex, human-centered field of study. This course introduces students to the profession of dental hygiene by examining current concepts of practice. Exploring relevant issues, with an emphasis on roles, professional communication, department responsibility, accountability, and behavioral foundations for health promotion, students gain an understanding of their social, ethical and legal obligations as health care professionals.

HSDH2120 HEAD & NECK ANATOMY

Prerequisites: BIOL1210

Dental hygiene professionals need to be aware of the complex anatomy of the head and neck. Building on the concepts introduced in foundation science courses, this course introduces students to the anatomical and physiological features of the head and neck region. The course focuses on the healthy/normal continuum that provides the foundation for clinical dental hygiene practice as well as for further study.

HSDH2130 DENTAL ANATOMY

Prerequisites: BIOL1210

Dental hygiene professionals must have a deep understanding of dental anatomy. In this course, students learn in detail crown and root anatomy as well as morphology and occlusion. Students identify features of crown and root morphology that relate to the identification and differentiation of teeth. They also learn occlusal relationships and how these may affect the provision of dental hygiene care.

HSDH2140 ORAL HISTOLOGY & EMBRYOLOGY

Prerequisites: BIOL1210

A deep understanding of oral histology & embryology is essential for all dental hygiene professionals. This course builds on the concepts introduced in foundation science courses and continues to provide the basis for clinical dental hygiene practice as well as for further study. Students are provided with the opportunity to learn the sequence of embryological development and the principles of oral histology of the soft and hard tissues and associated structures.

HSDH2210 GENERAL DENTISTRY INTRODUCTION

Prerequisites: HSDH2120, HSDH2130, HSDH2140

A solid foundation in the basic principles of dentistry is essential to success in this field of study. This course introduces students to the basic concepts and principles of dental materials used in the prevention and treatment of dental diseases. Students are provided with the opportunity to explore the interaction between dental materials and the surrounding oral tissues that impact instrumentation use. Students also learn the tools and materials available to treat and prevent specific dental problems.

HSDH2240 PERIODONTOLOGY I

Prerequisites: HSDH2120, HSDH2130, HSDH2140

Understanding dental-related diseases is an important part of dental hygiene. This course explores fundamental concepts related to periodontal diseases, focusing on the classification, epidemiology, etiology, risk factors, pathophysiology, clinical characteristics, and therapy of periodontal disease. The course emphasizes the value of students' ability to recognize periodontal problems and recommend appropriate treatment.

HSDH2250 INTRODUCTION TO DENTAL HYGIENE

Prerequisites: HSDH2120, HSDH2130, HSDH2140

Co-requisites: HSDH2260

A solid foundation in the basic principles of dental hygiene is essential to success in this field of study. This course is an introduction to dental hygiene theory and the process of care. It provides students with the opportunity to explore concepts such as communication, team membership, delivery of care, assessments, implementation, self-evaluation, and evaluation of theoretical knowledge. These concepts are later reviewed and expanded upon in each subsequent Clinical Theory course. They are also practiced in a clinical setting within the Clinical Practice courses.

HSDH2260 DENTAL HYGIENE INSTRUMENTATION

Prerequisites: HSDH2120, HSDH2130, HSDH2140

Co-requisites: HSDH2250

Dental Hygiene is a highly technical field requiring proper knowledge of instrumentation. In a supervised pre-clinical setting, this course provides the foundation for the necessary instrumentation skills and procedures. Practice is integrated and applied to mannequins using tools and operatories. Students are evaluated on key performance indicators: transfer of theoretical knowledge to practice, articulation of rationale, development of efficient sequences and techniques, identification of structures and anatomical landmarks, adherence to principles of infection control, appropriate use of resources to facilitate efficiency and accuracy, treatment problem-solving, management of patient discomfort, and accurate, legible documentation.

HSDH2280 RADIOLOGY I

Prerequisites: HSDH2120, HSDH2130, HSDH2140

Radiology is an integral part of dental hygiene practice. This course introduces students to the basic principles of radiation physics, generation, and biology, as well as to the uses of x-radiation. Students also learn the history of radiation and x-rays and appropriate safety measures.

Course Descriptions

HSDH2350 FUNDAMENTALS OF CLINICAL DENTAL HYGIENE

Prerequisites: HSDH1270, HSDH2250, HSDH2260

The ability to put dental hygiene theory into practice is crucial for the development of student competence. This course provides a pre-clinical setting where students are mentored as they learn the increased complexity of dental hygiene practice regarding assessment, diagnosis, implementation, evaluation, professionalism, health, and safety. Students are evaluated on key performance indicators: transfer of theoretical knowledge to practice, articulation of rationale, development of efficient sequences and techniques, identification of structures and anatomical landmarks, adherence to principles of infection control, appropriate use of resources to facilitate efficiency and accuracy, treatment problem-solving, management of patient discomfort, and accurate, legible documentation.

HSDH2390 COMMUNITY ORAL HEALTH I

Prerequisites: HSDH2250

Oral hygiene is a societal concern. In this course, students study the health/disease continuum from the viewpoint of various community groups. Included are concepts within community dental health, oral health delivery modes, and current concepts of health education, health promotion, and partnerships with community groups. The course further explores preventative strategies and practices within public health, the relationship between literacy and health, and various factors that influence the need, demand and utilization of dental services within communities and the barriers clients face in accessing them.

HSDH3100 ORAL PATHOLOGY

Prerequisites: HSDH2240, BIOL1310

Comprehensive dental hygiene care requires that dental hygienists are skilled in recognizing oral pathologies. This course emphasizes the significance, recognition, and accurate description of the clinical appearance of intra oral mucosal lesions. Students are provided opportunities to learn and apply the processes and terminology used for recognizing and accurately recording oral lesions. The process of differential diagnosis of oral pathology is also considered, including other common soft tissue lesions, submucosal oral pathologies, common lesions of the face, and abnormalities of the tooth.

HSDH3150 DENTAL HYGIENE THEORY I

Prerequisites: HSDH2350

Co-requisites: HSDH3160

This course is a continuation of AHDH2250, AHDH2260, and AHDH2350. See these course descriptions for details. In this course, all phases of the dental hygiene process, theory, and instrumentation skills and procedures are further developed as students gain a more sophisticated understanding of unhealthy and abnormal oral conditions.

HSDH3160 DENTAL HYGIENE PRACTICE I

Prerequisites: HSDH2350

Co-requisites: HSDH3150

The ability to put dental hygiene theory into practice is crucial for the development of student competence. Building on knowledge gained in AHDH2260 & AHDH2350, this course focuses on applying clinical theory and psychomotor skills to clinical practice using colleague students at the UDST Dental Clinic. In a pre-clinical setting, students are mentored as they learn the increased complexity of dental hygiene practice regarding assessment, diagnosis, implementation, evaluation, professionalism, health, and safety. Students are evaluated on key performance indicators such as the transfer of theoretical knowledge to practice, articulation of rationale, and accurate, legible documentation.

HSDH3181 RADIOLOGY II

Prerequisites: HSDH2280

Radiology is an integral part of dental hygiene practice. In this course, students learn the theory behind the basic techniques of radiography for application in clinical dental hygiene, including safety measures. Students then expand on the basic radiology concepts and focus on the interpretation of oral radiographs. Concepts, principles, and applications of advanced and specialized radiography techniques are also discussed.

HSDH3200 PHARMACOLOGY & PAIN MANAGEMENT

Prerequisites: HSDH3150

Pharmacology is an important aspect of dental care delivery. In this course, students learn the principles of pharmacology and drug therapy. The specific drugs and techniques of pain control used in dentistry are also discussed in detail, as well as other various families of drugs that impact the delivery of dental treatment.

HSDH3241 PERIODONTOLOGY II

Prerequisites: HSDH2240

Understanding dental-related diseases is an important part of dental hygiene. This course builds on concepts and skills covered in Periodontology I and focuses on etiologic and systemic factors for periodontal disease, host immune response to periodontal diseases, the occurrence of gingivitis and periodontitis, the healing process of periodontium, and the use of chemotherapeutics in periodontal therapy.

HSDH3250 DENTAL HYGIENE THEORY II

Prerequisites: HSDH3150, HSDH3160

Co-requisites: HSDH3260

This course is a continuation of Dental Hygiene Theory I. In this course, all phases of the dental hygiene process, theory, and instrumentation skills and procedures are further developed as students gain a more sophisticated understanding of unhealthy and abnormal oral conditions. More specifically, the course exposes students to a deeper understanding of roles within a dental health team including planning, communication, and evaluation.

HSDH3260 DENTAL HYGIENE PRACTICE II

Prerequisites: HSDH3150, HSDH3160

Co-requisites: HSDH3250

This course is a continuation of Dental Hygiene Practice I. In this course, all phases of the dental hygiene process are further developed as students gain more experience with unhealthy and abnormal oral conditions. Students practice related skills on adult and pediatric clients in a closely supervised clinical setting. Students are evaluated on key performance indicators: transfer of theoretical knowledge to practice, articulation of rationale, development of efficient sequences and techniques, identification of structures and anatomical landmarks, adherence to principles of infection control, appropriate use of resources to facilitate efficiency and accuracy, treatment problem-solving, management of patient discomfort, and accurate, legible documentation.

HSDH3350 DENTAL HYGIENE THEORY III

Prerequisites: HSDH3200, HSDH3250, HSDH3260

Co-requisites: HSDH3360

This course is a continuation of Dental Hygiene Theory I and II. Through case studies and case presentations, students continue their study and application of theories of client assessment, planning, implementation, and evaluation. This course also introduces theories of dental imaging and local anesthetic.

Course Descriptions

HSDH3360 DENTAL HYGIENE PRACTICE III

Prerequisites: HSDH3200, HSDH3250, HSDH3260

Co-requisites: HSDH3350

This course is a continuation of Dental Hygiene Practice I and II. Through case studies and hands-on work with selected clients, students continue their study and application of aspects of dental hygiene assessment, planning, implementation, and evaluation. Students are provided with the opportunity to apply theories of dental imaging and local anesthetics. The course also introduces the fundamentals of case presentation. Students are evaluated on key performance indicators such as transfer of theoretical knowledge to practice, articulation of rationale, development of efficient sequences and techniques, management of patient discomfort, and accurate, legible documentation.

HSDH3371 DENTAL HYGIENE PRACTICE MANAGEMENT

Prerequisites: HSDH1270

Career success in the dental care profession requires some knowledge of practice management. In this course, students study career aspects of dental hygiene, including practice settings; educational opportunities; organizational, financial, and marketing initiatives; and economics. Students learn the promotional guidelines of regulatory authorities and the legal and ethical requirements for dental hygiene practice. Current trends and issues in dental hygiene are discussed, along with the structure and function of professional associations and the regulatory authority. The course also examines practitioner registration, scope of practice, quality assurance, and political processes.

HSDH4150 DENTAL HYGIENE THEORY IV

Prerequisites: HSDH3350, HSDH3360

Co-requisites: HSDH4160

This course is a continuation of the previous Dental Hygiene Theory courses. Students continue their study of assessment, dental hygiene health care planning, implementation, evaluation, and clinical environment considerations. The course emphasizes individualized comprehensive care of elderly clients and clients with special needs.

HSDH4160 DENTAL HYGIENE PRACTICE IV

Prerequisites: HSDH3350, HSDH3360

Co-requisites: HSDH4150

This course is a continuation of previous Dental Hygiene Practice courses. Students gain comprehensive clinical skills required for periodontal care within the scope of dental hygiene practice and integrate them with previously acquired knowledge and skills. The course emphasizes individualized comprehensive care of elderly clients and clients with special needs. Students are evaluated on key performance indicators such as transfer of theoretical knowledge to practice, articulation of rationale, development of efficient sequences and techniques, management of patient discomfort, and accurate, legible documentation.

HSDH4190 COMMUNITY ORAL HEALTH II

Prerequisites: HSDH2390

Oral hygiene is a societal concern. This course builds on the knowledge and skills learned in Community Oral Health I, expanding on concepts related to community dental health, oral health delivery modes, current concepts of health education, health promotion, and special needs requirements. Students build inter-disciplinary partnerships, design and implement a community oral health initiative, and give public presentations to influence change within the population.

HSDH4250 DENTAL HYGIENE THEORY V

Prerequisites: HSDH4150, HSDH4160

Co-requisites: HSDH4260

In this course, the knowledge, skills, and theories learned in all previous Dental Hygiene courses are integrated into a comprehensive clinical dental hygiene care experience. The course builds on the previous courses in guiding students through the transition from the classroom into the hospital and public/private dental practice settings.

HSDH4260 DENTAL HYGIENE PRACTICE V

Prerequisites: HSDH4150, HSDH4160

Co-requisites: HSDH4250

In this course, knowledge and skills learned in all dental hygiene courses are integrated into a comprehensive clinical dental hygiene care experience. Students work in a dental clinical setting to apply the full scope of dental hygiene care. The course builds on previous courses in guiding students through the transition from the classroom into the hospital and public/private dental practice settings. Students are evaluated on key performance indicators such as transfer of theoretical knowledge to practice, articulation of rationale, development of efficient sequences and techniques, management of patient discomfort, and accurate, legible documentation.

HSDH4290 COMMUNITY ORAL HEALTH III

Prerequisites: HSDH4190

Oral hygiene is a societal concern. This course builds on the knowledge and skills learned in Community Oral Health I and II, expanding on concepts related to community dental health, oral health delivery modes, current concepts of health education, health promotion, special needs requirements, and public health research. Students design, implement, and evaluate a community oral health initiative while outlining strategies to meet area and culture specific needs within the population.

HSDH4340 PERIODONTOLOGY III

Prerequisites: HSDH3241

Understanding dental-related diseases is an important part of dental hygiene. This course builds on concepts and skills covered in Periodontology I and II and focuses on assessments of risk factors for periodontal diseases, planning for patients with periodontal diseases, implementation of therapeutic interventions, and management of special need patients and periodontal emergencies. Students also explore the expanded roles of the dental hygienist in surgical therapy.

HSEH1110 PRINCIPLES OF ENVIRONMENTAL HEALTH

This course introduces students to the environmental health program by examining the historical development of the environmental health field as well as emerging environmental health issues. Students explore topics including communicable and non-communicable diseases; air, water, and land quality; food safety; and emergency management in the local and global contexts. The course also introduces fundamental skills of the profession, such as research, risk assessment, and health education and promotion.

HSEH1310 ENVIRONMENTAL HEALTH LAW

Prerequisites: HSEH1110

Environmental health professionals must understand several basic concepts and principles of environmental health law. This course introduces the student to legal systems and processes in different countries. Students learn legal duties and responsibilities, legal powers and authorities, and progressive enforcement of legislative requirements. Students also learn about inspections and investigations, enforcement strategies, and conflict resolution. The course emphasizes the importance of legislation in policy development.

Course Descriptions

HSEH2120 DRINKING WATER QUALITY

Prerequisites: HSEH1110

This course introduces students to the fundamentals of drinking water, including sources, standards, testing and monitoring, and treatment methods. Students learn how to perform water sampling, testing, and analysis using recognized techniques. Students also prepare professional reports that provide analysis results and practical recommendations for preventive or corrective measures.

HSEH2130 INDOOR AIR QUALITY

Prerequisites: HSEH1110

This course introduces students to the principles of indoor air quality and the methods involved in the collection, analysis, and interpretation of indoor air quality data. Using best practices, students learn how to use this data to investigate air quality concerns and produce evidence-based recommendations to eliminate pollutants in line with national and international legislations.

HSEH2210 COMMUNICABLE DISEASES

Prerequisites: BIOL1030, BIOL1031

This introductory course covers the basic concepts of significant local and international communicable diseases of environmental health, including emerging and re-emerging infectious diseases. It also explores basic terminologies and the role of environmental health and vaccines.

HSEH2320 PROFESSIONALISM & ETHICS FOR ENVIRONMENTAL HEALTH

Professional and ethical behavior in the workplace are key responsibilities. This course helps students explore how values, attitudes, and culture influence ethical behavior. Students also compare a code of conduct with code of ethics and examine the expectations of professional organizations and a member's responsibility towards continued professional development. Responsibilities to employers, co-workers, fellow professionals, and the public are examined.

HSEH3120 FOOD SAFETY

Prerequisites: HSEH1110

This course provides students with knowledge and skills to supervise food safety in a food business and examines safety in food production and processing "from farm to fork." Students study the use of the Hazard Analysis Critical Control Point (HACCP) food-safety management system, supported by local examples of practical HACCP applications. They also learn about health and safety for food workers and inspection and enforcement strategies and methods, including the use of premises food safety ratings.

HSEH3141 SOLID WASTE MANAGEMENT

Prerequisites: HSEH1110

Waste management is a key component of environmental health. This course introduces students to different types and sources of solid waste, the environmental-health impacts of different types of waste, and some of the ways these impacts are managed.

HSEH3210 AMBIENT AIR QUALITY

Prerequisites: HSEH2130

This course is designed to introduce students to the principles of Ambient Air Quality and methods involved in the collection, analysis, and interpretation of ambient air quality data, thereby allowing them to investigate and eliminate air quality concerns. Students examine meteorology and its impact on the dispersal of air pollutants and learn specific technical knowledge and skills related to the management and abatement of gaseous waste streams from manufacturing industries.

HSEH3220 COMMUNICABLE DISEASE, INVESTIGATION, & CONTROL

Prerequisites: HSEH2210, HSOH2050

Environmental Health professionals play a key role in protecting the public from exposure to communicable diseases. This course builds on the knowledge gained from Communicable Diseases and Epidemiology courses to teach students the procedures for the investigation and control of outbreaks using lecture and lab sessions. Course topics include health care-acquired infections, the surveillance, identification, and control of major outbreaks and pandemics, and the reprocessing and maintenance of equipment. Students participate in outbreak investigations and make recommendations for the prevention and control of communicable infectious diseases.

HSEH3230 HEALTH PROMOTION & EDUCATION

Prerequisites: HSOH2050

This course provides students with a comprehensive introduction to health-promotion programs by combining theory and practice with a hands-on guide to program planning, implementation, and evaluation. Students plan an effective health-promotion strategy and campaign to address an emerging local public-health issue. Topics include conducting community analyses to ascertain pertinent public health issues. Students gather data on a selected topic, use a relevant health-promotion strategy to develop a local program, create effective presentations, apply appropriate educational techniques, and disseminate information to various audiences.

HSEH3240 RECREATIONAL WATER QUALITY

Prerequisites: HSEH2120

This course introduces students to public health concerns associated with pools, spas/hot tubs, and beaches. Students learn the principles of recreational water safety, including water-quality parameters, testing and monitoring, remediation, emergency measures, and public communication.

HSEH3250 WASTEWATER MANAGEMENT

Prerequisites: HSEH3240

This course introduces students to the types and sources of wastewater, the environmental health impacts of different types of wastewater, and strategies for their management.

HSEH3310 ENVIRONMENTAL HEALTH PRACTICUM I

Prerequisites: HSEH3120, HSEH3210, HSEH3220

In this course, students apply their professional knowledge and technical skills to a real-world healthcare setting. They work as environmental health practitioners under the direct supervision of both the employer and the practicum instructor. The work setting varies between public and private environmental health-related agencies. Students job-shadow a designated professional in their field inspections and, in these types of applied settings, contribute to preventive health programming, planning, and evaluation.

HSEH4110 ENVIRONMENTAL HEALTH APPLICATIONS

Prerequisites: HSEH3141, HSEH3210

This course introduces and compares statutory and common law nuisances. It also investigates the technical assessment of noise nuisance and its remedial options, as well as consider nuisance and health hazards from animal facilities such as feedlots, intensive piggeries, broiler houses, and egg plants. The course then addresses specific environmental-health concerns about public and community facilities and animal-welfare facilities such as animal boarding establishments.

Course Descriptions

HSEH4120 HOUSING & HEALTH

Prerequisites: HSEH2130, HSEH3250

Environmental health professionals need to understand the factors that influence health in housing and the legal standards for tolerable housing. Students also identify unsafe housing conditions and determine the appropriate steps for remediation. Students learn through lectures and lab activities about the different types of accommodation, including single family dwellings, houses in multiple occupations, temporary/transient accommodations, and worker accommodations.

HSEH4130 LAND USE & COMMUNITY PLANNING

Prerequisites: HSEH3141, HSEH3250

Environmental Health is involved in creating a healthy context for housing through land-use planning controls. This course assesses the health impact of land contamination and predicts the environmental and health impact of major new projects through environmental assessment. Students conduct site assessments, determine the impact of development on the environment, and suggest ways to avoid or remediate impacts.

HSEH4210 EMERGENCY MANAGEMENT

Prerequisites: HSEH4110, HSEH4120, HSEH4130

This course introduces students to the emergency management cycle from an environmental health perspective. It also examines the role the environmental health professional plays in the preparedness, response, recovery, and mitigation stages of emergency management and covers essential skills for emergency management, such as risk assessment, risk communication, and emergency planning.

HSEH4310 ENVIRONMENTAL HEALTH PRACTICUM II

Prerequisites: HSEH3310, HSEH4110

This course provides students with the opportunity to apply their knowledge and professional and technical skills in a real-world work setting. Students work as environmental health practitioners under the direct supervision of both the employer and the practicum instructor. The work setting varies between public and private environmental health-related agencies. Students job-shadow designated environmental health professionals in their field inspections and/or visits. In this type of applied setting, students contribute to preventive health programming, planning, and evaluation.

HSHEH4230 FOOD INTEGRITY

Prerequisites: HSEH3120

This course introduces students to important elements of food safety management, nutrition and health, and consumer protection. It further covers the investigation of food complaints, requirements for food composition and labelling, food security, nutrition, food crime, and food import and export controls.

HSHG2020 HEALTH & WELLNESS

Understanding and practicing a healthy lifestyle is essential for Health Science professionals as it helps prevent the onset of non-infectious illnesses. Through lectures and lab activities, this course covers important topics such as nutrition and disease, physical activity, mental health, substance abuse, and health misinformation. Students are encouraged to develop and implement their own lifestyle plan as well as assist others in improving their lifestyle choices.

HSHG2070 MEDICAL TERMINOLOGY

Understanding medical terminology is essential to good practice. This course introduces students to the language of medicine. Students learn basic elements, rules of building and analyzing medical words, and medical terms associated with the body as a whole. The course focuses on accurate spelling and pronunciation of terms and building knowledge of basic medical vocabulary, emphasizing prefixes, suffixes, roots, and combining vowels. Anatomical, physiological, and pathological terminology are covered and applied in the context of electronic health records. In addition to medical terms, common abbreviations applicable to each system are interpreted.

HSHG2080 ETHICS IN HEALTHCARE

This is an introductory course in health care ethics, legal issues, and workplace concerns. Students become aware of, understand, appreciate and evaluate commonly encountered ethical, legal, and professional problems in the workplace. Through course content, lectures, selected readings, and discussions, students examine ethical and legal theories, together with what constitutes professional behavior, values, and practical wisdom. These concepts are then applied to current issues related to healthcare professionals.

HSHG2090 PRINCIPLES OF PHARMACOLOGY

Health Science professionals who are engaged in patient treatment need to know the fundamentals of pharmacology. Topics in this lecture-based course include the development, classification, and control of pharmacological agents, the effects of those agents on the body, and the principles of safe and effective medication administration.

HSHG2210 COMMUNICATIONS IN HEALTHCARE

Prerequisites: COMM1010

Communication skills are a vital component in workplace relations and patient care. This lecture-based course is designed to enable Health Science students to communicate clearly, concisely, and correctly in both written and oral forms in the health care setting. Emphasis is placed on medical documentation and oral communication with healthcare professionals, clients, and families.

HSMR1100 INTRODUCTION TO MEDICAL RADIOGRAPHY PRACTICE

This course introduces Medical Radiography students to the profession(s) and its scope of practice in medical imaging. Students learn ethical, legal, and safety standards and engage in interprofessional collaboration and reflective practice. They also hone their communication skills to deliver effective patient-care techniques for diverse populations in imaging departments and a variety of clinical settings. They eventually learn medical terminology and go on to understand and demonstrate infection control practices, surgical asepsis skills, the fundamentals of safe patient transfer, and oxygen administration for patients.

Course Descriptions

HSMR1201 APPARATUS & ACCESSORIES

Prerequisites: PHYS1130

Students are introduced to both theory and practical laboratory skills relating to radiation safety standards and the use of basic equipment in the diagnostic imaging suite. They also gain knowledge of the production of x-radiation useful for medical purposes. This course provides both knowledge and practical skills for the use of the x-ray apparatus, its components and accessory equipment, and characteristics that allow the proper control of the x-ray beam. Additionally, students learn how to safely and effectively manipulate basic computed radiography-imaging equipment and accessories. They also gain knowledge of methods employed to facilitate heat dissipation during the production of x-radiation and practical skills employed to conserve tube life.

HSMR1203 RADIATION PROTECTION

Prerequisites: PHYS1130

With their knowledge of physics and human biology, students learn how to use radiation properly to provide maximum diagnostic information with minimal biologic damage to the patient, general public, co-workers, or themselves. They become familiar with and learn how to implement radiation safety standards, which includes local and international standards for the correct use of equipment, accessories, and other relevant factors that apply to radiation safety. Students also learn about historical radiation accidents and their global impact.

HSMR1303 DIGITAL IMAGING

Prerequisites: HSMR1201

This course focuses on the fundamental concepts of digital imaging, including principles of image acquisition, processing, and display. Students are introduced to the various applications of computer technology used in contemporary diagnostic imaging departments. With the aid of lab activities, they compare the image processing used in CR to the DDR imaging systems. The course emphasizes image-acquisition parameters and methods and their impacts on patient dose and image quality.

HSMR2102 RADIOGRAPHIC TECHNIQUE I

Prerequisites: HSMR1303

Co-requisites: HSMR2105

This course introduces students to the fundamental practices involved in performing general radiographic examinations of the appendicular skeleton and the vertebral column. Instructional areas include radiographic protocols and procedures, positioning criteria, radiation protection, and image production and evaluation. Students simulate adaptive radiographic skills as they relate to trauma, pediatric, and geriatric radiography.

HSMR2104 IMAGE ANALYSIS

Co-requisites: HSMR2102

This course introduces students to the criteria used to evaluate radiographic images of the appendicular skeleton and vertebral column. Students differentiate between optimal and suboptimal images, identify the anatomy best demonstrated, and recognize errors in positioning, image production, and/or image display. They also develop their image analysis skills by reflecting on how the error could have occurred and justifying corrective measures, should the projection be repeated.

HSMR2105 RADIOGRAPHIC ANATOMY I

Prerequisites: BIOL1310

Co-requisites: HSMR2102

Radiographic Anatomy I is the first of a two-course sequence. This course introduces students to the structural organization of the human body and enables them to gain the necessary knowledge and understanding of the anatomy of the appendicular skeletal system, with specific reference to radiographic practice and image interpretation.

HSMR2106 PATIENT CARE IN RADIOGRAPHY

Prerequisites: HSMR1100

In this course, students apply the necessary knowledge and judgement to provide appropriate patient-care techniques and delivery in a variety of situations encountered at bedside and in imaging environments. This course re-emphasizes communication, interprofessional collaboration, infection control, and legal responsibilities, and further expands on previously introduced patient-assessment techniques. Students learn how to respond to medical emergencies and perform venipuncture, while also gaining knowledge of the use of common drugs, the administration of contrast media, and the optimal care for the special needs of patients during special procedures, trauma, and mobile radiography.

HSMR2201 RADIOGRAPHIC TECHNIQUE II

Prerequisites: HSMR2102

Co-requisites: HSMR2204

In this course students continue to explore the fundamental practices and skills in performing and analyzing general radiographic examinations. Instructional areas include examinations of the skull and facial bones, bony thorax, as well as examinations of the digestive, urinary, and reproductive systems. Students are expected to perform safe radiographic examinations by accurately interpreting requisitions, identifying required imaging exams, applying accurate positioning and prime factors, and evaluating images for diagnostic quality to determine if further action is required. Students are also be required to practice adaptive radiography as it relates to trauma, mobile, pediatric, and geriatric imaging.

HSMR2202 SPECIALIZED IMAGING

Prerequisites: HSMR1201, HSMR1303

Medical imaging can be used for a broad range of diagnostic and therapeutic purposes. In this course, students learn about the physical principles, standard components, and clinical applications of specialized imaging systems and modalities. They also learn about equipment operation, safety considerations, and imaging techniques involved in various radiologic examinations and procedures.

HSMR2203 COMPUTED TOMOGRAPHY I

Prerequisites: HSMR1303

It is imperative for radiological technologists to possess a comprehensive knowledge of the principles and mechanisms behind the computed tomography (CT) modality. This course focuses on the instrumentation and processes that form the basis of CT, such as data acquisition, image reconstruction, and image display. Students gain an introductory understanding of the technical aspects of CT through a variety of lectures and interactive laboratory sessions.

HSMR2204 RADIOGRAPHIC ANATOMY II

Prerequisites: HSMR2105

This course enhances students' knowledge of human anatomy and teaches them how to identify pertinent anatomical structures on projection and sectional images across various imaging modalities, including Fluoroscopy, CT, and MRI. Instructional areas include the anatomy of the skull, soft tissue, neck, spine, respiratory, cardiovascular, digestive, urinary, reproductive, nervous, and endocrine systems.

Course Descriptions

HSMR2301 RADIOGRAPHIC CLINICAL ORIENTATION

Prerequisites: HSMR2201, HSMR2202, HSMR2204, HSMR2304, HSMR1203

Clinical practice in the health care setting is a unique work environment with many challenges and expectations. This course serves as an introduction to that environment and allows students to reinforce the theoretical knowledge they acquired during the didactic segment of their training program. Through observation and participation at various clinical sites, students enhance their knowledge of the equipment and the skills needed to work in today's modern diagnostic imaging departments.

HSMR2302 IMAGING QUALITY CONTROL

Prerequisites: HSMR2202

This course provides students with a comprehensive knowledge of quality assurance processes associated with image quality management necessary to maintain a high standard of image quality. Students learn to perform inspection procedures and reject-image analysis as part of the overall quality assurance program.

HSMR2304 PATHOLOGY FOR IMAGING PROFESSIONALS

Prerequisites: BIOL1310

Co-requisites: HSMR2204

This course familiarizes students with the frequent pathological conditions encountered in the medical imaging department. Students develop an understanding of the manifestations of pathologies and their corresponding radiographic appearance. Using knowledge of radiographic anatomy and the body system approach, students learn about etiology and the signs and symptoms of pathologies and their radiographic representation on various imaging modalities.

HSMR2305 COMPUTED TOMOGRAPHY II

Prerequisites: HSMR2203

The clinical application of Computed Tomography (CT) requires an in-depth study of CT protocols and procedures. In this course, students build on prior knowledge encompassing CT instrumentation, pathology, and cross-sectional anatomy to explore and appreciate the full scope of CT imaging. Students are instructed using an interactive model of lectures and practical laboratory sessions to learn and apply these concepts.

HSMR3101 CLINICAL RADIOGRAPHY I

Prerequisites: HSMR2301, HSMR2302, HSMR2305

Clinical experience is a vital part of preparing students to work in the field of Medical Radiography. This course reinforces knowledge of anatomy and physiology, radiographic technique, pathology, radiation protection, patient care and safety, radiographic equipment, and quality assurance. Through clinical practice, consolidation sessions, and independent research, students advance their knowledge, skills, and attitudes needed to be proficient medical radiographers.

HSMR3201 CLINICAL RADIOGRAPHY II

Prerequisites: HSMR3101, HSMR2302, HSMR2305

Clinical experience is a vital part of preparing students to work in the field of Medical Radiography. This course reinforces knowledge of anatomy and physiology, radiographic technique, pathology, radiation protection, patient care and safety, radiographic equipment and quality assurance. Through clinical practice, consolidation sessions, lab activities, and independent research, students advance their knowledge, skills, and attitudes needed to be proficient medical radiographers.

HSMR3300 EMERGING TRENDS IN RADIOGRAPHY

Prerequisites: HSMR2202

In this seminar-based course, students engage with a range of topics relating to current trends and future directions in medical imaging. They research, develop, and present a seminar and paper on selected topics/trends that are relevant and forward-looking in the field of medical imaging and related healthcare systems and fields. In addition, students research and critique current journal articles.

HSMR3306 CLINICAL RADIOGRAPHY III

Prerequisites: HSMR3201

Clinical experience is a vital part of preparing students to work in the field of Medical Radiography. This course reinforces knowledge of anatomy and physiology, radiographic technique, pathology, radiation protection, patient care and safety, radiographic equipment, and quality assurance. Through clinical practice, consolidation sessions, lab activities, and independent research, students advance their knowledge, skills, and attitudes needed to be proficient medical radiographers.

HSMR4301 CLINICAL RADIOGRAPHY IV

Prerequisites: HSMR3101, HSMR3201, HSMR3306

Clinical experience is a vital part of preparing students to work in the field of Medical Radiography. This course reinforces knowledge of anatomy and physiology, radiographic technique, pathology, radiation protection, patient care and safety, radiographic equipment, and quality assurance. Through clinical practice, consolidation sessions, lab activities, and independent research, students advance their knowledge, skills, and attitudes needed to be proficient medical radiographers.

HSMR4302 EXPLORATORY SPECIALIZED IMAGING PRACTICUM

Prerequisites: HSMR4301

This course serves as the final clinical practicum in the medical radiography program. In this practicum, students who have successfully completed required clinical logs and competencies rotate in a clinical imaging specialty of their preference. Clinical imaging specialties include, but are not limited to, Computed Tomography, Interventional Radiology, Magnetic Resonance Imaging, Ultrasound, Mammography, and Cardiac Catheterization Lab. Rotational assignments are assigned based on student clinical progress, completion of Medical Radiography electives, academic standing, and site availability.

HSOH1100 INTRODUCTION TO HEALTH, SAFETY, & ENVIRONMENT

This course introduces students to the basic principles of occupational health, safety, and environment (HSE). HSE is a multidisciplinary field concerned with protecting the health, safety, and welfare of workers and the environment as a result of workplace operations. Students learn to apply the fundamental concepts and techniques of hazard identification, risk assessment, and risk control used by HSE practitioners. Students are also introduced to topics concerning fire safety, working with electricity, ergonomics, hazardous material management, and environmental management from an occupational health and safety risk-management perspective.

HSOH1200 HEALTH, SAFETY, & ENVIRONMENT MANAGEMENT SYSTEMS

Prerequisites: HSOH1100

This course examines the key elements of an effective occupational health and safety management system. Presented within the continuous improvement model of Plan-Do-Check-Act, students learn to assess risks using international standards and to make decisions for the continuous quality improvement of a complete system.

Course Descriptions

HSOH1300 HEALTH, SAFETY, & ENVIRONMENT LAW

Prerequisites: HSOH1200

Health and safety professionals must understand the law, as they are responsible for compliance and enforcement to ensure workplace and public safety. This lecture-based course introduces students to legal systems and different sources of occupational health, safety, and environmental legislation, standards, and guidelines. Students develop the skills needed to extract sections of legislative documentation and apply them to policy and procedures. Students also develop an understanding of court systems and the role of health and safety professionals in court cases. Students further examine the interrelated roles of the enforcement officer and practitioners in strengthening or hindering enforcement efforts.

HSOH2040 PROFESSIONALISM & ETHICS

Professionalism and ethical behavior in the workplace are closely linked. This lecture-based course enables students to explore how values, attitudes, and culture influence behavior. Students also examine the expectations of professional organizations in terms of what it means to abide by a code of conduct and a member's responsibility towards continued professional development. Organizational culture and leadership are also explored.

HSOH2050 EPIDEMIOLOGY

Prerequisites: MATH2002

This course introduces students to the fundamental principles and practices of epidemiology. It presents common practices undertaken by health professionals to describe, interpret, analyze, and communicate disease and injury findings to the population at risk. It also introduces steps to investigate illness and/or injury, both descriptively and analytically, in the population. Emphasis is given to the disparity of the disease and/or injury status across different populations.

HSOH2102 INTRODUCTION TO TOXICOLOGY

Prerequisites: CHEM1030, CHEM1031

This course emphasizes the life cycle of toxins in the human body. In addition to describing the general principles of toxicology and dose-response relationship, it analyzes the processes of absorption, distribution and storage, and biotransformation and elimination of toxins. Various toxins are used as examples to describe these processes, and students learn how to conduct toxicological risk assessments in accordance with internationally recognized standards.

HSOH2110 OCCUPATIONAL HAZARDS & CONTROLS

Prerequisites: HSOH1200

Occupational hazards typically cause permanent, chronic health effects after repeated exposure over an extended period. Examples include noise-induced hearing loss, cancer, and carpal tunnel syndrome. Students develop the skills required to identify occupational health hazards in the workplace, assess the risk of health hazards, and recommend controls to minimize the risk of hazards in accordance with international standards and best practices.

HSOH2220 INSPECTIONS & INVESTIGATIONS

Prerequisites: HSOH1200

In this course, students work in teams to carry out an audit of an organization's management system, conduct an accident investigation in accordance with internationally accepted best practices, and complete a workplace inspection. Students also present results to management using written and oral reports.

HSOH2300 PROCESS SAFETY MANAGEMENT

Prerequisites: HSOH1200

This course provides an understanding of how principles of process safety management are applied to process industries such as oil and gas production and processing, petrochemicals, pharmaceuticals, fertilizers, food, and any chemical processing facilities. It covers a broad range of topics, including process safety leadership and the management of process risk and hazard control. Students contribute to the effective management of process safety and profile the major risks and hazard control measures in a typical process installation.

HSOH3110 FIRE SAFETY & RISK MANAGEMENT

Prerequisites: HSOH1200

This course provides students with the knowledge and skills to identify, assess, and control fire safety risks. They study basic fire science before moving on to fire protection in buildings and the safety of people in the event of a fire. Students also develop the skills required to undertake a comprehensive fire inspection in a building and develop and implement fire emergency plans.

HSOH3120 MANAGEMENT OF HEALTH & WELLNESS AT WORK

Prerequisites: HSOH2110

This course is designed to develop the skills and knowledge to complete a health and wellness review in the workplace. Promoting health, safety, and welfare in the workplace contributes to reduced absenteeism and a more motivated and productive work force. The course emphasizes practical management solutions to enable health, safety, and environment practitioners to contribute to the prevention of ill-health and the promotion of a healthy work environment.

HSOH3140 ENVIRONMENTAL MANAGEMENT

Prerequisites: HSOH1100

Environmental management in occupational health and safety is about inspecting and evaluating the environment, equipment, and processes in working areas to ensure compliance with safety regulations and industry standards. The main goal is to protect workers, customers, and the environment. In this course, students develop the necessary skills to assess the quality and impact of air, water, land use, and waste and noise in the workplace against industry standards and best practices. Students write reports and make recommendations for improvement based on the evidence and the system.

HSOH3150 OCCUPATIONAL HYGIENE I

Prerequisites: HSOH1100

This is the first course in a two-course series for Occupational Hygiene. Occupational hygiene is the science and art devoted to the anticipation, recognition, evaluation, and control of exposures arising in the workplace that may cause sickness, impaired health and well-being, or significant discomfort among workers or the citizens of the community. The course explores the basic concepts of occupational health and hygiene, looks at the concept of the exposure limit for workplace health hazards, and identifies control strategies for workplace health hazards. It emphasizes the importance of industrial ventilation and the requirement for personal protective equipment. Students learn how to apply the occupational exposure risk-management process to aerosols, metals, gases, and vapors in the workplace.

Course Descriptions

HSOH3210 ERGONOMICS

Prerequisites: HSOH2110

This course emphasizes the strategies and techniques involved in assessing the interface between workers and their machines, tasks, tools, and equipment. Students review ten ergonomic principles and apply them to various work examples. They also develop and conduct an ergonomic assessment in an office environment and discuss ergonomics in the design and engineering of workplaces.

HSOH3220 ENVIRONMENTAL MANAGEMENT

Prerequisites: HSOH1200

Environmental management in occupational health and safety is about inspecting and evaluating the environment, equipment, and processes in working areas to ensure compliance with safety regulations and industry standards. The main goal is to protect workers, customers, and the environment. In this course, students develop the necessary skills to assess the quality and impact of air, water, land use and waste, and noise in the workplace against industry standards and best practices. Students also write reports and make recommendations for improvement based on the evidence and the system.

HSOH3240 MANAGEMENT OF HEALTH & WELLNESS AT WORK

Prerequisites: HSOH1200

This course is designed to develop the skills and knowledge to complete a health and wellness review in the workplace. Promoting health, safety, and welfare in the workplace contributes to reduced absenteeism and a more motivated and productive work force. The course emphasizes practical management solutions to enable HSE practitioners to contribute to the prevention of ill-health and promotion of a healthy work environment.

HSOH3251 OCCUPATIONAL HYGIENE II

Prerequisites: HSOH2110

This is the second course in a two-course series for Occupational Hygiene which explores the issues of indoor air quality (IAQ), noise and vibration, radiation, the thermal environment, lighting and biological hazards in the workplace. At the end of this course, student complete an occupational hygiene survey and write a hygiene report.

HSOH3300 HEALTH & SAFETY AUDITING

Prerequisites: HSOH1200

In this course, students review the process of Occupational Health, Safety and Environment auditing. OHS auditing is a process for assessing the compliance of an OHS program with legislation and regulations and verifying that it conforms to established guidelines or best practices in occupational health and safety. In this course, students conduct an audit on a workplace and present results to management.

HSOH4100 INTERNATIONAL OIL & GAS CERTIFICATE

Prerequisites: HSOH1200, HSOH2300

In this course, students gain a sound knowledge necessary to manage oil and gas operational risks effectively. This course focuses on international standards and management systems, enabling students to perform workplace safety responsibilities both onshore and offshore and effectively influence operational safety decisions.

HSOH4130 OCCUPATIONAL HEALTH & SAFETY IN THE CONSTRUCTION INDUSTRY

Prerequisites: HSOH2110

This course examines workplace health and safety issues in the construction industry. Students learn to manage construction risks and hazards, produce or contribute to a construction health and safety management plan, manage contractors, positively influence the health and safety culture and behavior, and carry out a risk assessment of a construction site. Students also develop basic safe systems of work that include emergency arrangements, develop a permit-to-work system, and participate in incident investigations.

HSOH4200 OCCUPATIONAL HEALTH, SAFETY, & ENVIRONMENT DEGREE PRACTICUM

This course provides students an opportunity to apply their knowledge, professional and technical skills in a real-world work setting. Students spend 240 hours working in the field of Health, Safety and Environment (HSE) under the direct supervision of an HSE Professional. Professional performance and technical skills are assessed by both the employer and the supervising instructor. This course requires students to complete all practical applications for the National Examination Board Occupational Safety and Health (NEBOSH).

HSOH4300 OCCUPATIONAL HEALTH, SAFETY, & ENVIRONMENT DIPLOMA PRACTICUM

This course provides students an opportunity to apply their knowledge, professional, and technical skills in a real-world work setting. Students spend 240 hours working in the Health, Safety and Environment (HSE) under the direct supervision of an HSE Professional. The employer and the supervising instructor assess professional performance and technical skills. This course requires students to complete all practical applications for the National Examination Board Occupational Safety and Health (NEBOSH).

HSPA1000 FUNDAMENTALS OF PARAMEDIC PRACTICE

Paramedic practice requires professionals to be aware of the history and needs of the profession. In this course, students gain familiarity with the profession of paramedicine, including the historical perspective, the requirements of a modern EMS system, paramedic roles and responsibilities, healthcare ethics, and pertinent legislation. In the classroom and lab setting, students have the opportunity to develop effective techniques for patient assessment and information gathering. In addition, they practice how to demonstrate responsible professional behavior and ethical decision-making.

HSPA2101 EMERGENCY MEDICAL CARE I

Prerequisites: HSPA2111

Students in the Paramedicine program must have a strong knowledge of foundational sciences, anatomy and physiology, pathophysiology, assessment techniques, and therapeutics in order to identify and manage emergencies related to specific body systems. In this course, students apply what they have learned about professional practice, patient assessment and information gathering to the emergency management of a comprehensive list of medical conditions involving the respiratory, cardiovascular, and neurological systems following established protocols.

Course Descriptions

HSPA2111 CLINICAL PRACTICE IN PARAMEDICINE I

Co-requisites: HSPA2101

Integrating the skills and knowledge from the classroom and lab environment into clinical practice helps improve students' performance in the practicum courses. This course is the first series that allows students to develop and apply affective and psychomotor skills necessary for effective emergency management. In this course, students utilize patient simulators in the controlled environment of the laboratory, under direct faculty supervision, to master techniques of airway management, ventilation, vascular access, and medication administration.

HSPA2150 OCCUPATIONAL FITNESS

Achieving and maintaining optimum physical and mental health is critical to a successful career in paramedicine. This course provides students with the tools to achieve a level of personal fitness that prepare them for the physical rigors of the profession, as well as strategies to maintain good mental health through a challenging career. Students learn about biomechanics, and practice procedures for lifting, securing, and transporting patients and equipment that minimize the risk of injury. Students need to demonstrate the ability to perform the physical tasks typical of the occupation safely. The course is conducted through lectures and labs.

HSPA2202 EMERGENCY MEDICAL CARE II

Prerequisites: HSPA2101

Co-requisites: HSPA2212

Increasing the level of applied skills and knowledge in various types of medical emergencies help improve the students' critical thinking capacity and overall performance. This course is the second of three in which students integrate the knowledge of foundational sciences, anatomy and physiology, pathophysiology, assessment techniques, and therapeutics to identify and manage emergencies related to specific body systems. In this lecture and lab-based course, students apply pre-requisite learning to the emergency management of a comprehensive list of medical conditions involving the cardiovascular, endocrine, genitourinary, and gastrointestinal systems following established protocols.

HSPA2212 CLINICAL PRACTICE IN PARAMEDICINE II

Prerequisites: HSPA2111

Co-requisites: HSPA2202

Integrating the skills and knowledge from the classroom and lab environment into clinical practice helps improve students' performance in the practicum courses. This is the second of a series of courses that allows students to develop and apply the affective and psychomotor skills necessary for effective emergency management of patients. In this course, students attend a variety of clinical rotations where they have the opportunity to demonstrate the application of learned skills to "real life" patient care within the hospital and ambulance settings, under the supervision of healthcare providers from the clinical sites.

HSPA2255 TRAUMATOLOGY

Prerequisites: HSPA1000, HSPA2101

Paramedics must have the required skills necessary for the recognition of mechanisms of injury and the assessment and management of trauma patients. A primary focus of this lecture and lab-based course is identifying conditions that require immediate transport to maximize the patient's potential for survival. Lifesaving techniques are learned and practiced in practical exercises within the controlled environment of the laboratory.

HSPA2303 EMERGENCY MEDICAL CARE III

Prerequisites: HSPA2202

Co-requisites: HSPA2313

Paramedic students must apply their advanced skills to a variety of emergency situations. This is the third of three courses in which students integrate knowledge of foundational sciences, anatomy and physiology, pathophysiology, assessment techniques, and therapeutics to identify and manage specific types of emergencies. In this part, students apply pre-requisite learning to the emergency management of a comprehensive list of medical conditions involving the musculoskeletal, immunologic, and haematologic systems, as well as toxic exposures and exposure to adverse environments.

HSPA2313 CLINICAL PRACTICE IN PARAMEDICINE III

Prerequisites: HSPA2212

Co-requisites: HSPA2303

Integrating the skills and knowledge from the classroom and lab environment into clinical practice helps improve students' performance in the practicum courses. This is the third of a series of courses that allows students to develop and apply the affective and psychomotor skills necessary for the effective emergency management of patients. In this course, students utilize standardized patients or patient simulators in the controlled environment of the laboratory to apply the assessment and treatment procedures they have learned under specific circumstances, including special patient populations, environmental hazards, and toxic exposures.

HSPA2360 MENTAL HEALTH FOR PARAMEDICS

Paramedics must understand various mental illnesses that may be encountered on the job and how to relate to patients experiencing a mental health crisis. Students are introduced to techniques in the classroom and lab setting to protect their own mental health in relation to their experiences as healthcare workers.

HSPA2375 SPECIAL PATIENT POPULATIONS

Paramedics are expected to provide care for patients with various underlying conditions. This course addresses special considerations required for assessing and treating patients in specific population groups. Geriatric and bariatric patients, those with physical and mental impairments, individuals with terminal illnesses, and communicable diseases are covered in this lecture-based course.

HSPA3165 PAEDIATRICS, OBSTETRICS, & NEONATOLOGY

Prerequisites: HSPA1000, HSPA2101

To ensure the safe development and delivery of newborns, paramedics must have the knowledge and skills necessary for managing obstetric emergencies and childbirth. Using the classroom and laboratory setting, students learn how to care for a mother and fetus throughout pregnancy, childbirth, and the immediate postpartum period. The course also covers reproductive system disorders and pediatric emergencies.

HSPA3221 PARAMEDIC PATIENT MANAGEMENT I

Prerequisites: HSPA2303

Co-requisites: HSPA3231

Critical thinking and decision-making skills are essential during medical emergencies. This course is the first of three courses that provide students with the knowledge and skills necessary to incorporate advanced clinical decision-making into the provision of holistic care for various disorders. In this lecture and lab-based course, students formulate care plans for patients presenting disorders related to respiratory, cardiovascular, and neurological systems.

Course Descriptions

HSPA3231 PARAMEDIC INTEGRATION I

Prerequisites: HSPA2313

Paramedic students need to practice essential skills before entering their practicums. This lab-based course prepares students for field practicum placements by simulating real-life emergencies within the controlled environment of the lab. Through high-fidelity simulation, students have the opportunity to demonstrate their ability to effectively lead a paramedic team through all aspects of emergency response and their proficiency in providing or delegating care to a wide variety of patient types.

HSPA3280 DISASTER MANAGEMENT

Paramedics need to understand their role in disaster response. This course addresses specific knowledge and skills paramount to successfully resolving natural or man-made disasters on a regional, national, or international scale. Students are able to participate in simulated disaster exercises overseen by representatives from multiple agencies.

HSPA3341 AMBULANCE PRACTICUM

Prerequisites: HSPA2255, HSPA3165, HSPA3231 within 6 months

This module is a full-time field preceptorship in which students learn to provide patient care in the ambulance setting. Each student is supervised by an assigned paramedic preceptor and follows the same rotating shift schedule as their preceptor. This plan ensures students are exposed to the same conditions they might encounter after graduation. Students are evaluated in the eight competency areas of the National Occupational Competency Profile for Paramedics (NOCP).

HSPA3370 PARAMEDICINE IN PRIMARY HEALTHCARE

Paramedics can play a significant role in providing community care. Students explore methods and tools to engage with the public to improve the community's health and well-being. In addition, students are able to participate in community health education and the promotion of injury prevention. Topics are covered through a series of lectures.

HSPA4122 PARAMEDIC PATIENT MANAGEMENT II

Prerequisites: HSPA3341

Co-requisites: HSPA4132

Critical thinking and decision-making skills are essential during medical emergencies. This course is the second of three courses that provide students with the knowledge and skills necessary to incorporate advanced clinical decision-making into the provision of holistic care for various disorders. In this lecture and lab-based course, students formulate care plans for patients presenting disorders related to the endocrine, musculoskeletal, genitourinary, gastrointestinal, and immune systems, and communicable diseases.

HSPA4132 PARAMEDIC INTEGRATION II

Prerequisites: HSPA3341

Co-requisites: HSPA4122

Paramedic students must know all essential skills related to their profession before entering their final practicum. This course combines laboratory and clinical placements to provide students with the opportunity to develop and apply the affective and psychomotor skills necessary for the provision of holistic patient care. Students use patient simulators to master advanced diagnostic and treatment procedures within the controlled environment of the laboratory and apply the learned skills to real-life patient care within the hospital and ambulance settings.

HSPA4223 PARAMEDIC PATIENT MANAGEMENT III

Prerequisites: HSPA4122

Co-requisites: HSPA4233

Critical thinking and decision-making skills are essential during medical emergencies. This course is the last of three courses that provide students with the knowledge and skills necessary to incorporate advanced clinical decision-making into providing holistic care for various disorders. In this lecture and lab-based course, students formulate care plans for patients presenting disorders related to the reproductive system, exposure to adverse environments, aviation and diving incidents, toxic exposure, and emergencies involving pediatric patients.

HSPA4233 PARAMEDIC INTEGRATION III

Prerequisites: HSPA4132

Co-requisites: HSPA4223

Paramedic students must know all essential skills related to their profession before entering their final practicum. This course combines laboratory and clinical placements to provide students with the opportunity to develop and apply the affective and psychomotor skills necessary for the provision of holistic patient care. Students use patient simulators to master advanced diagnostic and treatment procedures within the controlled environment of the laboratory and apply the learned skills to real-life patient care within hospital and ambulance settings.

HSPA4285 MANAGEMENT PRACTICE IN EMS

Graduates from the paramedicine program need to understand their role in the larger emergency medical system, locally and internationally. This lecture-based course provides a foundation for developing management practices in Emergency Medical Service (EMS) systems. In addition, students learn to navigate the structural aspects of an EMS organization.

HSPA4342 CRITICAL CARE PRACTICUM

Prerequisites: HSPA4223, HSPA4233

This module is a full-time field preceptorship in which students have the opportunity to synthesize and apply the knowledge, skills, and abilities developed throughout the program. Under the supervision of a qualified preceptor, students integrate (as appropriate) the full scope of paramedic competencies. Throughout their rotations, students are exposed to various environments and situations. They attend a variety of shifts, including nights and weekends, ensuring that they are exposed to the conditions in which they will be working after graduation. Students are evaluated in the eight competency areas of the National Occupational Competency Profile for Paramedics (NOCP).

HSRT1000 PROFESSIONAL PRACTICE IN RESPIRATORY THERAPY

In this course, students are introduced to the profession of respiratory therapy that centers upon professional standards and the organizations relevant to the profession.

HSRT1100 MEDICAL GAS THERAPY

Prerequisites: BIOL1210, CHEM1040

Understanding essential equipment is the foundation that guides the application of respiratory therapy procedures. This course explores basic respiratory therapy-related equipment theory through various lectures and practical lab exercises.

HSRT2120 CARDIOPULMONARY PHYSIOLOGY

Prerequisites: HSRT1100, BIOL1310

In this course, the students are introduced to an in-depth study of the anatomy and physiology of the cardiopulmonary and other body systems, which impact respiratory management.

Course Descriptions

HSRT2200 CARDIOPULMONARY PATHOPHYSIOLOGY I

Prerequisites: HSRT1100, BIOL1310

This course instructs students on describing the pathophysiologic manifestations, clinical signs, symptoms, diagnosis, and therapeutic management of the major respiratory obstructive and restrictive diseases.

HSRT2210 PHARMACOLOGY FOR RESPIRATORY THERAPY

Prerequisites: HSRT1100, BIOL1310

This course is an introductory course in Pharmacology as applied to Respiratory Therapy. General principles relating to drug administration are studied. Emphasis is on drugs affecting the respiratory and central nervous systems.

HSRT2220 RESPIRATORY TECHNIQUES

Prerequisites: HSRT1100, BIOL1310

This course introduces students to the theory and application of clinical assessment and management skills requisite to practising respiratory therapy in a simulated environment.

HSRT2300 AIRWAY MANAGEMENT

Prerequisites: HSRT2200, HSRT2210, HSRT2220, HSRT2120

Airway management is a crucial skill that enables a respiratory therapist to support patients requiring airway assistance. In this course, students explore the use of various airway management techniques, related equipment, and associated therapies. The primary emphasis is on the principles of operation of the various types of equipment utilized in airway management within respiratory therapy. The course is conducted through various lectures and practical laboratory exercises to gain the necessary knowledge, skills, and abilities to work in a clinical environment.

HSRT2310 RESPIRATORY THERAPY CLINICAL APPLICATION I

Prerequisites: HSRT2200, HSRT2210, HSRT2220, HSRT2120

Respiratory Therapy students need clinical experience prior to entering the workforce. This course introduces the students to adult and paediatric clinical settings using a simulation laboratory and the hospital environment. Students integrate their learning from previous semesters to assess, intervene, and apply respiratory procedures as necessary in both simulated and clinical settings.

HSRT2320 CARDIOPULMONARY PATHOPHYSIOLOGY II

Prerequisites: HSRT2120, HSRT2200, HSRT2210, HSRT2220

To make effective decisions in the clinical environment, Respiratory Therapy students must have extensive knowledge of cardiopulmonary diseases and appropriate treatments. This course builds on Cardiopulmonary Pathophysiology I to give students a detailed understanding of cardiopulmonary pathophysiology that supports clinical decision-making regarding diagnosing and treating acute and chronic presentations commonly managed by respiratory therapists. In the classroom setting, students learn to describe the pathophysiologic manifestations, clinical signs, symptoms, and therapeutic management of the major neuromuscular, cardiovascular, and renal diseases to facilitate the development of discipline-specific treatment protocols. Students also gain knowledge regarding essential topics such as the effects of thermal injury and hypo/hyperbarism.

HSRT2330 MECHANICAL VENTILATION I

Prerequisites: HSRT2300, HSRT2310, HSRT2320

This course is the first in a series of mechanical ventilation courses. It encompasses mechanical ventilation's technical components as a replacement for normal spontaneous breathing. Students learn how mechanical ventilators function, how a breath is generated, ventilator controls and circuits, ventilator modes, alarm systems, and applied non-invasive mechanical ventilation. Through a variety of lectures, laboratories, and simulations, the course focuses on the necessary knowledge, skills, and attitudes to effectively operate mechanical ventilators.

HSRT2340 RESPIRATORY THERAPY CLINICAL APPLICATION II

Prerequisites: HSRT2300, HSRT2310, HSRT2320

Simulations and clinical experience enrich the Respiratory Therapy student's knowledge and skills before entering the workforce. This course is a continuation of Respiratory Therapy Clinical Application I and is designed to further assimilate respiratory therapy students to the clinical setting (including adult and pediatric). Students have an opportunity to expand on their knowledge and skills from previous semesters in order to assess, intervene, and apply respiratory procedures through practicing in simulation labs and clinical settings.

HSRT3000 EMERGING TRENDS IN RESPIRATORY THERAPY

Prerequisites: HSRT3200, HSRT3240

This course focuses on current topics in Respiratory Therapy. Students complete a thorough review of the current evidence for practice and ongoing research relating to emerging trends in the field.

HSRT3120 CARDIAC DIAGNOSTICS

Prerequisites: HSRT2330, HSRT2340

This course introduces the student to the theory and application of hemodynamic monitoring, invasive procedures, and cardiovascular assessment and management as utilized in the practice of respiratory therapy. Performance of these procedures takes place in a simulated clinical environment.

HSRT3130 NEONATAL RESPIRATORY CARE

Prerequisites: HSRT2330 HSRT2340

Co-requisites: HSRT3240

In this course, students learn the fundamentals of neonatal development and pathophysiology with a focus on the care and management of neonatal and pediatric patients. The students explore various areas of neonatal and pediatric respiratory care. Beginning with the developmental changes in utero to the transitions at birth to the continuing development thereafter, the course identifies the risks and problems associated with these developments and explain the procedure and rationale for delivering the appropriate respiratory care. This course also explores the specific neonatal and pediatric disease states as well as their treatment as it relates to respiratory care.

HSRT3140 ANESTHESIA

Prerequisites: HSRT2330, HSRT2340

In this introductory course, students develop an understanding of the principles and practices of anesthesia which is essential in their practice as respiratory therapists. Students learn about the functional aspects of equipment used by anesthesia personnel in today's modern operating room. Equipment verification and maintenance and the safe use are emphasized. Students also learn about monitoring of the patient's physiological performance and status, and the pharmacology of anesthesia.

Course Descriptions

HSRT3200 MECHANICAL VENTILATION II

Prerequisites: HSRT2330, HSRT2340

The application of mechanical ventilation can be lifesaving but also has certain effects which may adversely affect patient outcome. This course is the second in a series of mechanical ventilation courses and focuses on applied mechanical ventilation. Students learn the physiologic consequences of applied mechanical ventilation, strategies to minimize these, and how to monitor and manage patients based on pathology and physiologic data. Students discuss, compare, evaluate, and apply the methods for discontinuing mechanical ventilation and support spontaneous breathing. Through a variety of lecture, laboratory, and simulation, students acquire the necessary knowledge, skills, and attitudes to effectively apply mechanical ventilation to the adult and pediatric populations.

HSRT3210 PULMONARY DIAGNOSTICS

Prerequisites: HSRT2120, HSRT2320

In this course, students learn the fundamentals of pulmonary diagnostic testing using various pulmonary diagnostic assessments.

HSRT3230 CARDIOPULMONARY RESUSCITATION

Prerequisites: HSRT3120, HSRT3130, HSRT3200, HSRT3240,

In this course, students learn and demonstrate the fundamentals of advanced cardiopulmonary resuscitation for neonatal, pediatric, and adult populations.

HSRT3240 RESPIRATORY THERAPY CLINICAL APPLICATION III

Prerequisites: HSRT2330, HSRT2340

Co-requisites: HSRT3130

This course is a continuation of Respiratory Therapy Clinical Application II and is designed to further assimilate the respiratory therapy student to the clinical setting (adult pediatric and neonatal) through experience in both the simulation laboratory and hospital environment. By building on previously learned material, students further expand their knowledge and skills of respiratory therapy procedures.

HSRT3300 MECHANICAL VENTILATION III

Prerequisites: HSRT3130, HSRT3200, HSRT3240

Co-requisites: HSRT3310

Utilizing current research and best practices, this course focuses on adult, pediatric and neonatal ventilation along with advanced modes and management strategies used for the mechanically ventilated patient. Students are introduced to the following: lung recruitment maneuvers; specialty inhaled gases to treat specific disease pathologies; mechanical ventilation in the home setting; transport of the critically ill patient; and standards of apnea testing as a diagnostic tool in determining brain death.

HSRT3310 RESPIRATORY THERAPY CLINICAL APPLICATION IV

Prerequisites: HSRT3120, HSRT3130, HSRT3200, HSRT3240

Co-requisites: HSRT3300

This final Respiratory Therapy Clinical Application course gives students the opportunity to perfect their skills and knowledge before the Respiratory Therapy Practicum courses. This course is designed to further assimilate the respiratory therapy student to the adult, pediatric and neonatal clinical setting through experience in both the simulation laboratory and hospital environment. Students are expected to expand their knowledge and skills of respiratory therapy procedures and build upon previously learned material.

HSRT3330 RESPIRATORY THERAPY PRACTICUM I

Prerequisites: HSRT3300, HSRT3210, HSRT3230, HSRT3310

This course is the first of three full time clinical placements. The students apply theoretical knowledge and practical skills acquired throughout the first eight semesters of the program to real-time clinical environments. Students are expected to demonstrate independent critical thinking and assume responsibility for clinical actions and decisions. Students are expected to demonstrate positive and effective interactions with peers, preceptors, faculty, and other healthcare professionals. Students are assigned to a variety of clinical environments which focus on caring for neonatal, pediatric, and adult patients. Core values relating to professional behavior, ethical standards, communication, and safe practices are emphasized and assessed using the behavioral assessment/core values appraisal.

HSRT4200 RESPIRATORY THERAPY PRACTICUM II

Prerequisites: HSRT3330

This course is the second of three full time clinical placements. Students apply theoretical knowledge and practical skills previously acquired throughout the Respiratory Therapy Program to real-time clinical environments. Students are assigned to a variety of clinical environments which focus on caring for neonatal, pediatric, and adult patients. Core values relating to professional behavior, ethical standards, safe practices, and effective communication are emphasized and assessed using the behavioral assessment/core values appraisal. It is the expectation that skills attained during Respiratory Therapy Practicum I are performed again as opportunities present themselves. Students are expected to progress to a highly autonomous and independent role as compared to Respiratory Therapy Practicum I.

HSRT4300 RESPIRATORY THERAPY PRACTICUM III

Prerequisites: HSRT4200

This is the final clinical Respiratory Therapy Practicum course. This course enables students to integrate theories and skills acquired throughout the previous two clinical Respiratory Therapy Practicums. Students are evaluated on skills proficiency, time management, organizational skills, and decision-making at a high level of independence. Students are expected to take a lead role in providing patient care, further mastering/refining skills necessary to function as an entry level respiratory therapist. Examinations are delivered in diverse formats including classroom/online/self-study, where learners are presented with case studies, quizzes and discussions that are emphasize the competency areas in the Canadian National Competency Framework (NCF). These examinations assist the learner in identifying specific areas of respiratory therapy knowledge where further study is required.

IN1122 PROCESS CONTROL FUNDAMENTALS

Prerequisites: SE1005, TN1000, MA1015

This course introduces students to work permits and hazardous area classification and provides them with a fundamental knowledge of process control systems. Students identify process variables and sensors used to measure and monitor plant operation. Students also learn the importance of controlling the four fundamental process variables that are important to process equipment, including pressure, level, flow, and temperature.

IN1125 INSTRUMENTATION DRAWINGS

Prerequisites: SE1005, TN1000, TN1005

This course introduces students to a variety of drawings commonly used for instrument maintenance in an industrial plant. Students are expected to read and use piping and instrument drawings (P&ID), process flow drawings (PFD), instrument loop drawings (ILD), electrical drawings (schematic and ladder/control drawings), and logic drawings.

Course Descriptions

IN1130 INSTRUMENT AIR SUPPLY SYSTEM

Prerequisites: SE1005, TN1000, TN1005, IN1125

This course provides students with the necessary theoretical knowledge and practical skills to construct, operate and maintain the major components of a simple instrument air supply system. Selected topics include instrument tube and pipe fittings, instrument air supply systems, filter/pressure regulators, and pressure gauges.

IN1141 ELECTRICAL CIRCUITS

Prerequisites: SE1005, TN1000

This course introduces students to the basic operating principles of an electric circuit. Topics covered include electrical circuit components, measurement of electrical parameters on direct current (DC) and alternating current (AC) circuits, the application of electrical laws, and principles in the measurement of control loops, alarm systems, and protection systems.

IN1146 ELECTRONIC CIRCUITS

Prerequisites: SE1005, TN1000

Co-requisites: IN1141

This course introduces students to the basic operating principles and applications of electronic circuits. Students develop the skills required to construct a basic direct current (DC) power supply, test uninterruptable power supplies (UPS), and program and test microcontrollers.

IN1161 ONLINE ANALYTICAL INSTRUMENTS

Prerequisites: SE1005, TN1000, TN1005, IN1141, IN1146, MA1015

This course provides students with an introduction to online analytical instruments commonly used in the petroleum industry. Students gain the knowledge and skills required to identify various types of online analyzers with a focus on conductivity monitoring systems and pH monitoring systems.

IN1162 FIRE & GAS ALARM SYSTEMS

Prerequisites: SE1005, TN1000, TN1005, IN1141,

Co-requisites: IN1146

This course provides students with an introduction to fire and gas safety protection systems used in the workplace. Students are provided the opportunity to attain the knowledge and skills required to identify, check, and calibrate the components of fire and gas alarm systems.

IN1165 PRESSURE CONTROL LOOP

Prerequisites: SE1005, TN1000, IN1125

Co-requisites: IN1603

This course provides students with the necessary knowledge and skills to measure, control, and maintain the operation of pressure control loops with sensors, transmitters, controllers, and final control elements.

IN1171 LEVEL CONTROL LOOP

Prerequisites: SE1005, TN1000, IN1141, IN1122, IN1603, IN1125, IN1210

This course provides students with the necessary knowledge and skills to measure, control, and maintain operation of level control loops with sensors, transmitters, controllers, and final control elements.

IN1175 FLOW CONTROL LOOP

Prerequisites: SE1005, TN1000, MA1020, IN1141, IN1122, IN1125, IN1603, IN1165, IN1210

Co-requisites: IN1171

This course provides students with the necessary knowledge and skills to measure, control, and maintain operation of flow control loops with sensors, transmitters, controllers, and final control elements.

IN1180 TEMPERATURE CONTROL LOOP

Prerequisites: SE1005, TN1000, IN1141, IN1122, IN1125, IN1603, IN1210

This course provides students with the necessary knowledge and skills to measure, control, and maintain operation of temperature control loops with sensors, transmitters, controllers, and final control elements.

IN1186 ADVANCED CONTROL LOOPS

Prerequisites: SE1005, TN1000, IN1141, IN1122, IN1165

Co-requisites: IN1171, IN1175, IN1180

This course provides students with an understanding of advanced control loops. Students are introduced to process control strategies, techniques, and technologies implemented within industrial process control. Topics include split range, ratio, cascade, and feed-forward control. Students also learn about anti-surge control systems.

IN1196 WORKSITE PRACTICUM

This 24-week course is a requirement for Technician Certificate (Instrumentation) students. The practicum workweek is a minimum of 30-hours, or as required by the employer. During the practicum, students demonstrate the competencies acquired from the successful completion of all Instrumentation program courses. In an industrial setting, program competencies are undertaken by student trainees in conjunction with workplace maintenance/operations staff and assessors. Students are expected to apply knowledge and skills gained from the Instrumentation program, while demonstrating the high standards of behavior that is expected within an industrial environment. TCP students are assessed by their employer using an assessment scheme co-developed by the University and employer and verified by the University.

IN1205 ROTATING MACHINERY VIBRATION

Prerequisites: SE1005, IN1125, IN1141, IN1146

This course provides students with an understanding of vibration in rotating machinery. Students learn the basic skills required to detect vibration and to maintain the operation of a vibration monitoring system.

IN1210 PROCESS CONTROL TUNING

Prerequisites: SE1005, TN1000, MA1020

Co-requisites: IN1165

This course introduces students to basic control loop tuning. Students learn how to adjust control parameters (proportional band/gain, integral/reset, and derivative/rate, etc.) to the optimum values for a desired control response. Students also learn how a simple change in a process variable affects the output of a controller in proportional band, integral, and derivative control mode.

IN1215 PLC I

Prerequisites: SE1005, TN1000, IN1141, IN1146, IN1165

Co-requisites: IN1171, IN1175, IN1180

This course introduces students to general concepts, programming techniques, and programming languages for both digital and analog inputs and outputs. In this course, students use both physical input and output (I/O) devices and graphical interface I/O to monitor and control specific applications.

Course Descriptions

IN1220 DCS & FIELDBUS

Prerequisites: SE1005, IN1165, IN1210, MA1020

Co-requisites: IN1171, IN1175, IN1180, IN1215

This course introduces students to concepts related to distributed control systems (DCS) and fieldbus networks. Students gain a fundamental background in DCS hardware, loop configurations, and data management systems. Students learn how to configure control loops using DCS function blocks, design graphic windows, display operation screens, and change block modes and set points, as well as how to design control programs using sequence tables and related components. Students gain knowledge and applied skills with the Centum VP DCS, as well as DELTAV DCS. Students also learn to diagnose problems with distributed control systems and to make adjustments as required.

IN1400 ELECTRICAL CIRCUITS

Prerequisites: TC1102

This course introduces students to the basic operating principles of an electric circuit. Topics include electrical circuit components, measurement of electrical parameters on alternating current (AC) and direct current (DC) circuits, and the application of electrical laws and principles with regards to measurement control loops, alarm systems, and protection systems.

IN1500 INSTRUMENTATION DRAWINGS

Co-requisites: SE1001

This course introduces students to the fundamentals of drawings commonly used for instrument maintenance. Students learn how to read and use piping and instrument drawings (P&ID), process flow drawings (PFD), instrument loop drawings (ILD), electrical drawings (schematic and ladder/control drawings), and logic drawings.

IN1501 INSTRUMENT AIR SUPPLY

Prerequisites: TC1102

This course provides students with the fundamental knowledge and applied practical skills to construct, operate, and maintain the main components of a simple instrument air supply system. Selected topics include instrument tube and pipe fittings, instrument air supply systems, filter/pressure regulators, and pressure gauges.

IN1502 PROCESS CONTROL FUNDAMENTALS

Prerequisites: SE1001

This course provides students with a fundamental understanding of process control systems. Topics include the operating principles and functional components of an industrial control system. Students also learn the importance of controlling the four key process variables: pressure, level, flow, and temperature.

IN1600 DIGITAL LOGIC CIRCUITS

Prerequisites: ET1205, ET1303

This course introduces students to the basics of electrical and instrument discrete devices and symbols. Students also gain the fundamental knowledge required for the interpretation of logic diagrams. Applied learning tasks in this course include the construction and testing of simple digital logic circuits.

IN1601 MICROPROCESSOR CONTROLLERS

Prerequisites: ET1205, ET1303, ET1304

Co-requisites: IIN1600

This course provides students with an introduction to microprocessor-based instruments and their configuration using a handheld interface (communicator). Students install, test, and configure transmitters, controllers, positioners, and foundational bus instruments.

IN1602 PNEUMATIC COMPONENTS & VALVES

Prerequisites: IN1500, IN1501, IN1502

This course introduces students to pneumatic system components and valves. Students develop the knowledge and hands-on skills required to identify, test, and calibrate pneumatic components and valves.

IN1603 PNEUMATIC COMPONENTS & VALVES

Prerequisites: SE1005, TN1000, TN1005, IN1122, IN1125

Co-requisites: IN1130

This course introduces students to pneumatic system components and valves. Students are provided with the necessary knowledge and hands-on skills to identify, test, and calibrate pneumatic components.

IN1700 PRESSURE CONTROL LOOP

Prerequisites: IN1601, IN1602

This course provides students with the fundamental knowledge and applied skills to measure, control, and troubleshoot pressure control loops using scales, sensors, transmitters, and controllers.

INFS1101 INTRO TO COMPUTING & PROBLEM SOLVING

This course aims to take students with no prior experience of thinking computationally to a point where they can derive simple algorithms to solve problems. Students are instructed on how to formulate a problem and extract the most relevant characteristics for computation, decomposing the problem into smaller and more manageable parts to finally come up with a series of ordered steps that solve the problem using a computer. These algorithms use basic programming constructs such as sequencing, selection, iteration, and functions. The course alternates between lectures and labs to allow students to practice their knowledge. Solutions are expressed using visual programming, flowcharts and diagrams or pseudo-code. Students also learn to find similarities between problems to re-use the acquired knowledge.

INFS1201 COMPUTER PROGRAMMING

Prerequisites: INFS1101

The course equips students with a solid theoretical and practical foundation in programming. The course provides students with a basic understanding of utilizing programming essentials, including variables, control structure, selection, iteration, functions, recursion, and fundamental data structures. Object Oriented Programming (using classes) and an introduction to algorithm analysis (searching and sorting algorithms) are introduced in the course to prepare the students for advanced programming implementations. The course is delivered through interactive lectures and practical lab sessions in which students learn to interpret, analyze, and then design solutions to simple yet essential real-life problems using adequate algorithms.

INFS1301 COMPUTING ETHICS & SOCIETY

Ethical behavior and professionalism in the workplace are closely related. This course enables students to consider how attitudes, values and culture influence behavior. The course introduces the student to ethics, societal norms and best practices in the field of Information Technology.

INFS2101 WEB TECHNOLOGIES I

Prerequisites: INFS1201

This course demonstrates the essential concepts of HTML and CSS. Students begin with developing a basic Web page and progress to developing a basic website. Next, students learn to create functional Web page forms and work with cascading style sheets. Finally, students learn client-side scripting using JavaScript, including libraries.

Course Descriptions

INFS2201 DATABASE MANAGEMENT SYSTEMS

Prerequisites: INFS1101

This course investigates the underpinnings of Database Management Systems, focusing mainly on Relational databases, SQL and NoSQL languages. It assists students in creating conceptual data modelling and establishing entities using Entity Relationship diagrams. Students learn the mapping process of ER model to relational database schema and identify relationship types and constraints. The course trains students to apply the process of running basic and complex SQL queries and the techniques to optimize SQL databases. They also learn how to implement CRUD (Create, Read, Update, Delete) operations on a relational database using one of the modern cloud services. Lectures and computer labs are used to deliver the background knowledge and impart the practical skills this course aims to provide.

INFS3102 OBJECT ORIENTED PROGRAMMING

Prerequisites: INFS1201

This course introduces the fundamentals of object-oriented programming in a modern industry-standard object-oriented language. Students learn how to write object-oriented programs that implement the required business logic and improve code reusability through classical design patterns. Topics include, but are not limited to, object-oriented concepts, classes, composition, inheritance, polymorphism, UML and design, Strings, Arrays and collection framework and Design patterns.

INFS3103 SYSTEMS ANALYSIS & DESIGN

Prerequisites: INFS2201

This course introduces students to the development of information systems and their software components. Although the course introduces students to the whole systems development process, it focuses on the initial modelling of information systems requirements that allows the identification of information problems and the subsequent analysis and modelling of an efficient solution to those problems. The approach follows the Object-Oriented (OO) methods expressed by the Unified Process software development life cycle.

INFS3104 DATA STRUCTURES & ALGORITHMS

Prerequisites: INFS1201 & DACS2101 OR INFS1201 & INFT2102

In this course, the students are exposed to the implementation of data structures such as a linked lists, stacks, queues, trees, and graphs. The students develop programs making use of these data structures. Different types of searching and sorting techniques are examined and time complexity analysis of the algorithms is presented.

INFS3201 WEB TECHNOLOGIES II

Prerequisites: INFS2101

This project-based course examines industry-standard multi-tier Web architectures in order to design and implement modern Web apps that interact with an independent back-end database. Students also learn to differentiate between asynchronous and synchronous communications on the Web.

INFS3202 IT SYSTEMS INTEGRATION

Prerequisites: INFS3103

This course focuses on integrating different systems and software applications by examining current and emerging trends and techniques for effectively developing systems integration solutions. Topics include: documenting integration requirements using business process models, designing system integration solutions, and implementing integration solutions using Service Oriented Architecture. In addition, students learn to create APIs and microservices and understand their deployment to integrate different systems. The course also introduces ERP (Enterprise Resource Planning) system configuration and its importance in IT system integration.

INFS3203 SYSTEMS DEPLOYMENT & IMPLEMENTATION

Prerequisites: INFS3103

This course introduces important aspects of modern software deployment, also known as the DevOps pipeline. An Agile approach is used to deliver easy and quickly testable and maintainable applications from developer to end-user, incorporating changes in an automated fashion. Major topics covered include version control, automated unit testing, continuous integration, continuous deployment, and the industry-standard tools used to accomplish these tasks, resulting in a practical application of the course content.

INFS3301 HUMAN COMPUTER INTERACTION

Prerequisites: INFS1201

This course introduces students to the fundamental Human-Computer Interaction (HCI) theories. The students gain practical and theoretical experience in the fundamental aspects of human perception, cognition, and learn the design, implementation, and evaluation of interfaces.

INFS4101 IS MANAGEMENT & STRATEGY

Prerequisites: INFS3103

Certain systems have become especially critical to firms' long-term prosperity and survival. Such systems are called Strategic Information Systems (SIS) and are powerful tools for staying ahead of the competition. This course provides a broad overview of the issues managers face in selecting, using, and managing information technology. The course takes a management rather than a technical approach to the material presented. This course is designed to help general management students interested in IT and IT students interested in management.

INFS4102 DESKTOP APPLICATION DEVELOPMENT

Prerequisites: INFS3102

This course introduces students to modern cross-platform desktop app development through project-based, applied coursework. Students learn to use modern industry-standard development languages, frameworks, and overall practices, including a database, to design and develop sizeable cross-platform desktop apps to solve realistic business problems

INFS4103 UI/UX DESIGN

Prerequisites: INFS3201

This course introduces students to modern UI/UX design and development through project-based, applied coursework. Students have the opportunity to research, compare, implement, and refine selected modern industry-standard UI frameworks, resulting in applications that deliver an optimal user experience.

INFS4104 MOBILE APP TECHNOLOGIES

Prerequisites: INFS3201

This course introduces students to modern cross-platform mobile app development through project-based, applied coursework. Students use modern industry-standard mobile development languages, frameworks, and overall practices, including a real-time database, to design and develop sizeable mobile apps to solve realistic business problems.

INFS4105 DATABASE ADMINISTRATION

Prerequisites: INFS2201

This course focuses on giving students a theoretical and practical experience in the administration of databases and data organization. Through the use of case studies and guided analysis, students have the opportunity to design and execute queries on relational and NoSQL databases while making sure of data integrity.

Course Descriptions

INFS4202 SOFTWARE TESTING & QUALITY ASSURANCE

Prerequisites: INFS3103

This course focuses on techniques for ensuring software quality. Students are introduced to realistic strategies for reliable and cost-effective software testing. In addition, this course covers methods and tools for achieving software quality assurance at various levels of a software system, including at the module, subsystem, and system levels.

INFS4205 SELECTED TOPICS IN INFORMATION SYSTEMS

Prerequisites: INFS4104

This course covers promising trends and innovations in mobile device and app technology. Topics are selected with the aim of exposing the student to new and evolving techniques and technologies that are used in mobile devices and apps. Technologies covered are implemented in cross-platform apps for use in realistic situations.

INFS4206 NATIVE APP TECHNOLOGIES

Prerequisites: INFS4104

This course introduces students to modern native mobile app development through project-based, applied coursework. Students use modern industry-standard mobile development languages, frameworks, and overall practices to design and develop native mobile apps which meet realistic business needs.

INFT1201 COMPUTER HARDWARE

This course introduces students to common hardware components of computer systems, including the various recent technologies, with an emphasis on evaluating the impact of each of these components on computing performance. The course covers core computing components, including CPU, RAM, motherboard and its firmware, essential peripherals, display technologies and GPUs, printers and a wide panel of mass storage technologies. The topics also encompass mobile computing-specific technologies and relate operating systems to hardware management and monitoring. The course delivery consists of lectures that explain the hardware technology landscape as well as hands-on labs where students learn to build a PC from scratch to get a practical understanding of the role and impact of each hardware component.

INFT2101 NETWORKING I

Prerequisites: INFT1201

This course introduces fundamental concepts in the organization and management of local area networks (LANs). It provides an overview of network architectures, applications, networks, transport, TCP/IP protocol suite, routing, error detection/correction, multiple access, LAN, Ethernet, wireless networks, and network security.

INFT2102 MATHEMATICS FOR IT

Prerequisites: INFS1101

This course introduces students to fundamental mathematics and discrete structures required for computing and IT. It illustrates how to develop a math foundation for Information Technology to aid in the development of the student's use of problem-solving techniques necessary for Information Technology. Students learn to analyze problems related to discrete structures and find correct solutions backed by Boolean algebra, sets, functions, numeral systems, logic gates and simple combinational circuits, relations, graphs and trees, Mathematical Models, and regular expressions. The course is delivered through D2L using lectures, tutorials, exercises, and is supported by a textbook.

INFT2103 NETWORK IMPLEMENTATION

Prerequisites: INFT2101

This course focuses on switching technologies and basic router operations that support small-to-medium business networks and security concepts. Students learn key switching concepts and perform basic network configuration and troubleshooting, identifying and mitigating LAN security threats.

INFT2104 SYSTEM ADMINISTRATION

Prerequisites: INFT2101

This course provides the students with the theoretical knowledge and applied skills to support a network server with daily administration. Topics covered include installation, configuration, optimization, and troubleshooting. In addition, students gain an understanding of system administration while being able to demonstrate tasks concerning servers.

INFT2201 INTRODUCTION TO OPERATING SYSTEMS

Prerequisites: INFS1201, INFT1201

This course provides an overview of computer operating systems. Major topics include concurrent programming, resource management, virtual memory, file systems, and containerization. The course involves some simple programming activities using the Python language. Students have the opportunity to use Linux and Windows servers in labs as a practical component of this course.

INFT2202 LINUX FOUNDATIONS

Prerequisites: INFT1201

This course deals with the tools and techniques used by Linux system administrators to achieve routine tasks in a Linux environment. Students gain a working knowledge of Linux and learn how to navigate through major Linux system configurations and graphical interfaces, basic command line operations, and typical applications of Linux. Furthermore, students learn how to plan, install and configure a Linux system and perform regular system administration tasks.

INFT2203 NETWORK DESIGN

Prerequisites: INFT2103

This course focuses on advanced switching and routing technologies for enterprise networks. Students apply knowledge gained in previous courses to build scalable redundant networks. Topics include configuration and troubleshooting of OSPF (with an introduction to multi-area), EIGRP, STP, Etherchannel, and redundancy techniques. The course is delivered through a series of lectures and practical activities centered around network design.

INFT2204 ENTERPRISE SERVICES

Prerequisites: INFT2104

This course focuses on switching technologies and router operations that support small-to-medium business networks and includes wireless local area networks (WLAN) and security concepts. Students learn key-switching and routing concepts. In addition, they learn to perform basic network configuration and troubleshooting, identify and mitigate LAN security threats, and configure and secure a basic WLAN. Students also learn traffic analysis using current tools.

INFT3101 NETWORKING II

Prerequisites: INFT2101

This course focuses on switching technologies and router operations that support small-to-medium business networks and includes wireless local area networks (WLAN) and security concepts. Students learn key-switching and routing concepts. In addition, they learn to perform basic network configuration and troubleshooting, identify and mitigate LAN security threats, and configure and secure a basic WLAN. Students also learn traffic analysis using current tools.

Course Descriptions

INFT3102 NETWORK PROGRAMMING

Prerequisites: INFS1201, INFT2202

This course allows the student to analyze, design and implement programs to perform system and network automation tasks. The course covers using the Python programming language to interface with standard APIs using various network communication techniques. Students learn how to write socket-based client-server programs using multiple protocols and libraries to access REST APIs on networking devices.

INFT3201 SYSTEM INTEGRATION & ADMINISTRATION

Prerequisites: INFT1201, INFT2202

This course introduces students to fundamental and conceptual design knowledge and applied skills to align IT infrastructure with enterprise architectures and requirements. Students learn to identify key performance indicators relating to security, availability, and efficiency. They also learn to identify and implement suitable technologies and protocols towards reliable, secure, and scalable enterprise systems. Students gain an understanding of system administration while demonstrating tasks concerning servers and other enterprise devices.

INFT3202 CLOUD COMPUTING

Prerequisites: INFT2101, INFT2202

This course introduces students in the Information Technology degree program to the area of cloud computing. Topics include cloud terminology, cloud service models, cloud deployment models, virtualization tools, and data center network concerns.

INFT3203 WEB SERVER MANAGEMENT

Prerequisites: INFS2101, INFT2202

This course provides students with the knowledge to manage a web server. Students learn how to take an application, deploy it to a server and tune the application to run at its best performance. Topics include hosting multiple sites, service-side scripting, database management, performance tuning, DNS management, and web security.

INFT3301 IT SERVICE MANAGEMENT

Businesses are increasingly moving toward being service oriented, creating the need for students to learn all aspects related to IT services management. Therefore, this course aims to provide students with a complete and comprehensive understanding of IT service management, offering them skills in all activities involved in designing, creating, delivering, supporting, and managing the lifecycle of IT services. Students work on topics such as incidents, service requests, change, and problem management. The course provides students with a theoretical and practical knowledge about the nature and practice of the IT Service Management.

INFT4103 SOFTWARE DEFINED NETWORKING

Prerequisites: INFT3101, INFT3202, INFT3203

This course covers SD-WAN that deals with cloud-delivered overlay WAN architecture connecting branches to data centers in order to ensure a predictable user experience for applications optimized for SaaS, IaaS, and PaaS connections. It also explores comprehensive on-premises and cloud-based security protection against cyber threats while enabling IT teams to accelerate the transition to a Secure Access Service Edge (SASE) architecture where needed. Analytics capabilities deliver the visibility and insights necessary to isolate and resolve issues promptly and deliver intelligent data analysis for planning and what-if scenarios.

INFT4104 SELECTED TOPICS IN IT

Prerequisites: INFT3101

This course covers new trends in IT infrastructure that arise from the natural evolution of the field. Topics are chosen by the instructor with the aim of exposing the student to new and/or evolving techniques and/or technologies used in the design and maintenance of the IT infrastructure. Students learn through a series of lectures, case studies, and practical activities.

INFT4105 WIRELESS NETWORKS

Prerequisites: INFT3101

This course introduces students to wireless communication technologies. It provides a broad survey of wireless communications, including in-depth coverage of the technologies and topologies used in wireless networks. Students learn about IEEE 802.11 wireless standards, data services in wireless networks, installation, configuration, and the management of wireless access points, adapters, bridges and antennae. In addition, they learn to configure security in wireless networks, complete site survey techniques for optimum coverage, and install wireless internet, WAP, and broadband wireless networks.

INFT4106 COMPUTER NETWORK PROTOCOLS

Prerequisites: INFT3101

The course gives students a broad range of fundamental knowledge for all IT careers. The course covers configuring network components such as switches, routers, and wireless LAN controllers; managing network devices; and identifying basic security threats. Through a combination of lectures, hands-on labs, and self-study, students learn how to install, operate, configure, and verify basic IPv4 and IPv6 networks.

INFT4107 VIRTUALIZATION TECHNOLOGIES

Prerequisites: INFT3101, INFT3102, INFT3202

This course provides students with a background on implementing cloud computing data centers so they can make better choices when designing cloud-based systems. The cloud concepts are created using traditional virtualization techniques. Topics include virtual machine management, virtual networking components, virtual storage and automated management and deployment of components.

INFT4108 CLOUD AUTOMATION & ORCHESTRATION

Prerequisites: INFT3102, INFT3202, INFT3203

This course covers the concepts of automation in cloud computing environments. Students learn how to manage containers and develop systems to deploy containerized systems. Topics include managing containers, container networks, remote management, maintaining a cloud cluster, and creating an automated deployment pipeline.

INFT4201 ENTERPRISE TECHNOLOGY

Prerequisites: INFT3101

This course provides students with the theoretical knowledge and applied skills to install, configure and manage the core services of an enterprise server. Students explore topics that include advanced TCP/IP configuration, secure remote access, routing, name service configuration, and user, computer, and group strategy deployment. The course is delivered through a series of lectures and practical activities.

Course Descriptions

INFT4203 NETWORK MANAGEMENT

Prerequisites: INFT3101

This course teaches students the core concepts for configuring routers and switches in an enterprise environment. These devices facilitate the connection of devices, applications, and data through the internet and across other computer networks. Students learn to perform advanced routers and switches configurations, build and configure enterprise-level local area networks (LANs) and wide area networks (WANs) that integrate IP addressing schemes, routing and switching protocols, network assurance, and network security.

INFT4208 GOVERNANCE & MANAGEMENT OF IT

Prerequisites: INFT3101

Governance and Management of Information Technology are two important pillars that contribute to developing the strategic goals of an organization and sustain its existence in the digital era. One of the key enablers for an organization to achieve its goals is the effective and efficient use of Information Technology which can be achieved through IT governance. Using a set of processes, IT governance ensures the effective evaluation, selection, and prioritization of IT investments. IT governance includes a range of national and international frameworks and standards which deal with a range of topics and domains. On the other hand, managing the implementation, performance and risks of Information Technology are another key enabler that would ensure the proper usage of resources to extract the provisioned business benefits for the organization.

MA1015 TECHNICIAN MATHEMATICS I

This course strengthens students' mathematical skills relevant for workplace applications. Students learn about integers, roots, fractions, percent, decimals, metric and imperial measuring systems, and algebraic expressions. They also learn conversions for numbers and measurements and the fundamentals of equations.

MA1020 TECHNICIAN MATHEMATICS II

Prerequisites: MA1015

This is the second of two mathematics courses designed to strengthen students' mathematical skills. Students continue to learn about equations. They also learn about ratio, proportion, exponents, polynomials, and factoring relevant for workplace applications.

MA1029 PREPARATORY MATHEMATICS

Prerequisites: Appropriate score on the University Math Placement Test

Co-requisites: FL1130

Students learn how to solve linear equations, analyze the equation of a line, and apply linear equations to solve rates and proportions. Students also demonstrate an understanding of graphing techniques, right angle triangle trigonometry, and algebraic manipulations.

MA1170 PREPARATORY MATHEMATICS I

This course provides students with foundational mathematical skills through the use of theoretical contexts and practical applications. Students are introduced to metric units of measurements, fractions, decimals, and percentage increases and decreases with technical applications. They complete practical assignments using metric measuring tools, and devices.

MA1202 PREPARATORY MATHEMATICS II

Prerequisites: MA1170

This course furthers students' technical mathematical skills by building upon previously acquired theoretical and applied learning. This course involves technical calculations and formula manipulation. Students learn mathematical theory and perform practical applications related to rate, ratio and proportion, 2D technology measurement and computation, scientific notation, and Ohm's Law.

MA1302 PREPARATORY MATHEMATICS III

Prerequisites: MA1202

This course provides students with further technical mathematical skills by building on the applied theory and technical learning completed in previous technical mathematics courses. Students gain a solid understanding of 3D technology measurement and computation, fractions, electric circuits, and graphs and charts. Students are able to apply this mathematical knowledge to technical tasks in the naval field.

MACC5110 ADVANCED DIAGNOSTICS

Prerequisites: MACC5120

Critical care paramedics must be able to interpret results from biological tests and measurements in order to provide the appropriate care to patients. Classroom and lecture-based activities are used to reinforce students' understanding of advanced diagnostic procedures and prepare them to incorporate diagnostic test results into clinical decision-making.

MACC5120 ADVANCED PATIENT MANAGEMENT I

Prerequisites: MACC5110

Critical care paramedics must be able to manage complex life-threatening emergencies while on the job. This is the first of two courses which provide students with the knowledge and skills necessary to provide an advanced level of care to patients who present with complex life-threatening conditions. In this lecture and lab-based course, students demonstrate the holistic management of the most challenging aspects of airway management and disorders of the respiratory, cardiovascular, and neurological systems.

MACC5210 RESEARCH DESIGN & METHODS

Prerequisites: AHHG2030

The ability to analyse research is a core competency for health care professionals to provide advanced evidence-based care. In this course, students develop an in-depth understanding of research methods such as quantitative, experimental, qualitative, and mixed methods. Students attend lectures and participate in group activities, discussions, and presentations. The goal is for the students to have a strong foundation of knowledge and skills to support the development and planning of their thesis or professional project.

MACC5220 CRITICAL CARE TRANSPORT

Prerequisites: MACC5110, MACC5120

Co-requisites: MACC5230

An integral part of critical care paramedicine is the management of patients who require ongoing medical intervention during transport to or between medical facilities. This combined lecture and lab course provides students with the knowledge and skills necessary to apply clinical decision-making skills in patient transportation. Students learn the suitable means to safely transport high acuity patients for various circumstances and how to provide the necessary patient care throughout the transport.

Course Descriptions

MACC5230 ADVANCED CLINICAL INTEGRATION I

Prerequisites: MACC5110, MACC5120

Co-requisites: MACC5220

Participating in simulated medical emergencies helps to enhance a critical care paramedic's knowledge, skills, and decision-making capacity. This course combines laboratory and clinical placements to provide students the opportunity to develop and apply the affective and psychomotor skills necessary for the management of high-acuity patients. Students use patient simulators to master advanced diagnostic and treatment procedures within the controlled environment of the laboratory, and they apply the learned skills to real-world patient care within various critical-care settings.

MACC5300 INTENSIVE CARE PRACTICUM

Prerequisites: MACC5220, MACC5230

Integrating the skills and knowledge from the classroom and lab environment to clinical practice is an essential part of developing the proficiency required for independent practice. In this course, students attend a variety of clinical rotations where they demonstrate the application of learned skills to real-world patient care within the intensive care setting under the supervision of healthcare providers from the clinical sites.

MACC6100 GRADUATE RESEARCH PROJECT I

Prerequisites: MACC5210

Graduate students require advanced research skills in order to prepare a quality dissertation (which can be a thesis or research project). In this course, students integrate theoretical and professional knowledge with research methodologies to develop a thesis or project that addresses research questions pertaining to the health care field. Through supervised and structured mentoring sessions, students prepare a research proposal, conduct a literature review, and begin working on their research project or thesis.

MACC6110 ADVANCED PATIENT MANAGEMENT II

Prerequisites: MACC5300

Co-requisites: MACC6120

Critical care paramedics must possess advanced skills to manage, diagnose, and treat complex life-threatening emergencies. This is the second of two courses which provide students with the knowledge and skills necessary to deliver an advanced level of care to patients who present with complex medical conditions. In this lecture and lab-based course, students demonstrate the holistic management of the most challenging aspects of pain management, traumatic injuries, and pediatric emergencies.

MACC6120 EXTENDED CARE PRINCIPLES & PRACTICES

Prerequisites: MACC5300

Co-requisites: MACC6110

Critical care paramedics engage with the public to promote community health and well-being. This course introduces students to a model of primary health care provision by paramedics and paramedical services. Students explore the concepts of "extended care" and "community paramedicine" and examine how extended care systems differ from traditional paramedic services. Through a combination of lectures and practical labs, students gain the knowledge and skills necessary to provide preventative and curative services within a multidisciplinary community care program.

MACC6200 GRADUATE RESEARCH PROJECT II

Prerequisites: MACC6100

Graduate students are required to submit a quality written dissertation and conduct an oral presentation in order to successfully complete the program. In this course, students continue to refine their professional project or thesis. Through supervised and structured mentoring sessions, students complete their final dissertation and present their work to a review team.

MACC6210 ADVANCED CLINICALS INTEGRATION II

Prerequisites: MACC6110, MACC6120

Demonstrating professionalism and high-level performance is mandatory for critical care paramedic students working in the community. This clinical course is intended to provide students the opportunity to apply the extended care practice principles learned in the previous semester. Students participate with qualified practitioners in the provision of community- or home-based care, patient education, and health promotion activities.

MACC6300 CRITICAL CARE PARAMEDICINE PRECEPTORSHIP

Prerequisites: MACC6210

A preceptorship ensures that Critical Care Paramedicine program students meet all required competencies upon graduation. This full-time field preceptorship is designed to provide students with the opportunity to synthesize and apply the knowledge, skills, and abilities developed throughout the program. Under the supervision of a qualified preceptor, students integrate the full scope of paramedic competencies. Throughout their rotations, they are exposed to a variety of environments and situations and attend a variety of shifts to ensure that they are exposed to the conditions in which they will be working after graduation. Students are evaluated in the eight competency areas of the National Occupational Competency Profile for Paramedics (NOCP).

MADC5000 DIABETES CARE CALCULATIONS

Diabetes care warrants early diagnosis and prompt management and intervention. This course covers a wide range of topics that address diabetes care calculations. Students become familiar with calculations related to medical nutrition therapy, blood glucose lowering agents, insulin therapy, and special populations. Students attend lectures and participate in group activities, discussions, and presentations. The goal is for the students to have a strong foundation of knowledge and skills to deliver high quality care to people living with diabetes.

MADC5110 ORGANIZATION OF DIABETES CARE

Evidence-based Diabetes Care is fundamental to improving the health and wellbeing of people living with diabetes. This course covers a wide range of key aspects related to the organization of diabetes care and education in line with national and international standards and guidelines. Students develop in-depth understanding of the Chronic Care Model and its components, clinical information systems used in diabetes assessment and management, the role of the multidisciplinary team, telehealth, and emerging models of diabetes care. Students attend lectures and participate in group activities, discussions, and presentations with the goal of students to having a strong foundation of knowledge and skills to deliver high quality care to people living with diabetes.

Course Descriptions

MADC5120 TEACHING & LEARNING PRACTICE IN DSME PROGRAMS

Diabetes Self – Management Education (DSME) programs are instrumental in providing structured education for patients to manage their condition effectively on a daily basis. This course covers a wide range of key aspects related to teaching and learning practice in Diabetes Self – Management (DSME) Programs that are in line with national and international standards and guidelines. Students develop in-depth understanding of various key topics such as adult learning theories and principles, behavior change models, self-efficacy, social cognitive theory, health belief model, cognitive behavioral interventions, and psychosocial and behavioral approaches. Students attend lectures and participate in group activities, discussions, and presentations. The goal is for the students to have a strong foundation of knowledge and skills to deliver high quality care to people living with diabetes.

MADC5130 DIABETES PREVENTION & HEALTH PROMOTION

The International Diabetes Federation highlights the importance of promoting awareness in the community about the prevention of diabetes and cardiometabolic conditions. This course covers a range of key aspects related to diabetes prevention and health promotion. Students develop in-depth understanding of various key topics such as principles of health promotion, lifestyle medicine and diabetes prevention, weight management, obesity and diabetes, and prevention of cardiometabolic conditions. Students attend lectures and participate in group activities, discussions, and presentations with the goal of building a strong foundation of knowledge and skills to deliver high quality care to people living with diabetes.

MADC5140 CLINICAL ASPECTS OF DIABETES CARE

Evidence-based diabetes care is fundamental in improving the health and wellbeing of people living with diabetes. This course explores a wide range of clinical aspects of diabetes care and education. Students develop in-depth understanding of the underlying pathophysiology of diabetes as well as key aspects of its diagnosis, classification, and presentation. Students attend lectures and participate in group activities, discussions, and presentations. The goal is for the students to have a strong foundation of knowledge and skills to deliver high quality care to people living with diabetes.

MADC5150 DIABETES MANAGEMENT I: NUTRITION & PHYSICAL ACTIVITY

The principles of lifestyle modifications lead to significant short-term and long-term health benefits for people living with diabetes. This course covers a range of evidence-based topics addressing strategies to assist people living with diabetes achieve key lifestyle modifications targets. Students develop an in-depth understanding of the basic principles of a healthy diet and nutritional assessments, use of clinical data in setting dietary goals, nutrition- related needs of people with different types of diabetes, benefits of physical activity and interval training, and minimizing risk of exercise-related adverse events. Students attend lectures and participate in group activities, discussions, and presentations. The goal is for the students to have a strong foundation of knowledge and skills to deliver high quality care to people living with diabetes.

MADC5210 DIABETES MANAGEMENT II: PHARMACOTHERAPY & TECHNOLOGY

Prerequisites: MADC5150

The International Diabetes Federation highlights the importance of pharmacotherapy, as key treatment modality in the effective management of diabetes. In this course, students develop an in-depth understanding of the evidence-based pharmacological treatment recommendations for the management of Type 1 and Type 2 diabetes. This includes key aspects of the agents' therapeutic classes, mechanisms of action, side effects, precautions, contraindications, and drug interactions. Students also develop skills that support their ability to engage in practical teaching and evaluation strategies of a diabetes therapeutic plan for newly diagnosed patients. Students develop a diabetes self-management education plan for patients and demonstrate competence with the use of emerging diabetes technologies and devices with the goal of building a strong foundation of knowledge and skills to deliver high quality care to people living with diabetes.

MADC5220 PEDIATRIC & ADOLESCENT DIABETES EDUCATION

Prerequisites: MADC5110, MADC5120, MADC5130, MADC5140, MADC5150

A recent dramatic increase in the prevalence of pediatric and adolescent diabetes requires specialized knowledge and skills in the delivery of diabetes self-management education to patients and their family members. This course covers a wide range of evidence-based topics addressing the clinical management and the delivery of pediatric diabetes education. Students develop an in-depth understanding of the impact of age, growth, psychosocial influences, development, and maturity of diabetes care. Students attend lectures and participate in group activities, discussions, and presentations. The goal is for the students to have a strong foundation of knowledge and skills to deliver high quality care to people living with diabetes.

MADC5230 DIABETES IN SPECIAL POPULATIONS

Prerequisites: MADC5110, MADC5120, MADC5130, MADC5140, MADC5150

Diabetes in special populations warrants early diagnosis and prompt management and intervention. This course covers a wide range of evidence-based topics addressing the pharmacological and non-pharmacological management of diabetes in pregnancy, geriatric patients, and those undergoing surgical procedures. Students develop an in-depth understanding of topics such as physiologic changes during pregnancy, management of diabetes, maternal and fetal monitoring as well as topics related to managing elderly patients and perioperative management. Students attend lectures and participate in group activities, discussions, and presentations. The goal is for the students to have a strong foundation of knowledge and skills to deliver high quality care to people living with diabetes.

MADC5240 MICROVASCULAR & OTHER COMPLICATIONS

Prerequisites: MADC5120, MADC5130, MADC5140

This course covers a range of evidence-based topics addressing prevention, screening, and management of short- and long-term complications of diabetes. Students develop an in-depth understanding of topics such as hypoglycaemia, hyperglycemic hyperosmolar syndrome, diabetic ketoacidosis, neuropathy, nephropathy, retinopathy, dental problems, and skin complications. Various learning strategies are utilized in the delivery of the sessions including lectures, group activities, discussions, and presentations. The goal is for the students to have a strong foundation of knowledge and skills to deliver high quality care to people living with diabetes.

Course Descriptions

MADC5250 CARDIOMETABOLIC DISORDERS

Prerequisites: MADC5120, MADC5130, MADC5140

People living with diabetes are at an increased risk of experiencing cardiometabolic disorders. Diabetes care and education specialists play a vital role in the prevention and management of these conditions. In this course, students develop an in-depth understanding of topics such as cardiovascular protection, dyslipidaemia and diabetes, hypertension and diabetes, acute coronary syndromes and diabetes, heart failure and diabetes, and cardiometabolic disorders education and prevention. Students attend lectures and participate in group activities, discussions, and presentations. The goal is for the students to have a strong foundation of knowledge and skills to deliver high quality care to people living with diabetes.

MADC5310 DIABETES EDUCATOR PRACTICUM

Prerequisites: Successful completion of all semester 1 and 2 courses

This practicum is designed to prepare students to be effective diabetes educators. Students are able to apply the principles of diabetes education in a workplace environment. Students are placed with a health-related agency in either the public or private sector. Trained preceptors monitor the performance of the clinical students and evaluate the required competencies. As part of their duties, students are required to participate in, plan, and evaluate culturally specific diabetes education activities. Students have the opportunity to record, document, and reflect on learning experiences through the completion of a log book or professional journal.

MADC6110 RESEARCH METHODS IN DIABETES CARE & MANAGEMENT I

This course aims to introduce research as a core component of healthcare professionals' roles in providing advanced evidence-based care. Students develop an in-depth understanding of topics such as quantitative and qualitative research methods as well as mixed methods research designs. Students attend lectures and participate in group activities, discussions, and presentations. The goal is for the students to have a strong foundation of knowledge and skills to support the development and planning of their thesis or professional project.

MADC6220 RESEARCH METHODS IN DIABETES CARE & MANAGEMENT II – THESIS OR PROFESSIONAL PROJECT

Prerequisites: MADC6110

In this course, students have the choice to complete a professional project or thesis. This provides an opportunity for students to demonstrate the integration of the theoretical knowledge gained, guided by and in support of the needs of the relevant healthcare organization. Through supervised and structured mentoring sessions, students complete a professional project or thesis on a range of evidence-based topics.

MADC6330 RESEARCH METHODS IN DIABETES CARE & MANAGEMENT III – THESIS OR PROFESSIONAL PROJECT

Prerequisites: MADC6110, MADC6220

In this course, students continue to refine their professional project or thesis that was initiated in their prior research courses. Through supervised and structured mentoring sessions, students modify their research drafts under the direct supervision of their assigned mentor/supervisor.

MATH1010 ALGEBRA & TRIGONOMETRY

A strong foundation in algebra and trigonometry is essential for the success of students in their higher-level math and science courses as well as in everyday life. This course is intended for students of all disciplines to help strengthen their mathematical and conceptual skills. Topics include conceptual and applied mathematics involving linear equations and inequalities; rational expressions and equations; radicals; quadratic equations; exponential, logarithmic, and trigonometric functions. Through a variety of lectures, real-life applications and independent practice, students learn to effectively use quantitative and symbolic reasoning and analysis in their personal and professional lives.

MATH1020 PRE-CALCULUS

Prerequisites: MATH1010 OR Minimum Score on UDST Math Placement Test

This course includes advanced technical mathematics topics specifically designed for technical programs. Students develop skills in applying complex numbers, matrices, trigonometry, and analytical geometry to technical problems. Students also gain a solid foundation in the study of functions necessary to prepare them for further studies in calculus. Students learn how to use technology to solve problems related to real-world contexts.

MATH1030 CALCULUS I

Prerequisites: MATH1020 OR Minimum score on UDST Math Placement Test

Calculus is a branch of mathematics that studies how to quantitatively assess change over time, especially as it applies to technical programs. This course introduces students to the rules of differentiation and the methods of differentiating various algebraic and transcendental functions. Through mathematical problem-solving, students learn how to solve real-life problems using differentiation followed by an introduction to integration.

MATH1040 STATISTICS

Statistical knowledge is important in the business and scientific fields as it provides an understanding of how data is collected and analyzed. This is an introductory statistics course intended for students in a variety of study areas and research. Students apply fundamental concepts in statistics to interpret results of a variety of statistical techniques from descriptive and inferential statistics, and to critically review and analyse statistical information. Through lectures and problem-solving, students learn to use elementary statistical software and techniques to critically assess statistical work in real world applications.

MATH1050 LINEAR ALGEBRA

Linear algebra is the branch of mathematics with many applications including mathematical physics and coding theory. This course introduces the fundamental concepts of linear algebra and their applications. Topics include systems of equations, matrices, determinants, vector spaces, inner product spaces, eigenvalues and eigenvectors. Through lectures and practice, students learn to apply the theory of linear algebra to technical fields.

MATH1060 NUMERICAL PROBLEM SOLVING

This course provides students studying management, marketing, finance, account, economics, and other fields of business administration with an introductory survey of descriptive and inferential statistics. Supporting the development of basic data analytical skills, this course provides students with opportunities to calculate and apply statistical knowledge to explore several business environments. Interpretation of the analytical results is an integral part of the course.

Course Descriptions

MATH1070 APPLIED MATHEMATICS

A strong foundation in Mathematics is essential for solving many problems in the business industry. This course provides an overview of conceptual and applied mathematics including solving algebraic equations; simplifying algebraic expressions, including polynomial, radical, exponential and logarithmic expressions; followed by solving business related topics such as simple and compound interest, percentage mark-up and markdown, breakeven analysis and how to analyze a variety of graphs. Through lectures, real-life applications and independent practice, students learn to effectively use mathematics in their personal and professional lives.

MATH2002 QUANTITATIVE DESIGNS & STATISTICS

Students are introduced to quantitative health research processes and statistical analyses. Students learn the preparation of statistical data, statistical analysis and interpretation within the context of the positivist research paradigm for health research. Strategies for critically reviewing, integrating, and disseminating statistical findings from health research are discussed and how this data informs knowledge for practice. Learning is applied in a one-hour weekly supervised tutorial.

MATH2010 CALCULUS II

Prerequisites: MATH1030

Integral Calculus is essential in the understanding of real-world problems related to physics and engineering. This course builds upon prior mathematical theories and applied skills, introducing students to the theory and application of integrals. Through lectures and problem-solving activities, students learn to connect applications of integration to technical problems in their programs and professions.

ME1127 BASIC STATIC EQUIPMENT

Prerequisites: SE1005, ME1155

This course introduces students to basic static equipment used in the petrochemical industry. Students learn the knowledge and skills required to identify boilers, furnaces, process tanks, and containers.

ME1128 TURBO EXPANDERS

Prerequisites: SE1005, ME1155

This course provides students with an introduction to turbo-expanders used within the oil and gas industry. Students gain the knowledge and skills required to identify turbo-expanders, their major components, and related auxiliary systems.

ME1136 PRECISION MEASURING TOOLS

Prerequisites: SE1005

This course introduces students to precision measuring tools commonly used in the workplace. Students select and safely utilize appropriate precision measuring tools to perform given tasks. Topics include systems and units of measurement, as well as tool selection, operation, calibration, and maintenance. This course provides the basis for the mechanical maintenance of plant equipment and is the foundation for subsequent mechanical courses.

ME1142 MACHINE TOOLS

Prerequisites: SE1005, ME1136

This course introduces students to advanced machine tools used in the workplace so they can select and safely utilize appropriate machine tools to perform given tasks. Students gain the necessary knowledge and skills to perform basic maintenance checks on machine tools to keep them in safe, operating condition. This course provides the basis for the mechanical maintenance of plant equipment and is the foundation for subsequent mechanical courses.

ME1145 ENGINEERING MATERIALS

Prerequisites: SE1005, ME1235

This course provides students with an introduction to the identification of engineering materials for specific applications. Students develop the knowledge and skills necessary to perform heat treatment techniques as well as permanent/ temporary joining methods.

ME1155 TECHNICAL DRAWINGS

Prerequisites: SE1005, MA1015

This course introduces students to basic technical drawings and projections in accordance with British Standard (BS) 8888. Students gain an understanding of technical drawings and learn to develop and interpret freehand sketches and basic engineering drawings.

ME1157 HYDRAULICS

Prerequisites: SE1005, ME1235, ME1136, ME1155

This course provides students with an introduction to the hydraulic systems used in the oil and gas industry. Students develop the knowledge and skills required to maintain hydraulic systems and major components. Students also construct and operate circuits for a hydraulic system.

ME1170 VALVES

Prerequisites: SE1005, ME1235, ME1136, ME1155

This course provides students with the theoretical knowledge and practical skills required to maintain valves and related components. Topics include valve classifications, valve applications, maintenance procedures, hydro-testing, and safety valve calibration.

ME1175 HEAT EXCHANGERS

Prerequisites: SE1005, ME1235, ME1136, ME1155

Co-requisites: ME1170

This course provides students with the theoretical knowledge and practical skills required to maintain heat exchangers and related components. Topics covered include principles of heat transfer, heat exchanger classification, and maintenance procedures for shell-and-tube heat exchangers.

ME1180 FILTERS & STRAINERS

Prerequisites: SE1005, ME1235, ME1136, ME1155

In this course, students develop the skills necessary to install and maintain filters and strainers in the workplace. The operating principles and applications of filters and strainers are covered. Students are also provided with hands-on skill development regarding filter and strainer installation and maintenance.

ME1185 COUPLINGS

Prerequisites: SE1005, ME1235, ME1136, ME1155

This course provides students with the theoretical knowledge and practical skills necessary to maintain mechanical coupling systems. Students perform maintenance procedures related to couplings, clutches, pulleys, belts, gears, and perform shaft alignment.

ME1190 SEALS

Prerequisites: SE1005, ME1235, ME1136, ME1155

In this course, students develop the skills necessary to maintain mechanical seals within the industrial workplace. Students inspect, remove, repair, and install mechanical seals and gland packing. This course provides the foundation for subsequent courses on pump, compressor, and internal combustion engine maintenance.

Course Descriptions

ME1196 BEARINGS & LUBRICATION

Prerequisites: SE1005, ME1235, ME1136, ME1155

This course provides students with the knowledge and skills necessary to maintain bearings as well as lubrication systems within the industrial workplace. Hands-on tasks have been integrated in this course to develop students' skill sets for work with bearing types, bearing applications, maintenance and installation procedures, lubricants, and lubrication systems.

ME1211 PUMPS

Prerequisites: ME1235, ME1136, ME1155

Co-requisites: ME1196, ME1185, ME1190

This course provides students with the theoretical knowledge and practical skills necessary to maintain mechanical pumps in the industrial workplace. Students are expected to dismantle, inspect, repair, and assemble positive and non-positive displacement (centrifugal) pumps.

ME1220 IC ENGINES

Prerequisites: SE1005, ME1235, ME1136, ME1155

Co-requisites: ME1185

This course provides students with an introduction to internal combustion (IC) engines and related auxiliary systems. Students gain practical hands-on experience performing basic maintenance procedures on an IC engine.

ME1225 MAINTENANCE PROCEDURES

Prerequisites: SE1005, ME1235

This course emphasizes the importance of following standard operating procedures (SOP) in performing plant mechanical maintenance. Students are expected to follow maintenance work management systems and demonstrate safe work practices during all maintenance activities.

ME1231 WORKSITE PRACTICUM

This 24-week course is a requirement for Technician Certificate (Mechanical) students. The practicum workweek is a minimum of 30-hours, or as required by the employer. During the practicum, students demonstrate the competencies acquired from the successful completion of all Mechanical program courses. In an industrial setting, program competencies are undertaken by student trainees in conjunction with workplace maintenance/operations staff and assessors. Students are expected to apply knowledge and skills gained from the Mechanical program, while demonstrating the high standards of behavior that is expected within an industrial environment. TCP students are assessed by their employer using an assessment scheme co-developed by the University and employer and verified by the University.

ME1235 HAND TOOLS

Co-requisites: SE1005

This course introduces students to hand tools in the workshop setting. Emphasis is placed on the safe use and selection of the hand tools required in the fabrication of electrical installation. Working in industrial workshops, students develop the skills needed to effectively use hand tools as required to perform given tasks.

ME1240 PIPES, GASKETS, & THREADS

Prerequisites: SE1005, ME1235, ME1136, ME1155

This course provides students with the requisite knowledge and skills to safely thread, install, and maintain pipes, tubes, flanges, and blinds. This course also covers the selection, removal, and assembly of gaskets and fittings.

ME1245 COMPRESSORS

Prerequisites: SE1005, ME1235, ME1136, ME1155

Co-requisites: ME1185, ME1225

This course provides students with the theoretical knowledge and practical skills necessary to maintain various types of compressors in the industrial workplace. Students dismantle, inspect, repair, and reassemble centrifugal, reciprocating, and screw compressors.

ME1300 GAS TURBINES

Prerequisites: SE1005, ME1235, ME1136, ME1155

This course provides students with an introduction to gas turbines and their auxiliary systems. Students develop the skills necessary to assist in performing basic auxiliary system maintenance.

ME1305 CONDITION MONITORING SYSTEMS

Prerequisites: SE1005, ME1235

This course introduces the fundamentals of condition monitoring systems used with industrial equipment to monitor machine reliability. Students develop skills in collecting and explaining vibration data.

ME1500 MECHANICAL HAND & POWER TOOLS

This course introduces students to common industrial hand tools in order to select and safely use appropriate hand tools to perform given tasks. Students gain experience working with basic measuring, marking, cutting, assembly, and portable power tools.

ME1600 PRECISION MEASURING TOOLS

Prerequisites: SE1001, TC1101, ME1500

This course introduces students to precision measuring tools in order to select and safely use precision measuring tools to perform given tasks. Topics include systems and units of measurement, as well as precision measuring tool selection, operation, calibration, and maintenance.

ME1601 TECHNICAL DRAWINGS

Prerequisites: SE1001, ME1500

This course introduces students to basic technical drawings and projections in accordance with British Standard (BS) 8888. Students are provided the opportunity to create freehand technical sketches and interpret basic technical drawings.

ME1602 LIMITS, FITS & TOLERANCES

Prerequisites: ME1600, ME1601

This course provides students with an introduction to limits, fits, and tolerances so they can apply these principles in real-time industrial settings. Students use the International Table of Limits and Fits to determine appropriate limits, tolerances, and fits. Students also interpret limits and fits as represented on technical drawings.

ME1603 BEARING MAINTENANCE

Prerequisites: ME1500

Co-requisites: ME1600, ME1601, ME1602

This course provides students with the applied knowledge required to maintain bearings. Hands-on, practical tasks develop students' skill-sets in working with bearing types, bearing applications, maintenance procedures, lubricants, and lubrication systems.

ME1604 MAINTENANCE PROCEDURES

This course emphasizes the importance of following standard operating procedures in performing industrial maintenance. Students learn to follow maintenance work management systems and procedures. Students also learn the safe practices used during all maintenance activities.

Course Descriptions

ME1605 COUPLING MAINTENANCE

Prerequisites: ME1500

Co-requisites: ME1600, ME1601, ME1604

This course provides students with the theoretical knowledge and practical skills required to maintain mechanical power transmission systems. Students inspect, maintain, remove, repair, and install couplings, clutches, pulleys, and belts. Students also perform shaft and belt alignments.

ME1606 PRECISION, LIMITS & FITS

Prerequisites: SE1001, TC1101, TC1504

This course introduces students to the precision measuring tools required to select and safely use precision measuring tools to perform given tasks. Students are introduced to limits, fits, and tolerances so they can apply these principles in real-time industrial settings. Students use the International Table of Limits and Fits to determine appropriate limits, tolerances, and fits. Students also learn to interpret the limits and fits represented on technical drawings.

ME1700 SHAFT ALIGNMENT

Prerequisites: ME1500, ME1600, ME1601, ME1604

This course provides students with the theoretical knowledge and practical skills required to maintain mechanical power transmission systems. Students inspect, maintain, remove, repair, and install couplings, clutches, pulleys, and belts. Students also perform shaft and belt alignments.

ME1701 SEAL MAINTENANCE

Prerequisites: ME1500, ME1600, ME1601, ME1605

In this course, students develop the applied, practical skills required to maintain mechanical seals in industrial workplaces. Students inspect, remove, repair, and install mechanical seals and gland packing. This course provides students with the foundational skills for pump, compressor, and internal combustion (IC) engine maintenance.

ME1702 PUMP MAINTENANCE

Prerequisites: TC1101, ME1601, ME1604, ME1605

Co-requisites: ME1701

This course provides students with the applied knowledge and practical skills required to maintain mechanical pumps in industrial settings. Students demonstrate hands-on, practical skills to dismantle, inspect, repair, and assemble positive and non-positive displacement (centrifugal) pumps.

ME1703 COMPRESSOR MAINTENANCE

Prerequisites: ME1500, ME1600, ME1601, ME1603, ME1604

Co-requisites: ME1701

This course provides students with the theoretical knowledge and practical skills required to maintain compressors. Students learn how to dismantle, inspect, repair, and reassemble centrifugal, reciprocating, and screw compressors. An introduction to air treatment systems is also covered in this course.

ME1704 IC ENGINE MAINTENANCE

Prerequisites: ME1500, ME1600, ME1601, ME1604

This course introduces students to internal combustion (IC) engines and their auxiliary systems. Students also perform basic maintenance procedures on IC engines.

ME1705 MAINTENANCE & LUBRICATION

This course emphasizes the importance of following standard operating procedures in performing industrial maintenance. Students learn to follow maintenance work management systems and procedures. They also learn to demonstrate safe practices during all maintenance activities.

MGMT2010 ORGANIZATIONAL BEHAVIOR

Prerequisites: Min 30 Credits

This course focuses on the study and application of organizational behavior principles, theories and models. Students analyze the interrelated levels of individual, group and organization. Students interpret how employees within organizations achieve both personal and organizational goals. Topics such as the fundamentals of management, motivation, leadership, group dynamics, and organizational communication are explored.

MGMT3035 BUSINESS ETHICS

Prerequisites: Min 30 Credits

This course examines ethical theory and how it can be applied constructively in the practice of business management. Students explore the foundations of business ethics, ethical challenges, ethical decision-making in organizations and organizational approaches to managing ethical decision-making including implementing and evaluating ethics program effectiveness. A variety of cases and a team project are used in the delivery of the course material.

MGMT4000 STRATEGIC & SUSTAINABLE MANAGEMENT

Prerequisites: MGMT2010

This course focuses on the value and process of strategic management used by entrepreneurs and management to gain or sustain competitive advantage for their organizations. The course provides a general overview of the planning processes for business strategies. Students explore organizational vision and mission, principles, techniques and models for organizational and environmental analysis, the theory and practice around strategy formulation and implementation, evaluation and continuous improvement. Students integrate and apply their prior learning to various business situations in case analysis.

MGMT4010 LEADERSHIP & CHANGE MANAGEMENT

Prerequisites: MGMT2010

This course examines the role of change in the management of organizations. It explores the nature and processes of organizational change. It focuses on contemporary techniques and procedures used to understand, initiate, plan, and implement change. Students are exposed to application-based learning, allowing an opportunity to apply theory and practice through practical case studies and an application-based project.

MISY2010 MANAGEMENT INFORMATION SYSTEMS

This course introduces students to the principles of management information systems, the different types, and the roles they play in today's business environments. It also discusses the factors that can influence the selection of information systems. In this course, students study the life-cycle of developing information systems and compare the different methodologies used to develop different systems. The main components of today's information systems, including databases, the Internet, and communication and networking software, are presented. Students also analyze the relationship between the ethical, economical, and social issues of modern Information systems. Finally, the security of the Information systems and the roles and responsibilities of the IT department in organizations are explored.

MRKT1001 PRINCIPLES OF MARKETING

This course introduces the principles and practices of marketing within a business context. Students explore the meaning and role of marketing and current trends within marketing. They develop an understanding of marketing processes including planning, marketing research, consumer markets and behavior, business markets and behavior, and market segmentation and target markets. Students have the opportunity to apply this knowledge to case study situations, and to research various marketing concepts, techniques, and processes as they develop an applied skills project.

Course Descriptions

MRKT2002 MARKETING RESEARCH

Prerequisites: RSST3001

This course introduces students to the field of business research through the examination of the various techniques, principles, skills, and activities required to create and present an effective business project. The course familiarizes students with the ways that research information can be obtained and/or produced. Students learn how information is used to provide insight into markets, customers, products, and business strategies for business decision making purposes. Students are also given the opportunity to apply various research techniques and practices using case studies and application assignments culminating in the preparation of a research report.

MRKT2003 FUNDAMENTALS OF DIGITAL MARKETING

Prerequisites: MRKT1001

Employing a digital marketing strategy is critical for every enterprise in today's business environment. This course presents students with an overview of the digital marketing landscape, and students apply the strategies learned here to a business. The course provides the student with a thorough understanding of the various digital tools used in developing a comprehensive digital marketing strategy for an organization. Students use real-life examples and case studies as they examine digital marketing strategies that are key to effectively communicating with today's online consumer.

MRKT3006 SERVICES MARKETING

Prerequisites: MRKT1001

As the service industry expands globally, knowledge of service marketing has become essential for any marketing specialist. This course is designed to enable students to apply the concepts and strategies of marketing relevant to the service sector. Students explore in some depth various aspects of services marketing, including service productivity, service marketing distribution, service pricing concepts, positioning in service marketing, and service personnel management. Students are provided with the opportunity to apply their knowledge of these marketing concepts and strategies utilizing a project, application assignments, and presentations.

MRKT3007 PROFESSIONAL SELLING

Prerequisites: MRKT1001

This course introduces the fundamental principles and practices of professional selling, with a focus on personal selling. Personal selling refers to the personal communication of information to unselfishly persuade a prospective customer to buy a product that satisfies the customer's individual or organizational needs. Students gain competencies in prospecting, identifying client needs, and dealing with objections while building client relationships. The student takes part in selling exercises to review and master their selling techniques. Students are given the opportunity to apply various techniques and practices through case analysis and a simulated sales meeting.

MRKT3008 DIGITAL MARKETING COMMUNICATIONS

Prerequisites: MRKT2003

This course discusses the importance of Integrated Marketing Communication (IMC) to combine digital and traditional marketing communication elements to optimize marketing investments and leverage results toward the target market and other stakeholders. Students learn how to develop a creative brief, design a marketing communication plan, and recommend metrics to evaluate its effectiveness. The course uses a variety of examples of campaigns and business cases to apply theory to real situations.

MRKT3009 MARKETING ANALYTICS & DATA MINING

Prerequisites: MRKT2003

Marketing Analytics and Data Mining provides students with the necessary tools and techniques to explore, understand and analyze digital data, and how to acquire and apply advanced analytical skills to solve marketing decision problems. Students learn and comprehend the processes and theories of data analysis and market research. This advanced course encourages graduates to become innovative, strategic leaders and digital marketers in a globalized digital economy.

MRKT3010 DIGITAL OPTIMIZATION

Prerequisites: MRKT2003

This course examines the tools and techniques digital technology uses to improve marketing operating processes and strategy. As companies embrace digital marketing optimization techniques, their brands attain more focused data about their target markets' behaviors and can therefore develop IMC campaigns that speak directly to the wants and needs of their customers. Students learn the advantages of digital strategies to help companies rank higher on search engine results pages (SERPs), thereby receiving more attention from the customers. By learning the optimal use of various digital marketing channels, students gain a deeper understanding of how to create higher conversion using digital optimization tools and techniques.

MRKT3011 BRANDING IN THE DIGITAL AGE

Prerequisites: MRKT2003

This course enables students to understand the strategic role of branding in the context of marketing and corporate strategy. Participants are able to indicate a brand positioning and identify the different brand strategies and criteria to select a brand strategy. The course uses cases to illustrate how digital brands provide compelling experiences to customers and the ways brands use digital tools to increase customer engagement. Students apply concepts with assignments, research, and presentations.

MRKT3104 CONSUMER BEHAVIOR IN THE DIGITAL AGE

Prerequisites: MRKT1001

Through the implementation of digital tactical strategies, students in this course expand their knowledge of the influence that marketing technologies have on consumer behavior. This includes AI, marketing automation, machine learning and digital marketing tools, enabling them to execute relevant consumer centric strategies focused on channel development, data collection and marketing for targeted audiences. Students learn how to execute various tactics using digital platforms for marketing campaigns focused on price, product, promotion and channel development. The implementation and assessment of tactical impact is conducted in relationship to consumer behavior decision-making and the metrics derived from the tactics being used. The course uses data obtained from labs that focus on primary research using interviews, focus groups, surveys and observation and the evaluation measures used for the tactic's metrics.

Course Descriptions

MRKT3105 MARKETING CONTENT & MEDIA MANAGEMENT

Prerequisites: MRKT1001

This course enables students to develop their applied skills in writing and producing marketing content, while assessing online platforms for media placement of their work. Students develop content for various digital and traditional platforms using applications commonly used within industry, as well as emerging applications that are being driven by trends within specific industry sectors. Marketing content is developed using traditional graphic and text-based applications, along with voice and visual search applications for online platforms. Students also engage in managing traditional and online campaigns that include a variety of mixed media.

MRKT4112 ADVANCED TOPICS IN DIGITAL MARKETING

Prerequisites: MRKT2003

The aim of the course is to examine issues, topics, and trends in digital marketing that are of recent and current concern to today's marketing professionals. This is a student-led seminar-based course, where students research, develop, and present selected issues/ topics/ trends from a current, major topics list. In addition, students are provided the opportunity to research and critique current journal articles.

MRKT4213 SALES MANAGEMENT

Prerequisites: MRKT3007, MRKT2003

This advanced course provides students with the opportunity to explore the practical components of professional sales management. Students deepen their knowledge in the areas of sales management, planning, forecasting, and account relationships, as well as sales force organization, operations, staffing, and training. Through field engagement in a sales management simulation, work assignment, research, and presentations, students are provided the opportunity to demonstrate the application of sales management concepts.

MRKT4214 DIGITAL MARKETING STRATEGY

Prerequisites: MRKT2003

Employing a digital marketing strategy is critical for every enterprise in today's business environment and students apply that strategy to a business. This course presents students with an overview of the digital marketing landscape and provides students with a thorough understanding of various digital tools used in developing a comprehensive digital marketing strategy for an organization. Students use real-world examples and case studies as they examine digital marketing strategies that are key to effectively communicating with today's online consumer.

MSAF6100 EMPIRICAL RESEARCH METHODS

Qualitative and quantitative research methodologies adopted in financial and management accounting research enable students to make informed, data-driven decisions. This course introduces standard techniques that can equip students with practical research skills and knowledge that can be applied to the real-life examples and ethical issues in a research dissertation.

MSAF6101 FINANCIAL STATEMENT PREPARATION AND ANALYSIS

Financial analysis requires the ability to explain the purpose and content of financial statements and to develop an understanding of accounting principles and the International Financial Report Standards (IFRS) conceptual framework. This course focuses on the preparation and interpretation of financial statements for the purpose of evaluating the financial performance of companies. Through applied cases and examples, the course exposes students to a variety of tools and techniques used in the valuation of companies, managing working capital, and determining the various funding strategies to cover working capital needs.

MSAF6105 FINANCIAL MANAGEMENT

This course provides a foundation for understanding key financial issues and capturing the essence of managerial decision-making using various financial techniques that are vital to financial management. This course provides an overview of financial management, financial markets, the time value of money, structure of interest rates, valuation of bonds and stocks, and risk-return trade-off. The course is delivered through lectures, videos, class discussions, and guided use of financial calculators.

MSAF6201 INTERNATIONAL FINANCIAL REPORTING

Prerequisites: MSAF6101

Knowledge and skills in understanding and applying accounting standards and the conceptual framework underpin financial statement preparation. This course offers an opportunity to learn how to record individual transactions in line with International Financial Reporting Standards and prepare financial statements for both single entities and groups. Students have an opportunity to gain knowledge in a variety of current and complex issues in financial reporting regarding leases; income taxes, financial instruments, provisions, and revenue recognition. Case studies and real-world examples are used throughout the delivery of the course.

MSAF6205 ADVANCED CORPORATE FINANCE

Prerequisites: MSAF6101, MSAF6105

Within the contemporary evolution of corporate finance, managers must learn to make intelligent financial decisions. This course discusses topics related to capital budgeting, financing, and working capital management decisions. By examining and participating in activities related to dividend policy, financial planning, firm valuation, ESG-Related topics, and the optimization of capital structures, students have an opportunity to develop financial managing skills.

MSAF6211 ADVANCED MANAGEMENT ACCOUNTING

Management accounting must inform decision-making, planning, control and performance management. This course considers recent developments in cost management, the integration of cost accounting with modern manufacturing techniques, the links between management accounting and strategic management, and the use and interpretation of management accounting information for decision making. The course introduces complex management accounting techniques in the areas of value chain, total quality management, applying probabilities in the analysis of cost variances, evaluating segmental performance and transfer pricing, in addition to traditional management accounting techniques.

MSAF6301 CONTEMPORARY ISSUES IN ACCOUNTING AND FINANCIAL ECONOMICS

Prerequisites: MSAF6101, MSAF6105

Students must be aware of current developments in accounting and financial markets, as well as within the broader economy. This course enables students to gain perspective on some of the most important issues facing companies today and develop an advanced theoretical and practical understanding of the changing environment in which companies operate. Through a variety of learning methods, students examine financial innovation developments and their impact on accounting standards and regulation.

Course Descriptions

MSAF6305 INVESTMENTS AND PORTFOLIO MANAGEMENT

Prerequisites: MSAF6205

An advanced understanding of the principles of investment analysis is important when working in portfolio and wealth management. This course aims to examine up-to-date practices in the finance industry through theory and research and supplement students with recent developments in this area's analytics methods.

MSAF6315 ADVANCED ASSET PRICING

Prerequisites: MSAF6205

The study and interpretation of business models and the drivers that add value to shareholders' wealth are key areas of knowledge for fund managers. This course includes in-depth valuation and risk assessment of fixed income and equity instruments and covers topics of income valuation and risk, credit analysis models, and the arbitrage-free valuation framework. Students have an opportunity to learn about advanced equity valuation methodologies, industry and company analysis, and private company valuation and could be well-equipped to contribute in a financial institution upon graduation.

MSAF6325 DERIVATIVES AND ALTERNATIVE INVESTMENTS

Prerequisites: MSAF6205

Various financial derivatives and alternative investments contribute greatly to risk management. Derivatives such as forwards, futures, swaps, and options allow a risk manager to mitigate or even eliminate the unwanted risks an investor faces. The main objectives of this course are to help students gain intuition and equip them with skills necessary for pricing derivative instruments and hedging risky positions, covering topics such as interest rate, credit, and currency derivatives. The course provides students with supplementary knowledge about alternative investments, equipping them with the skills and strategies to assess potential investment opportunities in private equity, private debt, hedge funds, and real estate.

MSAF6400 DISSERTATION

The ability to apply knowledge and skills gained throughout a student's academic career sits at the center of an applied university degree. Demonstrated understanding of the wider context of the MSc Accounting and Finance program is a key objective of this course. In the dissertation, students have an opportunity to present a clear, logical, and coherent line of argument, state clear objectives, and address these objectives. The dissertation requires that students draw on concepts, theories, and frameworks studied in the program. Students are expected to use appropriate qualitative or quantitative methods of analysis to answer the research questions, test the research hypothesis, and draw their final conclusions.

NUPN1010 INTRODUCTION TO PRACTICAL NURSING

Students are introduced to the practical nursing profession and relational practice within a person- and family-centered framework. Professional identity, legal, and ethical aspects of nursing, as well as regulatory standards and principles guiding practical nursing, are explored. Nurses' theoretical knowing, ways of thinking and reasoning, evidence-informed practice, and the collaborative nature of practical nursing within an inter-professional team are a focus of the course. Students initiate learning plans and professional portfolios which they will continue to develop throughout the practical nursing program.

NUPN2010 TRENDS & LEADERSHIP FOR PRACTICAL NURSING

Prerequisites: Min 34 Credits

Students critically examine local and global contemporary issues that affect the nursing profession and healthcare delivery as they prepare to transition to becoming practical nurse. A focus is on professional career development that includes values clarification, professional image, nursing licensure and regulation, and continuing professional development. Students explore leadership, management, and organizational theories related to practical nursing and health care. An emphasis is on healthy work environments, change management, and role conflict management within the health professional team.

NUPN2020 THEORETICAL PERSPECTIVES OF PRIMARY CARE FOR FAMILIES

Prerequisites: NURS1021 NURS1050 -

Students learn foundational assessment and nursing therapeutics for families in the context of primary health care. Students explore theories, concepts, and family-centered care that support families through periods of transition and that maintain and promote family wellness. Attention is given to the promotion of health, prevention of illness, and management of chronic disease and common issues and health challenges that families encounter across the life course.

NUPN2030 THEORETICAL PERSPECTIVES OF MATERNAL & NEWBORN CARE

Prerequisites: NURS1021 NURS1050 NUPN2050

Students learn nursing concepts, theories, and evidence-based family-centered care for maternal and newborn health. Emphasis is on uncomplicated maternal care from pre-conception to birth and newborn care. Students learn the basics of common maternal-newborn complications and when to seek assistance for unstable or unpredictable situations.

NUPN2040 THEORETICAL PERSPECTIVES OF PEDIATRIC HEALTH

Prerequisites: NURS1021, NURS1050, NUPN2050

Students learn nursing concepts, theories, and evidence-based family-centered care for pediatric health. Emphasis is on uncomplicated pediatric care. Students learn the basics of common childhood health alterations and when to seek assistance for unstable or unpredictable situations.

NUPN2050 PRACTICAL NURSING PRACTICE FOR FAMILIES

Prerequisites: NURS1021, NURS1050, NUPN2030, NUPN2040

Students are assigned to various practice settings to care for families within a person and family centered framework. During this integrative practice experience, students provide nursing care for well and stable infants, children, adolescents, and childbearing individuals. Clinical simulation will facilitate increased proficiency in nursing practice.

NUPN2060 PRACTICAL NURSING CONSOLIDATION

Prerequisites: NURS2010 NURS2050

Students complete a final preceptored placement in a clinical practice setting. Students consolidate nursing knowledge and practical nursing entry-to-practice competencies in preparation for transition from a student to a professional practical nurse. Students assume responsibility for learning and increasing patient assignments as they near the end of their education. Students complete their professional portfolios. Students must pass a final consolidated exam.

Course Descriptions

NURS1010 INTRODUCTION TO PATHOPHYSIOLOGY & PHARMACOTHERAPEUTICS

Prerequisites: BIOL1110, BIOL1030, BIOL1031, NUPN1010
Students explore the relationship between pathophysiological cellular, tissue, and organ alterations and pharmacological mechanisms. Students learn basic pathophysiologic processes in preparation to understand and assess the manifestations of injury and disease. Students gain requisite knowledge about pharmacological concepts and processes in preparation for safe administration of medications. Learning is applied in a mandatory three-hour weekly supervised lab.

NURS1020 NURSING THERAPEUTICS I

Prerequisites: BIOL1110, BIOL1030, BIOL1031, NUPN1010
Students study homeostatic adaptive responses for select biophysical and psychosocial health concepts and nursing therapeutic approaches that balance, support, and maintain health. Learning is applied in a mandatory three-hour weekly supervised lab.

NURS1021 NURSING THERAPEUTICS II

Prerequisites: NURS1020
Students build on learning from Nursing Therapeutics I and the study of homeostatic adaptive responses. Emphasis is on biophysical health and nursing therapeutic approaches that balance, support, and maintain health. Learning is applied in a mandatory three-hour weekly supervised lab.

NURS1030 INTRODUCTION TO HEALTH ASSESSMENT

Prerequisites: BIOL1110 BIOL1030 BIOL1031 NUPN1010
Students are introduced to the theoretical foundations and practice of health assessment with a focus on well and stable persons across the life course. Students gain basic competence to identify anatomical landmarks, use tools and technology to assess normal physiological function and adaptive responses. Learning is applied in a mandatory three-hour weekly supervised lab.

NURS1040 HEALTH & HEALTH SYSTEMS

Students examine various theories and evidence to compare diverse perspectives about what creates and compromises health. Using a primary and equity lens, student gain experience engaging with individuals, groups, and communities to improve and maintain health. The organization of health systems are explored. A 36-hour health education project is a required component of the course.

NURS1050 PERSON & FAMILY CENTERED PRACTICE

Prerequisites: Min 34 Credits
During this integrative practice experience, students are introduced to the practice of person and family centred nursing care in clinical settings. In the clinical setting, students apply nursing concepts related to caring, communication and information technology, critical and clinical thinking, and foundational therapeutic nursing skills and the role of the nurse in the interprofessional team to maintain and support the health and well-being of stable adults.

NURS2010 THEORETICAL PERSPECTIVES OF ACUTE HEALTH

Prerequisites: NUPN2050
Co-requisites: NURS2050
Students apply nursing concepts, theories, and evidence related to the provision of person- and family-centered care with persons across the life course experiencing select acute, episodic, and life threatening mental and physical health challenges. Students learn increasingly complex psychosocial and psychomotor skills to practice in medical, rehabilitation, mental health, trauma, and surgical settings.

NURS2020 ALTERATIONS & THERAPEUTICS I

Prerequisites: NURS1021, NURS1050
Students study human pathophysiology related to alterations in select biophysical and psychosocial health. Students continue to gain competence in the assessment of multiple body systems, application of nursing therapeutics, and the safe calculation and administration of medication.

NURS2021 ALTERATIONS & THERAPEUTICS II

Prerequisites: NURS2020
Students build on learning from Alterations and Therapeutics I and the study of human pathophysiology related to alterations in select biophysical and psychosocial health. Students continue to gain competence in the assessment of multiple body systems, application of nursing therapeutics, and the safe calculation and administration of medication. Learning is applied in a mandatory three-hour weekly supervised lab.

NURS2050 PRACTICAL NURSING PRACTICE ACUTE HEALTH

Students are assigned to various practice settings to care for persons experiencing acute, episodic, and life threatening mental and physical health challenges within a person-family centred framework. During this integrative practice experience, students apply theory and demonstrate cultural humility, clinical and critical thinking, professional, ethical, legal, relational, and evidence informed practice for safe and effective care with persons/families and members of the inter-professional healthcare team. Clinical simulations facilitate increased proficiency in nursing practice.

ON1000 WORKPLACE ORIENTATION

This four-week workplace orientation is an opportunity for Technician Certificate Program students to become familiar with the plant environment within Qatar's Energy and Industry sector. Student trainees learn to demonstrate punctuality, full attendance, effective communication skills, and an exemplary work ethic. Specific company orientation activities are completed during this time.

PH1022 FOUNDATION PHYSICS

Prerequisites: FL1130, MA1029
This course fosters students' competency in basic physics' principles, concepts, and applications relating to mechanics. Students also learn to calculate force acting on and by an object.

PHYS1020 GENERAL PHYSICS

Co-requisites: PHYS1021
Physics is the scientific and mathematical basis on which higher technical courses are built. This course introduces students to the basic physics principles, concepts, and applications relating to properties of materials, fluid mechanics, sound, temperature and kinetic theory, heat and thermodynamics, electricity, magnetism, and light. A combination of lecture and problem solving are used to enhance students' understanding so they can apply theoretical knowledge to real-life situations.

PHYS1021 GENERAL PHYSICS (LAB)

Co-requisites: PHYS1020
Physics laboratory courses help students process and visualize concepts that are learned in the theory course. This course help students further understand the topics such as fluid mechanics, sound, the kinetic theory, magnetism, electricity, light, and thermodynamics. Experiments utilize technology and computers to collect measurements and analyze data.

Course Descriptions

PHYS1030 HEALTH SCIENCES PHYSICS

Co-requisites: PHYS1031

An understanding of basic physics is an important part of a health science student's skill set. This course develops students' competencies in basic physics principles. Through the study of concepts such as mechanics, fluids, heat, sound, and electricity, the course emphasizes practical applications of physics for health care professionals.

PHYS1031 HEALTH SCIENCES PHYSICS (LAB)

Co-requisites: PHYS1030

Laboratory courses help students process and visualize concepts that are learned in theory courses. Through the application of physics principles and concepts, this course helps students further understand the topics learned in Health Science Physics, extending their competency in data handling, data analysis, experimentation, and problem-solving.

PHYS1130 MEDICAL IMAGING PHYSICS

This course enables students to develop a basic understanding of the physics principles underlying medical imaging technologies. Topics include X-ray radiography, nuclear medicine, magnetic resonance, and ultrasound.

PT1010 UTILITY GASSES & COMPRESSORS

Prerequisites: SE1005, PT1120, PT1160, PT1151

This course introduces students to the plant air system, instrument air system, and the nitrogen system found within a process plant. The course also introduces the basic principles and features of compressor systems used in the process industry. Students gain the knowledge and hands-on skills required to safely operate centrifugal, axial, reciprocating, and rotary compressors.

PT1120 OPERATOR RESPONSIBILITIES

Prerequisites: SE1005

This course introduces students to the basic responsibilities and duties of a process operator, including the fundamentals of plant communication. Students gain the necessary knowledge base regarding personal and process safety responsibilities, safe work practices, production responsibilities, and responsibilities during an emergency and under adverse conditions. Students also gain practical experience in collecting, sending, and receiving technical information in a process plant environment.

PT1125 PROCESS DIAGRAMS

Prerequisites: SE1005, PT1120

In this course, students gain practical experience in reading, interpreting, and drawing process block diagrams, process flow diagrams, and process and instrumentation diagrams (P&ID).

PT1131 PROCESS WATER SYSTEMS

Prerequisites: SE1005, PT1120

This course introduces students to process water systems, different types of plant water systems, the basics of treatment systems, and the boiler feed water system. Students gain hands-on training in how to control hazards associated with a boiler feed water system. Students are also introduced to water sampling and testing.

PT1135 STEAM SYSTEMS

Prerequisites: PT1005

Co-requisites: PT1131

This course introduces students to steam production and the steam supply system as one of the utilities/plant services within a process plant. Topics in this course include different types of steam pressure systems and vacuum systems, as well as the basics of steam generation, distribution, and control systems.

PT1146 ELECTRICITY SUPPLY SYSTEMS

Prerequisites: SE1005, PT1120

This course introduces students to the electricity supply system as one of the utilities/plant services within a process plant. Topics covered include the different types of electric power equipment, voltages for different applications, safety aspects, and the consequences of power failure in a process plant. According to standard operating procedures (SOP), students are trained how to safely respond to a simulated electric power failure in a process plant.

PT1151 PIPEWORK SYSTEMS

Prerequisites: SE1005, PT1120

This course introduces students to pipe standards, types of pipe fittings and joints, insulation, and color coding of various process pipework used in the process industry.

PT1155 VALVE SYSTEMS

Prerequisites: SE1005, PT1120

This course introduces students to the main features and operation of various types of valves used in the process industry. Students are provided with the knowledge base and hands-on skills necessary to safely operate a variety of valves, including isolation valves, throttling valves, check valves/non-return valves, and safety-related valves.

PT1160 PROCESS PHYSICS

Prerequisites: MA1015

This course is designed to introduce students to basic scientific principles related to the operation of a process plant. Physics principles in this course include properties of solids, liquids, and gasses; measurements for force; pressure, power, and efficiency; and modes of heat transfer.

PT1171 HEAT EXCHANGERS

Prerequisites: SE1005, PT1120, PT1151

Co-requisites: PT1155

This course introduces students to the components, features, operation, and control of different types of heat exchangers commonly used in the process plant industry.

PT1181 PUMP OPERATION

Prerequisites: SE1005, PT1120, PT1151

This course provides students with the knowledge and hands-on skills necessary to safely operate different types of pumps commonly found in process plants. The principles, components, features, operation, and control of different types of pumps commonly used in the process plant industry are covered in this course.

PT1185 PRIME MOVERS

Prerequisites: SE1005, PT1120

This course introduces students to prime movers, including related components, features, and operations. Students gain the necessary skills to operate and control different types of prime movers commonly used in the process plant industry. The course covers the basic function and operation of electric motors, diesel engines, steam turbines, and gas turbines.

Course Descriptions

PT1190 PROCESS INSTRUMENTATION

Prerequisites: SE1005, PT1155, PT1160, PT1151

This course introduces students to the basic instruments used for process variable measurement in the process industry. Topics covered include pressure, level, flow rate, and temperature measuring instruments.

PT1195 PROCESS CONTROL SYSTEMS

Prerequisites: SE1005, PT1155, PT1160, PT1151

In this course, students are provided with the necessary knowledge base to work with process control systems. Topics covered include the basic principles of control loops and digital controllers as well as the basic features of distributed control systems

PT1220 TURBO EXPANDERS

Prerequisites: PT1151, PT1155

This course introduces students to the basic principles and operation of turbo expanders used in the process industry. Topics covered in this course include lube oil and seal oil systems and the operation and monitoring of turbo expanders as well as the hazards associated with their operation.

PT1225 STORAGE OF LIQUIDS & GASES

Prerequisites: SE1005, PT1120, PT1160, PT1151

This course introduces students to the storage of liquids and gasses in the oil and gas industry, specific to vessels and storage tanks. Students gain the knowledge base and applied hands-on skills necessary to perform the purging, bleeding, and venting of vessels.

PT1230 HEATING FURNACES

Prerequisites: SE1005, PT1120, PT1160, PT1151

This course introduces students to heating furnaces used in the process industry. Students gain the knowledge base and applied hands-on skills necessary to safely operate and monitor heating furnaces.

PT1235 REACTORS

Prerequisites: SE1005, PT1155, PT1160, PT1151

Co-requisites: PT1190, PT1195

This course introduces students to the operation, monitoring, and control of reactors employed within the process industry. Topics covered include catalysts and cooling and heating methods in reactors. Students apply hands-on skills to safely operate a reactor system.

PT1240 GAS ABSORPTION DEHYDRATION

Prerequisites: SE1005, PT1155, PT1160, PT1151

Co-requisites: PT1190, PT1195

This course introduces students to the operation and control of gas absorption and dehydration units used within the process industry. Topics include the main features, components, operation, monitoring, and safety aspects related to gas absorption and dehydration units. Students apply hands-on skills to operate a gas absorption system.

PT1246 DISTILLATION SYSTEMS

Prerequisites: SE1005, PT1160, PT1151, PT1155, PT1181

Co-requisites: PT1190, PT1195

This course introduces students to the operation and control of distillation modules and systems employed within the process industry. Topics include various types of distillation columns and their operation, monitoring, and control. Safety aspects are also considered. Students gain the knowledge and hands-on skills necessary to safely operate a distillation system.

PT1250 REFRIGERATION & LIQUEFACTION

Prerequisites: SE1005, PT1160, PT1151, PT1155, PT1010

Co-requisites: PT1190, PT1195

This course introduces students to the operation and monitoring of refrigeration and liquefaction systems used within the process industry. Topics covered include the principles of refrigeration and gas liquefaction, as well as the components, operation, and monitoring of gas liquefaction and refrigeration units. Students apply hands-on skills to operate refrigeration and gas liquefaction units.

PT1256 WORKSITE PRACTICUM

This 24-week course is a requirement for Technician Certificate (Process Operations) students. The practicum workweek is a minimum of 30-hours, or as required by the employer. During the practicum, students demonstrate the competencies acquired from the successful completion of all Process Operations program courses. In an industrial setting, program competencies are undertaken by student trainees in conjunction with workplace maintenance/operations staff and assessors. Students are expected to apply knowledge and skills gained from the Process Operations program, while demonstrating the high standards of behavior that is expected within an industrial environment. TCP students are assessed by their employer using an assessment scheme co-developed by the University and employer and verified by the University.

PT1260 CONDENSATE & TAIL END GAS

Prerequisites: SE1005, PT1225, PT1230

Co-requisites: PT1190, PT1195, PT1235

This course provides an overview of condensate treatment and tail end gas regeneration processes. Students learn about process description, operation, control system of condensate treatment, and tail end gas processes.

PT1265 HYDROGEN PRODUCTION

Prerequisites: SE1005, PT1225, PT1230

Co-requisites: PT1190, PT1195, PT1235

This course introduces hydrogen and the fundamentals of hydrogen production. The students learn about the uses and application of hydrogen in process plants including the operation of hydrogen units. Students learn the fundamentals associated with the processes of hydrocracking, reforming, hydro treatment, and hydrosulphurization in the petrochemical industry.

PT1270 STEAM TURBINE UNITS

Prerequisites: SE1005, PT1225, PT1230

Co-requisites: PT1190, PT1195, PT1235

This course provides students with an overview of the operation of steam turbine units used in oil and gas industries. Students learn the main features, components, functions, operations, and monitoring of steam turbine units.

PT1280 SULPHUR RECOVERY & TAIL GAS

Prerequisites: SE1005, PT1225, PT1230

Co-requisites: PT1190, PT1195, PT1235

This course provides an overview of sulphur recovery (SRU) and tail gas treatment (TGT) processes. Topics covered in this course include SRU and TGT processes, equipment, operation, and control system.

PT1290 POLLUTION CONTROL

Prerequisites: SE1005

This course examines the measurement and management of different types and sources of pollution. It emphasizes three major types of pollution: air, water, and land. Methods to prevent and control pollution and the complexities associated with waste management and environmental effects are also learned in this course.

Course Descriptions

PT1295 TROUBLESHOOTING TECHNIQUES

Prerequisites: SE1005

In this course, students learn to establish and apply a general troubleshooting methodology to chemical process equipment. Definitions of good/normal performance is discussed for each process/equipment type covered. Criteria for evaluating possible problem solutions are also examined. Students practice troubleshooting real-world chemical process equipment malfunctions.

PT1300 GAS TURBINES

Prerequisites: SE1005, PT1160, PT1151, PT1155

Co-requisites: PT1190, PT1195

This course introduces students to the operation of gas turbine units used in the natural gas processing and petrochemical industries. Topics covered include the main features, components, functions, operation, and monitoring of gas turbine systems. Students describe gas turbine units and practice safely operating and monitoring these units.

PT1305 LNG PLANT OPERATIONS

Prerequisites: SE1005, PT1160, PT1151, PT1155

Co-requisites: PT1190, PT1195

This course introduces liquefied natural gas (LNG) processes. LNG unit operation, control, and monitoring are covered in this course. Students describe the LNG processes and practice operating and monitoring LNG units.

PT1310 GAS TO LIQUIDS OPERATIONS

Prerequisites: SE1005, PT1160, PT1151, PT1155

Co-requisites: PT1190, PT1195

This course introduces gas to liquid (GTL) processes. Topics covered include GTL unit operation, control, and monitoring. Students describe GTL processes and practice operating and monitoring GTL units.

PT1315 OIL & GAS SEPARATION

Prerequisites: SE1005, PT1160, PT1151, PT1155

Co-requisites: PT1190, PT1195

This course introduces the operation and monitoring of separator systems in the oil and gas industry. Topics covered include the different types of separators and their components and two-phase and three-phase separators as well as their operation and monitoring.

PT1320 ACID GAS REMOVAL

Prerequisites: SE1005

Co-requisites: PT1190, PT1195, PT1240, PT1246, PT1250

This course introduces students to acid gas removal (AGR) and acid gas enrichment (AGE) processes in the natural gas processing industry. Topics covered include the processes, operations, control, and monitoring of AGR and AGE. Students gain hands-on experience operating and monitoring these units.

RSST1001 QUALITATIVE DESIGNS & ANALYSES

In this course, students are introduced to philosophical and methodological approaches to qualitative health research. Emphasis is on strategies for critically reviewing, integrating, and disseminating qualitative health research findings. Students conduct critical appraisals and gain skill in the application of research to inform practice.

RSST3001 RESEARCH & STATISTICS

Familiarity with the core principles of research is important for evidence-based analysis and decision-making across multiple professions. Students understand current best practices in research approaches, designs, and methods associated with both qualitative and quantitative traditions. Further, they utilize the skills and knowledge gained in the course to evaluate sample data sets, conduct analyses, interpret outcomes, and report their findings.

RSST3002 PROBABILITY & STATISTICAL ANALYSIS

Prerequisites: MATH2010

Probability theory and statistical knowledge is important for engineering and other scientific fields as it provides an understanding of how data is collected and analyzed. This introductory probability and statistics course is intended for students in a variety of study areas and research fields. Students apply fundamental concepts in statistics to interpret results of a variety of statistical techniques from descriptive and inferential statistics in order to critically review and analyse statistical information. Students are introduced to various concepts in probability and the use of different probability distributions to solve problems.

SCIE1001 SCIENCE & ITS APPLICATIONS

Understanding the basic methods behind scientific discoveries and how they impact daily life is important for understanding how the world around us is connected. This course introduces students to various disciplines of science and their relationships to everyday applications. The course investigates how science has shaped our daily lives through technology, and how using science and the scientific method has solved problems in the past and how it will evolve to solve problems of the future. This course introduces students to the interdisciplinary approach to science through discussions of biology, chemistry, mathematics, physics and how they apply to real-world situations and problems. Through lectures, class discussion and individual research, students investigate such topics as climate change, medicine, communications, energy and space travel.

SCIE1002 SCIENCE & THE ENVIRONMENT

Science has a direct impact on the environment, and it is important that this relationship be understood to protect the future health of people and the environment. This course is intended for students in social science programs of study as an introduction to science domains and how science impacts the environment. The emphasis is on local and global environmental issues and crises, how they develop, and how science contributes to their resolution. Environmental issues are investigated through case studies, research, and group discussions.

SCIE1003 CHEMISTRY IN EVERYDAY LIFE

We are surrounded by chemistry, but many people are unaware of that fact. We find chemicals in the foods, water, air, and every object we touch. This course highlights the importance of chemistry in everyday life and its role in society for the non-science major. Students taking this course will become better-informed and responsible global citizens by making reasoned choices, intelligent decisions, and questioning the truth of articles or videos posted in the news or social media. Designed assignments complement course materials, and give students the opportunity to deepen their understanding of lecture topics.

SE1001 WORKPLACE SAFETY

This course provides students with the theoretical knowledge and applied skills required to identify workplace hazards. Students gain practical experience in determining appropriate safety precautions to eliminate or minimize the risk of personal injury, equipment damage, and loss of production.

SE1005 HEALTH, SAFETY, & ENVIRONMENT

This course provides students with the theoretical knowledge and applied skills required to identify workplace occupational health and safety issues and environmental hazards. Students gain practical experience in determining appropriate health and safety precautions in order to minimize the risk of personal injury, equipment damage, and loss of production. Students are also introduced to environmental issues within the workplace.

Course Descriptions

SSHA1001 ISLAMIC & ARAB CIVILIZATION

This course examines the development of the Islamic & Arab civilization, its significance in the social, political, and cultural domains, in addition to its contributions to human society in different areas. The course combines historical and theoretical approaches but places greater emphasis on the practical approach, as it examines how the development, thought, and institutions of Islamic & Arab civilization manifest themselves in modern Arab & Muslim societies and geographies. In light of Qatar National Vision, students reflect on the importance of Islamic & Arab civilizational theories and values in order to understand, sustain, and thrive within a society rooted in ideals of justice and openness in a world with ever-changing political, economic, and social conditions.

SSHA1002 INTRODUCTION TO SOCIOLOGY

Sociology focuses on the systematic understanding of important aspects of social interaction, organization, institutions, and change. This course introduces students to major themes in sociological thinking, including the interplay between the individual and society, how society is both stable and changing, the causes and consequences of social inequality, and the social construction of human life. Students discuss social patterns and how such patterns change over time and in different settings. Through engagement with the social basis of everyday life, students develop critical thinking and understanding of the social structures and processes that shape diverse forms of human life.

SSHA1003 INTRODUCTORY PSYCHOLOGY

Basic knowledge of key psychological concepts is a valuable asset for students in any field of study. This course introduces students to the concept of psychology as a science with emphasis on current experimentation in the field and the various methods of psychological research. Topics include brain and behavior, learning and motivation, cognitive and health psychology, social psychology, and personality development.

SSHA1004 ETHICAL REASONING

Ethical reasoning is a type of critical thinking that uses ethical principles and frameworks to ensure sound decision-making and effective problem solving. This course introduces the theories, methods, and practical problems of ethics and moral philosophy. Topics covered in this course include the nature of ethical reasoning, moral theories of notable philosophers, the concepts of right and wrong, and moral responsibility. The course is designed to help students develop their critical thinking capabilities from an ethical perspective and to better understand various moral problems in today's world.

SSHA1005 LAW & SOCIETY

A general understanding of local law benefits all students. This law and society course focuses on general legal topics targeting non-law students. The legal topics include the definition, sources and classifications of the law, including constitutional law, general principles of human rights, commercial, tort and contract law, intellectual property, data protection and privacy law, labor law, oil and gas regulations, QFC securities law, and international laws. Through application of lecture materials and laws, students explore the fundamentals of the law and assess and problem-solve various regional or international legal situations.

SSHA1006 INTRODUCTION TO THE ARTS

Aesthetic appreciation and experience of the arts is an essential component of personal development and ability to relate to the arts as they form a broader cultural context of expression, social reflection, and critique. This course introduces students to the arts in Qatar through the perspective of the exhibitions curated by Qatar Museums. Students will discuss different art forms and learn how to relate personally to artistic expression, as well as its appreciation. Through engagement with artists, exhibitions and cultural events, students will reflect on their own interpretation of different art forms and the role of the arts in defining contemporary culture. Exposure to a wide range of art-industry practitioners allows students to become aware of the creative market and its opportunities.

TC1101 FABRICATION HAND TOOLS

Co-requisites: SE1001

This course introduces students to the safe use and selection of the hand tools required in the fabrication of electrical and mechanical installation. Working in mechanical and electrical workshops, students develop the applied, practical skills needed to effectively use the hand tools required in tasks such as sheet metal shaping.

TC1102 POWER TOOLS

Co-requisites: SE1001, TC1101

This course introduces students to the safe use and accurate selection of the power tools required in electrical and mechanical installations. In a workshop setting, the students learn the practical skills to safely and accurately identify, use, and care for different types of electrical power tools. Hands-on skills developed in this course are reinforced and applied in all subsequent courses.

TC1500 HAZARDOUS AREAS

Prerequisites: SE1001, ET1203, ET1303, ET1304

This course introduces students to hazardous areas of a missile maintenance facility or onboard a naval defense ship. Students gain a practical understanding of hazardous work areas and apply basic principles of protection within hazardous and explosive environments. Safe work practices while operating in hazardous areas are emphasized in this course.

TC1501 ELECTRO-TECHNOLOGY

This fundamental electro-technical course allows students to use applied learning to discover the basic concepts of circuits specifically related to resistance, capacitance, and inductance. Students learn basic electro-technological theory to perform practical work and develop technical applied skills with regards to alternating current (AC) circuits.

TC1502 DIGITAL ELECTRONICS

Prerequisites: ET1203, ET1303, ET1402

This course introduces students to the field of digital electronics. Students learn to identify logic symbols and describe a variety of logic functions. Students are introduced to different logic families having radically different electrical characteristics. Throughout the course, students develop applied skills by building and testing a selection of simple digital circuits using common laboratory test tools.

TC1504 TECHNICAL DRAWINGS

Prerequisites: SE1001, TC1101

This course introduces students to basic technical drawings and projections in accordance with British Standard (BS) 8888. Students are provided the opportunity to demonstrate an understanding of technical drawings by creating freehand technical sketches and interpreting basic technical drawings.

Course Descriptions

TC1601 ELECTRONIC CIRCUITS (ANALOGUE)

Prerequisites: IN1400, ET1507

This course introduces the basic operating principles and applications of electronic circuits. Students develop the practical skills required to construct a basic direct current (DC) power supply and to safely install uninterruptable power supply (UPS) systems and chargers.

TC1602 RADIO FREQUENCY FUNDAMENTALS

This course introduces students to the fundamentals of radio frequency (RF). Students learn about the RF spectrum, RF equipment technology, and RF applications. Through theoretical knowledge about RF, students learn its significance and application to real-world, military settings.

TC1603 ANTENNAS & TRANSMITTERS

Prerequisites: SE1001

Co-requisites: TC1500

This course introduces students to the fundamentals of antennas and transmitters. Students gain a foundational understanding of antennas, receivers, and transmitters. They also gain key knowledge of how antennas and transmitters work in wireless data communication systems and their applications to real-world settings, specifically within industrial and military settings.

TC1604 RADAR PRINCIPLES

This course introduces students to the principles of radar. Students learn the fundamentals of radar, its related technology, and various radar devices. Students learn theoretical knowledge about radar to understand its applications to real-world industrial and military settings.

TC1605 MICROWAVE SYSTEM APPLICATIONS

Co-requisites: TC1602, TC1603

This course teaches students about radio frequency (RF) and microwave system applications. It exposes students to RF systems related to microwave systems. Students learn theoretical knowledge about RF and microwave systems and their applications to real-world, military settings.

TC1701 ELECTRONIC SIGNALS & SYSTEMS

Prerequisites: TC1602, TC1603, TC1605

This course introduces students to the basics of electronic system telecommunications. Students learn key information about how electronic systems process signals to control or perform an action. Students also learn how electronic systems network to provide data communication signal transmissions for military purposes.

TC1702 HF, UHF & MW COMMUNICATIONS

Prerequisites: TC1602, TC1603, TC1604, TC1605

Co-requisites: TC1701

In this course, students learn the basics of high frequency (HF) and ultra-high frequency (UHF) signals. They learn about microwave (MW) frequency systems that can intercept, analyze, monitor and block specific frequency bands. Students also learn HF, UHF and microwave communication systems' applications and significance to real-world, military settings.

TC1703 RADAR & EO SENSOR SYSTEMS

Prerequisites: TC1602, TC1603, TC1604

This course introduces students to the fundamentals of electrooptical (EO) sensors. Students gain an understanding of the main workings and key purposes of EO sensors. They learn how radar technology can be combined with EO sensors to increase system applicability for military purposes. Students also gain core knowledge of radar & EO sensor systems' applications to real-world, military settings.

TC1704 TROUBLESHOOTING COMMUNICATIONS

Prerequisites: TC1602, TC1603, TC1605

Co-requisites: TC1701, TC1702

This course teaches students to recognize common issues that occur within communication systems. Students learn the fundamentals of troubleshooting communication network systems. Students also apply knowledge and use tools to identify and solve communication problems of significance to real-world, military settings.

TC1705 PUMP OPERATIONS

Prerequisites: TC1101, IN1500, TC1504

This course provides students with the theoretical knowledge and practical skills required to maintain mechanical pumps in industrial settings.

TC1706 INTRO TO RF, MW & RADAR

In this course, students learn the basics of radio frequency (RF) spectrums and radio frequency bands used by the military. They learn about the hazards of RF radiation. Selected basic test equipment and signal generation used in these frequency bands are introduced. Students also learn the basic radar principles in terms of RF signal processing, radar transmitters, radar receivers, and selected RF components used in the microwave (MW) field. Other topics include radar systems technology and RF signal processing and tracking loops.

TN1000 HAND TOOLS

Co-requisites: SE1005

This course introduces students to hand tools in the workshop setting. Emphasis is placed on the safe use and selection of hand tools required in the fabrication of electrical installation. Working in mechanical and electrical workshops, students develop the skills needed to effectively use hand tools as required in given tasks, such as sheet metal shaping and pipe/conduit configuration.

TN1005 POWER TOOLS

Co-requisites: SE1005, TN1000

This course introduces the safe usage and accurate selection of power tools required in various installations. In a workshop setting, students gain the necessary skills to safely and accurately identify, use, and care for various types of portable power machines.

