ARE YOU READY?
2018 - 2019 ACADEMIC CALENDAR
Welcome to College of the North Atlantic – Qatar

The CNA-Q Story
College of the North Atlantic – Qatar (CNA-Q) was created to meet the ambitious and visionary goals of the Qatar National Vision (QNV) 2030. CNA-Q is a partnership between the State of Qatar and College of the North Atlantic in Canada.

We officially opened in September 2002. CNA-Q fills the State’s need for graduates who have hands-on training in their field of study. As the second largest post-secondary school in Qatar, CNA-Q now has more than 2500 full time students and has graduated over 5000 students.

CNA in Qatar
College of the North Atlantic (CNA) was chosen by the State of Qatar from top colleges around the world to fulfill Qatar’s need for a technical college. With 40+ years of success and a long list of program offerings, CNA created what is now Qatar’s premier technical college - CNA-Q. CNA-Q programs are tailored to Qatar’s top industries. Our institution complements degree-granting universities in Education City and elsewhere in Qatar. When you join CNA-Q, you are joining a community of over 20,000 students enrolled every year at CNA campuses in Canada and Qatar.

Our Mission
CNA-Q is a national institution of higher education that provides internationally-recognized technical and vocational education and training in partnership with employers for Qatar’s evolving economy.

Our Vision
CNA-Q is the national higher education institute of choice for applied technical and vocational education and training.

Our Values
1. We believe everyone has the potential to learn and grow.
2. We value authentic learning that allows students to recognize their potential both professionally and personally.
3. We are focused on increasing student success and meeting stakeholder needs.
4. We operate with respect, integrity and transparency.
5. We are enthusiastic, committed and motivated.
6. We are collaborative, empathetic and supportive of each other.
7. We value curiosity and innovation.
8. We hold each other accountable.

Here’s why CNA-Q works for you:
Find your place in Qatar’s economy. CNA-Q programs train you specifically for top industries in Qatar.

Be a leader in your field
Our programs are often the first – and only - of their kind offered in Qatar.

Transfer your credits
Apply to universities in Canada, USA and the UK, and elsewhere through 60+ pathways.

For further details please contact the Registrar’s Office.
info@cna-qatar.edu.ca

With 17 campuses in Canada and one in Qatar, CNA delivers full and part-time programs to 20,000 students every year.
Message from the President

Thank you for your interest in College of the North Atlantic - Qatar (CNA-Q). You are more than welcome to join us at our warm, welcoming and vibrant campus.

Our programs are delivered through experiential learning techniques, using the very best educational technology and training systems and led by instructors who have real world experience and a commitment to educating the next generation in Qatar.

The CNA-Q campus is often described by our students as a second home that is built around their needs. We proudly provide the latest technology to support learning, including labs that mirror the real working environment. There are multiple Help Centers, a Learning Commons and a well-resourced Library where advice and support are always available.

CNA-Q is also proud to have an enriching and vibrant campus life that enables our students to grow their skills in many ways outside the classroom. These include student leadership, health and wellness, team sports, and many clubs and events to match any number of student interests and give our students the opportunities to volunteer, learn and lead.

As you browse through this Academic Calendar, you will see that we have a wide selection of programs to choose from, any of which can propel you to exciting and progressive careers in Business Studies, Engineering Technology and Industrial Trades, Health Sciences, Information Technology or into our Technician Certificate Program (TCP). At CNA-Q, our programs are designed to prepare you for the workforce or to progress to further studies in your chosen field.

The doors are open.
Are you ready? Join us.

Prof. Khalifa Al-Khalifa
President
College of the North Atlantic - Qatar
رسالة من الرئيس

شكرًا لاهتمامكم بالاختيار بكلية شمال الأطلنطي في قطر. يسعدنا انضمامكم إلى جماعتنا، ونرغب في إعطائكم تجربة تعليمية مثمرة.

يتطلب تطبيق التعليم العملية، استخدام أفضل أنظمة التعليم والتدريب التكنولوجية والتي تقدم على أيدي معلمين لديهم خبرة طويلة في عالم العمل الفعلي وملتزمين بتقديم الجيل القادم في قطر.

غالباً ما يصف طلابنا حرم كلية شمال الأطلنطي في قطر أنه منزلهم الثاني الذي يلبس احتياجاتهم، فنحن نقدم بفخر أحدث التقنيات لدعم التعليم بما في ذلك المختبرات التي تعكس بيئة العمل الحقيقية، كما لدينا العديد من مراكز المساعدة، ومراكز التعلم، ومكتبة ذات موارد ممتازة، متواجدة دائماً لتقديم المشورة والدعم.

تتفخر كلية شمال الأطلنطي في قطر أيضاً بأن لديها حياة جامعية حيوية وناضجة بالحياة، تمكن طلابنا من تنمية مهاراتهم بطرق عديدة خارج الفصل الدراسي، وتشمل مهارات القيادة الطلابية، والصحة والعافية، والرياضة الجماعية، والعديد من النواحي والفاعليات التي تناسب مع اهتماماتك وتعطيك الفرصة للتعرف والتعلم والقيادة.

 أثناء استعراضك لهذا التقويم الأكاديمي، سترى أن لدينا مجموعة واسعة من البرامج للاختيار بينها، وبالتالي، إن أي برنامج من برامجنا يمكن أن يشعرك إلى وجهة مميزة ومقدمة في مجال دراسات الأعمال، تكنولوجيا المعلومات، والعلوم الصحية، تكنولوجيا تحليل البيانات (TCP) والمعلومات، وبرنامج شهادة الفنيين من كلية شمال الأطلنطي في قطر تم تصميم برامجنا لتجهيرك لسوق العمل أو للتقدم والحصول على المزيد من الدراسات في المجال الذي اختونه.

الإجابة مفتوحة، هل أنت جاهز للانضمام إلينا؟

أ.د. خليفة بن ناصر آل خليفة
رئيس كلية شمال الأطلنطي في قطر
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Introduction to the Academic Calendar

This Academic Calendar is intended to assist readers to understand the academic and administrative structure, policies, and procedures, and to provide information about current course offerings at College of the North Atlantic – Qatar (“the College”).

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 College Registrar. The College reserves the right to make changes in the information contained in this publication without prior notice.

Students are responsible for familiarizing themselves with the specific information, rules, and regulations of the College, as well as the specific requirements of each 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 he/she is 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 Calendar, and such regulations and policies as established by resolution of the Board of Trustees or the College’s administration, the version of such material as established by the Board of Trustees or the College’s administration will prevail.

By the act of registration, each student becomes bound by the policies and regulations of College of the North Atlantic – Qatar.

College of the North Atlantic – Qatar 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 College property, financial exigency, or other events beyond the reasonable control of the College.

College of the North Atlantic – Qatar 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.
### Academic Schedule of Events – Fall 2018

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 College or State requirements. All changes to this schedule are posted on the Registrar’s Office page of the College Intranet, and it will be communicated to students via SMS and/or email.

<table>
<thead>
<tr>
<th>FALL SEMESTER 2018</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Sunday, August 26</td>
<td>Start of Fall Term/Faculty Return Date</td>
</tr>
<tr>
<td>Monday, August 27</td>
<td>Deferred and Supplementary Exams 8:00am and 1:00pm</td>
</tr>
<tr>
<td>Tuesday, August 28 - Thursday, August 30</td>
<td>Student Registration and Orientation for Credit Diploma Programs 8:00am – 2:30pm</td>
</tr>
<tr>
<td>Tuesday, August 28</td>
<td>Deadline for: Supplementary and Deferred grades submission to Registrar’s Office at 8:00am.</td>
</tr>
<tr>
<td>Wednesday, August 29</td>
<td>Deadline for: Appeal Application Submission to Registrar’s Office at 3:00pm</td>
</tr>
</tbody>
</table>
| Sunday, September 02 | First day of classes for Credit Diploma Programs  
First day of Appeal Hearings 8:00am – 3:00pm |
| Monday, September 03 | Last day to Register for all Programs  
(late registrants, waitlisted and appeal accepted students) |
| Thursday, September 13 | Spring incomplete grades due to Registrar’s Office at 3:00pm |
| Thursday, September 13 | Last day for adding courses for registered students for Credit Diploma Programs |
| Thursday, October 11 | Last day to withdraw with prorated refund |
| Monday, October 15 - Wednesday, October 17 | Midterm Evaluations for all Programs |
| Sunday, October 21 | Mid Term Grade Submission Deadline:  
Grades due by 12:00pm to the Registrar’s Office |
| Thursday, October 25 | Last day for dropping courses without academic prejudice – Credit Diploma Programs |
| Monday, December 03 | Last day of Classes – Fall Semester |
| Tuesday, December 04 - Tuesday, December 11 | Final Exams for Fall Semester for Credit Diploma Programs  
8:00am and 1:00pm |
| Wednesday, December 12 | Final Grade Submission Deadline:  
Grades due by 12:00pm to the Registrar’s Office |
| Thursday, December 13 | Last working day for the Fall Semester |
| Sunday, December 16 - Thursday, December 27 | Semester Break (9 days) |
| Tuesday, December 18 | Qatar National Day – College closed |
| Wednesday, December 19 | Grade Reports available to Students at 8:00am  
Application for Supplementary Exams announced (SMS) |
| Thursday, December 20 | End of Fall Term |
## Academic Schedule of Events – Winter 2019

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sunday, December 30</td>
<td>Start of Winter Term/Faculty Return Date</td>
</tr>
<tr>
<td>Monday, December 31</td>
<td>Deferred and Supplementary Exams 8:00am and 1:00pm</td>
</tr>
<tr>
<td>Tuesday, January 01</td>
<td>Deadline for: Supplementary and Deferred grades submission to Registrar’s Office at 8:00am</td>
</tr>
<tr>
<td>Tuesday, January 01 - Thursday, January 03</td>
<td>Student Registration and Orientation for Credit Diploma Programs 8:00am – 2:30pm</td>
</tr>
<tr>
<td>Wednesday, January 02</td>
<td>Deadline for: Appeal Application Submission to Registrar’s Office at 3:00pm</td>
</tr>
<tr>
<td>Sunday, January 06</td>
<td>First day of classes for Credit Diploma Programs</td>
</tr>
<tr>
<td></td>
<td>First day of Appeal Hearings 8:00am – 3:00pm</td>
</tr>
<tr>
<td>Monday, January 07</td>
<td>Last day to Register for all Programs (late registrants, waitlisted and appeal accepted students)</td>
</tr>
<tr>
<td>Thursday, January 17</td>
<td>Last day for adding courses for registered students for Credit Diploma Programs</td>
</tr>
<tr>
<td>Thursday, January 17</td>
<td>Last day to submit grades for Fall incompletes</td>
</tr>
<tr>
<td>Tuesday, February 12</td>
<td>National Sports Day - College Closed</td>
</tr>
<tr>
<td>Thursday, February 14</td>
<td>Last day to withdraw with prorated refund</td>
</tr>
<tr>
<td>Monday, February 18 - Wednesday, February 20</td>
<td>Midterm Evaluations for all Programs</td>
</tr>
<tr>
<td>Sunday, February 24</td>
<td>Mid Term Grade Submission Deadline: Grades due by 12:00pm to the Registrar’s Office</td>
</tr>
<tr>
<td>Thursday, February 28</td>
<td>Last day for dropping courses without academic prejudice – Credit Diploma Programs</td>
</tr>
<tr>
<td>Thursday, March 14</td>
<td>Deadline for: Application to Graduate due to Registrar’s Office at 3:00pm</td>
</tr>
<tr>
<td>Monday, March 25</td>
<td>Skills Day - No Classes</td>
</tr>
<tr>
<td>Tuesday, April 02</td>
<td>Last day of classes – Winter Semester</td>
</tr>
<tr>
<td>Wednesday, April 03</td>
<td>Final exams for Winter Semester for Credit Diploma Programs 8:00am and 1:00pm</td>
</tr>
<tr>
<td>Wednesday, April 10</td>
<td>Final Grade Submission Deadline: Grades due by 12:00pm to the Registrar’s Office</td>
</tr>
<tr>
<td>Thursday, April 11</td>
<td>Last Working Day before the Winter Semester Break</td>
</tr>
<tr>
<td>Sunday, April 14 - Thursday, April 18</td>
<td>Semester Break (5 Annual Leave Days)</td>
</tr>
<tr>
<td>Monday, April 15</td>
<td>Grade Reports available to students at 8:00am</td>
</tr>
<tr>
<td></td>
<td>Application for Supplementary Exams announced (SMS)</td>
</tr>
<tr>
<td>Tuesday, April 16</td>
<td>End of Winter Term</td>
</tr>
</tbody>
</table>
## Academic Schedule of Events – Spring 2019

### INTERSESSION SEMESTER 2019

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sunday, April 21</td>
<td>Start of Spring Term/Faculty Return Date</td>
</tr>
<tr>
<td>Monday, April 22</td>
<td>Deferred and Supplementary Exams 8:00am and 1:00pm</td>
</tr>
<tr>
<td>Monday, April 22</td>
<td>Deadline for: Appeal Application Submission to Registrar’s Office at 3:00pm</td>
</tr>
<tr>
<td>Sunday, April 21 -</td>
<td>Student Registration and Orientation for Credit Diploma Programs</td>
</tr>
<tr>
<td>Monday, April 22</td>
<td>8:00am – 2:30pm</td>
</tr>
<tr>
<td>Tuesday, April 23</td>
<td>First day of classes for Credit Diploma Programs</td>
</tr>
<tr>
<td></td>
<td>First day of Appeal Hearings 8:00am – 3:00pm</td>
</tr>
<tr>
<td>Tuesday, April 23</td>
<td>Supplementary and Deferred grades submission to Registrar’s Office at 8:00am</td>
</tr>
<tr>
<td>Wednesday, April 24</td>
<td>Last day to Register for all Programs (late registrants, waitlisted students and appeal accepted students)</td>
</tr>
<tr>
<td>Monday, April 29</td>
<td>Last day for adding courses for registered students for Credit Diploma Programs</td>
</tr>
<tr>
<td>Monday, May 13</td>
<td>Last day for dropping courses without academic prejudice – Credit Diploma Programs</td>
</tr>
<tr>
<td>Monday, May 13</td>
<td>Last day to withdraw with prorated refund</td>
</tr>
<tr>
<td>Thursday, June 20</td>
<td><strong>Graduation 2019</strong></td>
</tr>
<tr>
<td>Sunday, May 05 -</td>
<td>Ramadan</td>
</tr>
<tr>
<td>Thursday, May 30</td>
<td><strong>Eid Al Fitr (5 Stat Holidays) – College Closed</strong></td>
</tr>
<tr>
<td>Sunday, June 02 -</td>
<td>Last day of Classes – Spring Semester</td>
</tr>
<tr>
<td>Thursday, June 06</td>
<td><strong>Eid Al Fitr (5 Stat Holidays) – College Closed</strong></td>
</tr>
<tr>
<td>Thursday, June 13</td>
<td>Final Exams for Spring Semester for Credit Diploma Programs (8:00am and 1:00pm, no evening exams due to Ramadan)</td>
</tr>
<tr>
<td>Sunday, June 16 -</td>
<td>Final Grade Submission Deadline: Grades due by 12:00pm to the Registrar’s Office</td>
</tr>
<tr>
<td>Tuesday, June 18</td>
<td>Faculty Annual Leave</td>
</tr>
<tr>
<td>Sunday, June 23 -</td>
<td>Grade Reports available to Students at 8:00am</td>
</tr>
<tr>
<td>Thursday, August 22</td>
<td>Application for Supplementary Exams announced (SMS)</td>
</tr>
<tr>
<td>Tuesday, June 25</td>
<td>End of Spring Term</td>
</tr>
<tr>
<td>Sunday, August 11 -</td>
<td>Eid Al Adha (5 Stat Holidays) – College Closed</td>
</tr>
<tr>
<td>Thursday, August 15</td>
<td></td>
</tr>
</tbody>
</table>
List of CNA-Q Programs

* Total program length varies depending on language proficiency, academic preparatory courses required for entry, and academic performance throughout the program of study. Not all programs listed are available each semester. Please check with the Registrar’s Office to confirm availability of academic programs.

<table>
<thead>
<tr>
<th>SCHOOL OF BUSINESS STUDIES</th>
<th>TOTAL NUMBER OF CREDITS</th>
<th>CREDENTIAL</th>
<th>DURATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Administration</td>
<td>49</td>
<td>Certificate</td>
<td>1 year</td>
</tr>
<tr>
<td>Business Administration – Accounting</td>
<td>93 minimum</td>
<td>Diploma</td>
<td>2 years</td>
</tr>
<tr>
<td>Business Administration – Human Resource Management</td>
<td>95 minimum</td>
<td>Diploma</td>
<td>2 years</td>
</tr>
<tr>
<td>Business Administration – Marketing</td>
<td>96 minimum</td>
<td>Diploma</td>
<td>2 years</td>
</tr>
<tr>
<td>Business Management – Accounting</td>
<td>135 minimum</td>
<td>Diploma</td>
<td>3 years</td>
</tr>
<tr>
<td>Business Management – Human Resource Management</td>
<td>135 minimum</td>
<td>Diploma</td>
<td>3 years</td>
</tr>
<tr>
<td>Business Management – Marketing</td>
<td>138 minimum</td>
<td>Diploma</td>
<td>3 years</td>
</tr>
<tr>
<td>Office Administration</td>
<td>45</td>
<td>Certificate</td>
<td>1 year</td>
</tr>
<tr>
<td>Office Administration (Executive)</td>
<td>85 minimum</td>
<td>Diploma</td>
<td>2 years</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SCHOOL OF ENGINEERING TECHNOLOGY AND INDUSTRIAL TRADES</th>
<th>TOTAL NUMBER OF CREDITS</th>
<th>CREDENTIAL</th>
<th>DURATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemical Processing Technician</td>
<td>92</td>
<td>Diploma</td>
<td>2 years</td>
</tr>
<tr>
<td>Electrical Power Systems Technician</td>
<td>91</td>
<td>Diploma</td>
<td>2 years</td>
</tr>
<tr>
<td>Mechanical Technician (Industrial Maintenance)</td>
<td>92</td>
<td>Diploma</td>
<td>2 years</td>
</tr>
<tr>
<td>Process Automation Technician</td>
<td>91</td>
<td>Diploma</td>
<td>2 years</td>
</tr>
<tr>
<td>Telecommunications and Network Technician</td>
<td>93</td>
<td>Diploma</td>
<td>2 years</td>
</tr>
<tr>
<td>Chemical Processing Technology</td>
<td>141</td>
<td>Diploma</td>
<td>3 years</td>
</tr>
<tr>
<td>Electrical Engineering Technology</td>
<td>136</td>
<td>Diploma</td>
<td>3 years</td>
</tr>
<tr>
<td>Mechanical Engineering Technology (Industrial Maintenance)</td>
<td>139</td>
<td>Diploma</td>
<td>3 years</td>
</tr>
<tr>
<td>Process Automation Engineering Technology</td>
<td>142</td>
<td>Diploma</td>
<td>3 years</td>
</tr>
<tr>
<td>Telecommunications and Network Engineering Technology</td>
<td>143</td>
<td>Diploma</td>
<td>3 years</td>
</tr>
</tbody>
</table>
**List of CNA-Q Programs**

* Total program length varies depending on language proficiency, academic preparatory courses required for entry, and academic performance throughout the program of study. Not all programs listed are available each semester. Please check with the Registrar’s Office to confirm availability of academic programs.

### SCHOOL OF HEALTH SCIENCES

<table>
<thead>
<tr>
<th>Program</th>
<th>Total Number of Credits</th>
<th>Credential</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advanced Care Paramedicine</td>
<td>133</td>
<td>Diploma</td>
<td>3 years</td>
</tr>
<tr>
<td>Dental Hygiene</td>
<td>134</td>
<td>Diploma</td>
<td>3 years</td>
</tr>
<tr>
<td>Environmental Health</td>
<td>140</td>
<td>Diploma</td>
<td>3 years</td>
</tr>
<tr>
<td>Health and Wellness Promotion</td>
<td>47</td>
<td>Post Diploma</td>
<td>1 year</td>
</tr>
<tr>
<td>Health Education: Diabetes</td>
<td>35</td>
<td>Advanced Diploma</td>
<td>1 year</td>
</tr>
<tr>
<td>Medical Radiography</td>
<td>147</td>
<td>Diploma</td>
<td>3 years</td>
</tr>
<tr>
<td>Occupational Health, Safety and Environment</td>
<td>89</td>
<td>Diploma</td>
<td>2 years</td>
</tr>
<tr>
<td>Pharmacy Technician</td>
<td>103</td>
<td>Diploma</td>
<td>2 years</td>
</tr>
<tr>
<td>Primary Care Paramedicine</td>
<td>83</td>
<td>Diploma</td>
<td>2 years</td>
</tr>
<tr>
<td>Respiratory Therapy</td>
<td>135</td>
<td>Diploma</td>
<td>3 years</td>
</tr>
</tbody>
</table>

### SCHOOL OF INFORMATION TECHNOLOGY

<table>
<thead>
<tr>
<th>Program</th>
<th>Total Number of Credits</th>
<th>Credential</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Information Systems - Hardware</td>
<td>85</td>
<td>Diploma</td>
<td>2 years</td>
</tr>
<tr>
<td>Information Systems - Software</td>
<td>87</td>
<td>Diploma</td>
<td>2 years</td>
</tr>
<tr>
<td>Information Systems - Web Developer</td>
<td>127</td>
<td>Diploma</td>
<td>3 years</td>
</tr>
<tr>
<td>Information Systems - Network and Systems Administration</td>
<td>126 minimum</td>
<td>Diploma</td>
<td>3 years</td>
</tr>
</tbody>
</table>

### TECHNICIAN CERTIFICATE PROGRAM (TCP)

<table>
<thead>
<tr>
<th>Program</th>
<th>Total Number of Credits</th>
<th>Credential</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technician Certificate - Electrical</td>
<td>49</td>
<td>Certificate</td>
<td>2 years including Worksite Practicum</td>
</tr>
<tr>
<td>Technician Certificate - Instrumentation</td>
<td>49</td>
<td>Certificate</td>
<td>2 years including Worksite Practicum</td>
</tr>
<tr>
<td>Technician Certificate - Mechanical</td>
<td>51</td>
<td>Certificate</td>
<td>2 years including Worksite Practicum</td>
</tr>
<tr>
<td>Technician Certificate - Process Operations</td>
<td>51</td>
<td>Certificate</td>
<td>2 years including Worksite Practicum</td>
</tr>
</tbody>
</table>
Memorandums of Understanding for Program Articulation and Transfer Credit

College of the North Atlantic–Qatar has pathway programs with a number of universities in Canada, the United States and the United Kingdom. These pathways allow graduates of many CNA-Q programs to be awarded credit towards baccalaureate degrees provided they meet the entrance and specific credit requirements of these institutions.

Students who are interested in pursuing degrees after graduating from CNA-Q are encouraged to consult the CNA-Q Career Counselling Centre or the Registrar’s Office for assistance and advice. They should consult websites or most recent calendars of post-secondary institutions they wish to attend, and they should have a clear understanding of the course, language, and academic preparation requirements for admission to other colleges and universities.

A current list of post-secondary institutions offering admission and transfer credit to CNA-Q graduates who meet the entrance requirements is available from the Registrar’s Office, the mycnaq.cna-qatar.edu.qa, or the Career Counselling and Resource Centre.
Registrar’s Office

The Registrar’s Office administers the College’s policies and procedures covering admission, academic regulations, academic status of students, tuition and fees, and awards and scholarships. This section of the Academic Calendar provides important information about these functions.

The Registrar’s Office is open from Sunday through Thursday from 7:30am to 3:00pm.

The following people at the Registrar’s Office can assist you:

- Admissions Officer: 4495-2011
- Sponsor Coordinator: 4495-2010
- Associate Registrar: 4495-2025
- Registrar: 4495-2013
- Administrative Assistant: 4495-2008
- For general enquiries: 4495-2003, 4495-2005 or 4495-2225

Admissions Regulations

It is the policy of College of the North Atlantic – Qatar to maintain and adhere to the State of Qatar admission requirements. Students are admitted based on the condition that they meet the minimum educational qualifications prescribed.

Admissions priority is given to qualified applicants who hold Qatari National citizenship. Applications from Qatari Nationals will be processed on a rolling admissions basis, throughout the year.

Qualified international applicants will be considered for admission to the College, only as space permits. For updates regarding the availability of seats, international applicants are encouraged to check with the Registrar’s Office, both in person and on-line.

Admission to the College is competitive, based on the results of the College’s mandatory placement assessment examinations and high school grades.

Application Deadlines

The following deadlines will be in effect for the 2018 - 2019 year for international applicants:

<table>
<thead>
<tr>
<th>Semester</th>
<th>Application Submission Dates</th>
<th>Start:</th>
<th>End:</th>
</tr>
</thead>
<tbody>
<tr>
<td>WINTER 2019</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(January - April)</td>
<td></td>
<td>September 16, 2018</td>
<td>November 24, 2018</td>
</tr>
<tr>
<td></td>
<td>Testing Completed</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>December 08, 2018</td>
<td></td>
<td></td>
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<tr>
<td>INTERSESSION 2019</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>(May – June)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Application Submission Dates</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Start: January 20, 2019</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>End: March 07, 2019</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Testing Completed</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>March 28, 2019</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FALL 2019</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(September –December)</td>
<td></td>
<td>May 05, 2019</td>
<td>August 07, 2019</td>
</tr>
<tr>
<td></td>
<td>Application Submission Dates</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Start: May 05, 2019</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>End: August 07, 2019</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Testing Completed</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>August 18, 2019</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Admissions

Entry Into Full-Time Programs
Candidates applying for full-time status must satisfy the following requirements:

- Meet the educational and other requirements for entry into the particular program, or meet the mature student requirements (see page 11).
- Have reached the legal school-leaving age on the date of commencement of the course program.
- Apply online or in writing on the approved application form and provide a photocopy of their State of Qatar National ID Card and passport, with picture and ID details. Applicants must submit the 100 QR application fee.
- Show evidence of physical qualification in accordance with the requirements of the program selected, where applicable.
- Provide an official copy of high school transcript (in the case of high school graduates). Applicants must present an official transcript from the last high school or post-secondary institution attended.
- Students who present a valid IELTS Academic Test Report Form received within two years with an overall band 5.0 with no individual skill band below 4.5 are exempt from taking the OOPT test. For students with valid scores on other internationally-recognized English tests such as TOEFL, contact the Registrar’s Office. Applicants for TCP are required to take the OOPT and General Math Placement (GMP) tests.
- Provide further documentation, or report for an interview when required, and/or a Police Clearance may be required.

Senior High School Graduation
Senior high school graduation means the successful completion of required credit courses as specified by the Ministry of Education and Higher Education in Qatar. Ministry validation of secondary grades is required for all students applying from non-state and private schools.

International Applicant Definition
At CNA-Q, an international applicant is defined as a student from outside OR inside Qatar, who is not a Qatari National.

Eligibility for Competitive Entry Diploma Programs (International)
Qualified applicants, who hold Qatari National citizenship, are accepted on eligibility per placement and are not put on waitlist when there are an adequate number of available seats per academic program. Applicants will be assessed based on a scoring and rank ordering process as outlined below:

Selection Criteria Weighting

- English Placement Test 40%
- Math Placement Test 40%
- Incoming admissions academic average (by program) 20%
- TOTAL 100%

  a) The ranking process will be conducted by CNA-Q admissions staff.
  b) The process will involve ranking the applicants for each semester based upon a single weighted score as set out above.
  c) After the admissions deadline for each semester, the top ranked applicants, will be notified by letter offering them a place in the next class, based on the number of available seats (set by Deans).
  d) For applicants that choose to carry forward their application for a subsequent semester they will start over on a newly ranked entry waitlist. Waitlisted applicants can re-test to improve their English and Math placement test results and subsequent waitlist ranking.

Note: Current senior high school international students who have yet to receive their final grades are permitted to write the entrance examinations but will be put on the waitlist only after receiving these examination results and validation.

Candidates are admitted to an academic program until capacity is reached or the waitlist has been exhausted.
Admissions

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. International applicants are required to meet additional program specific competitive entry requirements, as follows:
   a) Applications will be considered for a specific intake.
   b) Applications will be accepted on a competitive basis until the application deadline date.
   c) After the application deadline, qualified applicants will be placed on a waitlist in rank order.
   d) After the program start date, any applicants remaining on the waitlist will be encouraged to consider the next intake of the program, and it should be noted that, at that time a new rank ordering will apply.
   e) This Competitive Entry Selection Criteria may be used as the basis for admission to other CNAQ programs, as required, in the future.

If applicants would like to defer their acceptance to a subsequent semester they need to notify the Admissions Office.

Mature Student Requirements
Qatari applicants who do not meet the educational prerequisites for the program they wish to enter may be considered for admission on an individual basis provided all the following conditions are met:
• Applicants are at least 19 years of age at the time of application
• Applicants have been out of school for at least one year
• Applicants present a certified copy of grades for the highest educational level attained
• Applicants complete College of the North Atlantic – Qatar’s mandatory placement assessment examinations in English and Mathematics.

Note: The mature applicant policy applies to Qatari applicants only.

Admissions for Students Experiencing Disabilities
Applicants experiencing disabilities will be individually assessed to determine admissibility. The assessment will include:
   a) Reviewing the applicant’s qualifications
   b) Reviewing the recommendation of the sponsoring or supporting group (if applicable)
   c) Summarizing the applicant’s strengths and abilities
   d) Determining the need for support staff required to facilitate the integration of the applicant
   e) Identifying necessary resources/equipment required to facilitate the training

There is no guarantee that the admission will be offered to students experiencing disabilities, unless CNA-Q is able to support the students.
CNAQ requires that applicants disclose their disability at the point of application, on the application form.
Admissions

General Studies at CNA-Q

General Studies at CNA-Q describes an academic plan for a student who has not made a final decision about admission to a particular technical program, but wishes to register in specific courses for the purpose of upgrading academic preparation or exploring certain career pathways.

Such applications are evaluated on an individual basis and include consultation among the Registrar’s Office, program administrators and the applicant. The goal is to provide access to full-time programs by permitting part-time studies for a limited period of time. The major credit programs offered at CNA-Q (Business Studies, Engineering Technology, Health Sciences, and Information Technology), are accessible to General Studies applicants. The following regulations apply to General Studies applicants:

1. Applicants must complete the CNA-Q Application for Admission and submit the 100 QR application fee.
2. Applicants for diploma programs are required to take the Oxford Online Placement Test (OOPT) and Academic Math Placement (AMP) tests. Students who present a valid IELTS Academic Test Report Form received within two years with an overall band 5.0 with no individual skill band below 4.5 are exempt from taking the OOPT test. For students with valid scores on other internationally-recognized English tests such as TOEFL, contact the Registrar’s Office. Applicants for TCP are required to take the OOPT and General Math Placement (GMP) tests.
3. Applicants must possess a valid residency permit for the State of Qatar.
4. Applicants must present an official transcript from the last high school or post-secondary institution attended.
5. Applicants will participate in an interview with a program representative, who will make a recommendation to the Registrar.

Students who register in a General Studies program are subject to the following conditions:

1. The maximum number of credits that can be attained in this program is 15.
2. Course registration cannot exceed 15 hours per semester.
3. Prior Learning Assessment and Recognition (PLAR) evidence, if available, should be submitted to the College for evaluation. Consult the Registrar’s Office for information about PLAR.

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 Year**
The period from September to July consisting of three semesters; two 15-week semesters and two 7 to 13 week intersession semesters.

**Access Program**
Developmental programs in English as a Foreign Language that students may enter prior to full admission into regular certificate/diploma programs.

**Credit Course**
An approved and recognized body of content, knowledge and skills assigned a credit value.

**Credits (CR)**
The weighted value of a course based on the depth and breadth of the learning objectives. A certain number of credits are required to complete a Certificate/ Diploma/ Advanced Diploma/ Post Diploma.

**Billing Hours**
Billing hours are used to calculate tuition and applicable fees, as well as to determine if a student is full time or part time.

**Diploma 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

Diploma programs will normally:
- Be prescribed over a minimum of a four-semester period
- Be comprised of a minimum of 80 credits
- Consist of a maximum of seven courses per semester

**Post Diploma Program**
A diploma to be issued upon successful completion of a minimum two-semester program that requires either previous graduation from a recognized two or three year post-secondary diploma or degree, or a combination of other post-secondary work and industry experience acceptable to the College as an entrance requirement.

**Advanced Diploma**
An approved program of study consisting of in-depth training for graduates of a diploma program or equivalent.

Advanced Diploma Programs will normally:
1. be prescribed over a minimum of one semester;
2. be comprised of a minimum of 20 credits.

**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

Certificate programs will normally:
- Be prescribed over a minimum of a two-semester period
- Be comprised of a minimum of 40 credits
- Consist of a maximum of seven courses per semester
- Non-credit certificates consist of a maximum of seven courses per semester

**Workplace Development Programs**
These programs/courses are customized to suit the needs of clients. The College may enter partnerships for the purpose of developing and or delivering courses or programs. Such partnerships will be formally recognized on parchments in one of the following ways:

1. **College Parchment**
When a course or program is developed by the College, either in partnership with or on behalf of another institution, agency or industry, a college parchment will be issued. This parchment may contain the phrase “designed in partnership with...” as an additional description of the course/program.

2. **Joint Parchment**
When a course or program is developed and/or delivered in partnership with another educational institution, a joint certificate formally recognizing both institutions may be awarded. This parchment would recognize both institutions and may contain the signatures of duly authorized officers of both institutions.

**Certificates for the Technical Preparatory Program and Continuing Professional Development**
- Certificate in Skill Development awarded upon completion of a program that is normally one year in duration, but not less than one academic semester, for which learning is measured and evaluated.
- Certificate of Achievement awarded upon successful completion of a program of less than one academic semester or upon completion of an academic course for which learning is measured and evaluated.
- Certificate of Participation awarded upon attending and participating in a program.
Classification of Students

Certificate and Diploma Students
A certificate or diploma student is an individual who has completed the formal admission procedures and has been admitted to a program at CNA-Q. A certificate or diploma student may be full-time or part-time.

Visiting Students
A visiting student is an individual permitted to take courses at CNA-Q for transfer of credit toward a degree/diploma/certificate at another post-secondary institution. Visiting students include exchange students.

Non-Diploma/Certificate Students
A non-diploma/certificate student is an individual who has been given permission to take a course or courses for credit, but has not yet been admitted to a diploma/certificate program at CNA-Q.

Full-Time Student
Students who are registered in 15 or more credit hours per week.

Part-Time Student
Students who are registered in less than 15 credit hours per week.

Semester Structure and Semester Credit
CNA-Q operates under a semester structure where two semesters are offered between September and April. There are also two seven week semesters that includes class/learning time as well as administrative and evaluation time. These are named Intersession 1 (Spring) and Intersession 2 (Summer). Intersession 1 begins in April/May and Intersession 2 begins in July.

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.

Intersession/Spring & Summer Semester
Two seven week semesters that include class/learning time as well as administrative and evaluation time. These are named Intersession 1 (Spring) and Intersession 2 (Summer). Intersession 1 begins in April/May and Intersession 2 begins in July.

Course Load and Credits
The maximum course load per student is dependent upon their academic program. Students who wish to take an overload (additional credits) need the permission of the Dean/Chair in order to do so.

Maximum course load per program:
Business – 30 credit hours
Engineering – 27 credit hours
Health Science – 30 credit hours
IT – 28 credit hours

Credit Hours
Number of credits per week in a given semester.

Fiscal Year
The Fiscal Year for the College is from January 1 to December 31.

Student ID Numbers
Individual student ID numbers will be assigned to applicants for all college programs, whether full-time or part-time. The individual student number will be used in all correspondence and/or transactions with the College (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.

Credential Awarded
The CNA-Q credentials awarded to students are certificates, diplomas, advanced diplomas and post-diplomas.

Transcript
Transcript is the official footprint of a student’s detailed academic history provided to the student and at the student’s request to third parties. The transcript shows title, class, term, credit taken, credit received as well as result for each course in which a student was registered past the add/drop deadline. The transcript also depicts awards and honours, warnings, and dismissals. An official transcript must bear the College seal and be signed by the Registrar.
Discontinued Status

Student Initiated Withdrawal (Voluntary Withdrawal)
Students who are in good standing and who voluntarily withdraw due to extenuating circumstances (confirmed by the counsellor or Chair/Dean) will be required to reapply to return to their program. These students will be admitted into the first available seat.

College Initiated Withdrawal
When a student is registered in a semester and does not attend any classes, and does not inform the college, the Chair/Dean processes the withdrawal of the student. If these students wish to return, they must re-apply to return to the program.

Re-Admission after Withdrawal
When a student has been withdrawn from CNA-Q for more than one academic year, he/she must re-take the English Language Proficiency test in order to be considered for admission.

Modes of Instruction
The following types of instruction are used at CNA-Q:
1. Lecture (LEC)
2. Laboratory (LAB)
3. Clinical
4. Work Term
5. Independent Studies

Independent Studies
When required courses are not available in a particular semester, a student may make an application to the Chair/Dean 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 Chair/Dean. Strategies to ensure adherence to course requirements may be documented in contract format to be signed by the student, the course instructor and the Chair/Dean. All applications must be processed within two weeks from the commencement of the term.

Pre-requisites
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.

Co-requisites
A course that a student must enroll in at the same time as enrolling in the desired course.
# Academic Regulations

## CNA–Q Learner Records Policy
It is the policy of the College to treat all learner records in a confidential and respectful manner with an established and approved set of directions which govern all aspects of storage and disclosure. It is also the policy of the College that the official file for all learner records will be located in the Registrar’s Office. This policy and its accompanying procedure is to be interpreted in accordance with the Newfoundland & Labrador Access to Information and Protection of Privacy Act, S.N. (2005) c. A1.1, as amended. In the event of a discrepancy between this policy and the Act, the Act shall prevail.

## CNA–Q Access to Information Procedure
The College has had a long practice of not releasing learner information to any person without the consent of the learner. The College will not release personal information, including information about attendance, marks or program to anyone (including spouse, parents or children) without written consent. Please contact the Registrar’s Office to obtain the required Consent Form. Telephone permission will not be accepted. Learners may be asked for identification before the College will release information to them.

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

## CNA–Q Learner Records Procedure
Faculty and administrative officers with a demonstrated need to know will be permitted to examine the academic records of learners (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 College. All faculty and staff must respect the confidentiality of the information.

Access to these records by other individuals requires the learner’s express written consent.

## Credentials
It is the policy of the College that upon successful completion of a program of studies, learners will be awarded one of five parchments:

1. Certificate in (program title)
2. Diploma in (program title)
3. Post Diploma in (program title)
4. Certificate of Participation or Achievement in (program/course title)
5. Advanced Diploma in (program title)

## Qualifications for a Certificate, Diploma, Advanced Diploma or Post Diploma
To qualify for a certificate, diploma, or post diploma, students must:

- Meet all the requirements as prescribed in the program of studies.
- Obtain a mark of not less than 50% in every course in the program unless otherwise specified.
- Attain a minimum grade point average of 2.0.
- Obtain 25% or more of their credits from the College.

## Language Proficiency for Admissions
Direct entry students are exempt from Language Studies courses by obtaining the required score on the Oxford Online Placement Test (OOPT) or by presenting a valid IELTS Academic Test Report Form received within two years with an overall band 5.0 with no individual skill band below 4.5. Students with valid test scores from other internationally recognized English language proficiency tests may submit their results for consideration to the Registrar’s Office.

## CNA–Q Learner Program Completion Timeframes
Learners who do not complete their diploma program in the prescribed time frame from first registration, may complete the program by following the regulations in effect at the time of first registration, and provided the program is completed not more than three years beyond the regular date of completion. The regular date of completion will be calculated from the first semester a learner is taking a complete credit course load and is not taking any academic preparatory courses. A learner who does not complete a program within these prescribed time limits may be required to complete additional courses or to repeat certain courses before being deemed eligible to complete the credential.

A reassessment of English language proficiency will be required if the learner has been away from CNA–Q for more than one academic year. Learners who return to complete a Technology Diploma will not receive credit for courses that were completed more than five years prior to the date of readmission, unless otherwise approved by their School. Learners enrolled in accredited Heath Sciences program will be permitted a maximum of one additional year to complete their program of studies. Students will be required to withdraw from the program at the point where completion of the program within the allowable time frame is not possible. Students will be required to reapply for admission under re-admission guidelines as outlined in the current College Calendar.
Academic Regulations

Transferring between Programs or Plans
Programs are structured such that students can transfer to another program among the different schools or can transfer between plans within the same program.

Students wishing to change their program or plan must discuss their request with their Chair/Dean and Sponsor (for sponsored students) and if their Chair/Dean approves, the request must be submitted to the Registrar’s Office.

Public Liability Insurance Policy for Students
All registered CNA-Q students are covered by CNA-Q’s Public Liability Insurance Policy for Students. The policy covers students against bodily injury and/or death arising from Insured’s operation as an Educational Institution while within the CNA-Q premises or while participating in events/field trips or other recreational activities conducted under the auspices of CNA-Q, on the CNA-Q premises at Duhail, Qatar.

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 College of the North Atlantic – Qatar 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 learner’s responsibility to ensure that all information, supporting documentation, and academic work submitted is truthful, complete and correct. College of the North Atlantic - Qatar 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, a learner 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 College 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 CNA-Q. 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 College.

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.

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.

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

Right of Appeal
Any applicant or registered student will have the right to appeal the decision through the Academic Appeals Committee.

Recognition of CNA-Q Certificates and Diplomas
College of the North Atlantic–Qatar has pathway programs with a number of universities in Canada, the United States and the United Kingdom. These pathways allow graduates of many CNA-Q programs to be awarded credit towards baccalaureate degrees provided they meet the entrance and specific credit requirements of these institutions.

A current list of post-secondary institutions offering admission and transfer credit to CNA-Q graduates who meet the entrance requirements is available from the Registrar’s Office, the MyCNAQ intranet website, or the Career Counselling and Resource Centre.
Credit System
A credit is a weighted value of a course based on the depth and breadth of the learning objectives. For the purpose of assigning credit values, the measurement of learning objectives is usually accomplished by equating the value with the period of time scheduled to deliver the content in the conventional lecture methodology, as follows:

Learning objectives scheduled for delivery in a one-hour period per week per semester constitutes a one credit value; therefore, a course that is scheduled for three hours per week per semester represents a three credit value.

1 lecture/week = 1 credit
1 lab (2 - 4 hrs/week) = 1 credit
1 lab (5 - 7 hrs/week) = 2 credits
1 lab (8 - 10 hrs/week) = 3 credits

The range of credits per course is 1 – 16. The maximum number of credits per course is 24.

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, no mark is reported on the transcript and the GPA is not affected. The College will consider exemptions for courses if the student received a passing grade.

The College will accept any credit course from a recognized public post-secondary institution as an exemption for a general elective, even if that course is not offered at the College. In some programs, electives must be chosen from a designated group of courses, in which case a general elective cannot be used as a substitute.

Credit for Prior Learning
It is the policy of the College 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 or a mark. The maximum number of credits that can be awarded through the PLAR process is 75% of the number required to complete the certificate/diploma.

Block Transfer Advanced Standing
The College will recognize coursework completed in other programs/courses that fulfill the requirements for a designated percentage of the program to which the student is now applying. When students are granted a block transfer, their academic grades will be calculated beginning at the point of entry to the program.

Advanced Standing
Students may receive advanced standing for up to 75% of the content of the program to which they have been admitted on the basis of successful completion of this content in the same or similar programs at another college and as assessed by the College.

Applicants who wish to be considered for advanced standing should submit an application with the following documents:
• Proof of high school completion
• Official transcript(s)
• Calendar description of the courses claimed for credit

The deadline for receipt of applications by the Registrar is four weeks following registration date. Students seeking advanced standing will not be excused from any course until written authority has been received from the Registrar’s Office.
Academic Regulations

Grade Point Average (GPA) Marking System
The percentage mark in any course is converted to a grade point according to the following:

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>80% and above</td>
<td>A</td>
</tr>
<tr>
<td>70% – 75%</td>
<td>B</td>
</tr>
<tr>
<td>60% – 65%</td>
<td>C</td>
</tr>
<tr>
<td>50% – 55%</td>
<td>D</td>
</tr>
<tr>
<td>Below 50%</td>
<td>F</td>
</tr>
</tbody>
</table>

The GPA is obtained by multiplying the credit value of each course in the program by the grade point obtained in that course. The sum of all the products is then divided by the total number of credits. Your grade point average (GPA) is calculated by dividing the total amount of grade points earned by the total amount of credit hours attempted. Your grade point average may range from 0.0 to 4.0. If you need assistance, please contact the Registrar’s Office.

Weighted Average
A student’s weighted average can be defined as the sum of a course grade multiplied by the course value (credit), divided by the sum of the course values (all credits).

It can be calculated as follows:
1. Take the final grades achieved in all courses and multiply them by the credit values for each particular course. For example:
   • Course grade of 80% multiplied by credit value of course 4 equals 320
   • Course grade of 70% multiplied by credit value of 3 equals 210
   • Course grade of 60% multiplied by credit value of 2 equals 120
2. Calculate the sum of course grades and course credit values. For example, the sum of course grades is 320+210+120=650. The sum of the course credit values is 4+3+2=9.
3. Divide the sum of course grades by the total number of credits. For example, 650÷9=72.22.

Courses that are not included in the requirements for graduation will not be included in the calculation of the weighted average.

Academic Advising
Students must have attained a passing grade in ALL courses being considered in establishing weighted average. Marks obtained in supplementary exams will be considered in the calculation of the weighted average.

When a course is repeated or a supplementary examination is written, 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 to select which electives will be used in the calculation of the GPA by making an application at the Registrar’s Office.

Without such application, the Registrar will select for calculation purposes the required number of electives.

Students are expected to read the academic calendar carefully and are encouraged to take responsibility for their academic goals. Students are expected to make themselves familiar with CNA-Q’s academic regulations. Academic advising is available through the Chairs, Leads and Instructional Coordinators.
Clear Standing
Students are in Clear Standing when they have passed all required credit courses, English for Specific Academic Purposes (ESAP) and Academic Preparatory courses and have attained a GPA of at least 2.0.

<table>
<thead>
<tr>
<th>ACADEMIC STANDING ACTION</th>
<th>CRITERIA</th>
</tr>
</thead>
</table>
| Clear Standing – Regular Level | • Regular student  
• Attempted 15 credit hours in current semester OR has been actively enrolled in the last three consecutive semesters including the current term.  
• Passed 100% of courses taken, both credit and zero credit courses and should not have an IP grade.  
• Achieved a cumulative GPA of 2.00 or more  
• Cleared all past course deficiencies in current academic program |
| Clear Standing – All Levels | • Regular student  
• Attempted less than 15 credit hours in current semester and has not been actively enrolled in three consecutive semesters  
• Passed 100% of courses taken, both credit and zero credit courses  
• Achieved a cumulative GPA of 2.00 or more  
• Cleared all past course deficiencies in current academic program |
| Clear Standing – Zero Credit | • Preparatory student  
• Passed 100% of courses taken  
• Cleared all past course deficiencies in current academic program |

Clear Standing (Health Science)

1. Learners are in clear standing when they have passed all courses and have attained a grade point average of at least 2.0
2. In Occupational Health, Safety and Environment, Environmental Health, Health Education (Diabetes) and Health and Wellness Promotion, core program courses require an overall course pass mark of 60%.
3. In Medical Radiography and Respiratory Therapy, core program courses require an overall course pass mark of 60%, including a minimum of 60% on the final exam.
4. In Advanced Care Paramedicine, core program courses require an overall course pass mark is of 70%, including a minimum of 70% on the final exam. Note: some program courses do not contain a written final exam but may have additional pass criteria, please see Appendix A on page 241 for more information.
5. In Pharmacy Technician, core program courses require an overall course pass mark of 60%, including a minimum of 60% on the final exam with the exception of RX1210, RX2151, RX2100, RX2231 and RX2300.
   • RX1210 - Pharmacy Calculations: requires an overall course pass mark of 80%, including 80% on the final exam and a 100% on a minimum of two review quizzes.
   • RX2151 - Pharmacy Computer Systems: requires an overall course pass mark of 60%, including 60% on the final exam and successful completion of all practical/lab components.
   • RX2100 - Prescription Processing: requires an overall course mark of 60% and a final exam mark of 80%.
   • RX2231 - Hospital Pharmacy: requires an overall pass grade of 60%, including a minimum of 60% on the final exam and successful completion of all practical/lab components.
   • RX2300 – Aseptic Technique: requires an overall pass grade of 60%, including a minimum of 60% on the final exam and successful completion of all practical/lab components.
6. In Dental Hygiene, the pass requirements differ from one course to another, please see Appendix A on page 242 for more information.

Conditional Status
Students are classified as in Conditional Standing when:
• They have a cumulative grade point average between 1.00 and 1.99 in any semester
• They must clear course deficiencies in order to graduate (e.g. students who must successfully complete a failed course through supplementary examinations or repetition)

OR
• They fail an ESAP or Academic Preparatory course

Students who are registered in credit courses and/or ESAP or Academic Preparatory courses and who fail one or more courses will receive conditional standing regardless of cumulative grade point average.

Students are expected to attempt courses from previous semesters (if available) before registering for any new course and must consult with a faculty advisor and/or counsellor upon or before registration.
## Academic Status

<table>
<thead>
<tr>
<th>ACADEMIC STANDING ACTION (as per transcript)</th>
<th>CRITERIA</th>
</tr>
</thead>
</table>
| Conditional Standing – Regular Level | • Regular student  
• Attempted 15 credit hours in current semester OR has been actively enrolled in the last three consecutive semesters  
• Passed 100% of courses taken, both credit and non credit courses  
• Achieved a cumulative GPA between 1.00 and 1.99 and has no past deficiencies in current program |
| Conditional Standing – GPA | • Regular student  
• Attempted less than 15 credit hours in current semester AND has not been actively enrolled in three consecutive semesters  
• Passed 100% of courses taken; both credit and zero credit courses  
• Achieved a cumulative GPA less than 2.00 |
| Conditional Standing – Existing Condition | • Student has met the criteria for a clear standing in the current term but has not cleared past deficiencies in current program |
| Conditional Standing – Deferred | • Received an official grade of AB (Deferred Examination), IN (Incomplete) or NS (Grade not submitted) in at least one credit or zero credit course |
| Conditional Standing – Eligible for Supplementary | • Regular student  
• Failed at least one credit course  
• Received a failing grade that is within the eligible limit of 10 marks of the passing grade i.e. if passing grade is 50% and student has achieved a grade of 40 or 45% and if the passing grade is 60 % and the student achieved a grade of 50 or 55%.  
• The course is eligible for a supplementary examination |
| Conditional Standing – Courses in Progress | • Received an official grade of In Progress in at least one credit or zero credit course |
| Conditional Standing – Zero Credit | • Preparatory student  
• Failed at least one credit course for the first time |
| Conditional Standing – Fail | Regular student who:  
• Attempted 15 credit hours in current term OR has been actively enrolled in the last three consecutive semesters  
• Passed 100% of credit hours taken  
• Failed one or more zero course such as WT1480 or OJ1530 and is not a prep course.  
• Passed more than or equal to 40% of credit hours  
• No prior dismissals  
• Prior warning on prep courses  
• Regular student attempted less than 15 credit hours in the current term and has not been actively enrolled in at least 3 consecutive semesters.  
• Failed one or more credit courses  
• Received an official grade that is not within eligible limits or the course is not eligible for a supplementary examination  
• No AB,NS or IN grade for current term  
• No IP grade for current term  
• Passed more than or equal to 40% of credit hours  
• No prior dismissals |
| Conditional Standing – Not Eligible | • Regular student  
• Attempted 15 credit hours in current term OR has been actively enrolled in the last three consecutive semesters  
• Failed one or more than one credit course  
• Received an official grade that is not within eligible limits or the course is not eligible for a supplementary examination  
• Credits passed should be more than or equal to 40%  
• Achieved a cumulative GPA greater than or equal to 1.00  
• No AB,NS or IN grade for current term  
• No IP grade for current semester. |
Priority Order
When applying a Conditional Standing, the following standing actions have priority order: Deferred, Eligible for Supplementary and In Progress. A student with an official grade of AB (deferred examination), NS (not submitted) or IN (incomplete) will be assigned a standing of Conditional – Deferred regardless of other grades received. Conditional – Eligible for Supplementary is next in priority followed by Conditional – In Progress.

Honour Standing
- Student must be in Clear Standing
- Student must have a term GPA of 4.00 (not a cumulative GPA)
- Student must be enrolled in four or more credit courses for the 15-week term (Fall and Winter)
- Student must be enrolled in one or more credit courses for 7-week term (Intersession)
- If the student is enrolled in a work term in the Intersession, then the work term is considered as a credit course even though the work term has no credit value
- If the student is enrolled in 4 or more credit courses and one preparatory courses in a term, the preparatory courses must have a grade of at least 80% since GPA of 4.00 equates to a grade of 80%.
- If the student is enrolled in a clinical course of 35 hours per week for a 15-week or 7-week semester, this is considered to meet the enrollment requirement for eligibility in the Honour Society

Student Records
Actions of the Academic Appeals Committee are permanently recorded on student academic records and transcripts. Warning letters are not noted on the transcript.

Transcripts
Students will, upon submission of authorized request, have the right to receive transcripts of their own academic record. 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 College, CNA-Q will not release official transcripts or other confirmations of enrolment or other documentation.

Withdrawal Grades Recorded on Student Record
All grades are recorded on the student’s official transcript. Course withdrawals are recorded on the transcript according to annual add/drop dates posted in the CNA-Q calendar.

Transcript Legend
<table>
<thead>
<tr>
<th>Grade</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AB</td>
<td>Deferred grade</td>
</tr>
<tr>
<td>CF</td>
<td>Credit forwarded-internal</td>
</tr>
<tr>
<td>DR</td>
<td>Dropped course</td>
</tr>
<tr>
<td>F</td>
<td>Failing grade in course</td>
</tr>
<tr>
<td>NP</td>
<td>No paper, Failure</td>
</tr>
<tr>
<td>TC</td>
<td>Transfer credit – external</td>
</tr>
<tr>
<td>AU</td>
<td>Audit of course</td>
</tr>
<tr>
<td>CO</td>
<td>Completed course</td>
</tr>
<tr>
<td>EN</td>
<td>Exemption from course</td>
</tr>
<tr>
<td>IN</td>
<td>Incomplete grade</td>
</tr>
<tr>
<td>P</td>
<td>Passing grade in course</td>
</tr>
<tr>
<td>WH</td>
<td>Mark withheld</td>
</tr>
<tr>
<td>PR</td>
<td>Proceed</td>
</tr>
<tr>
<td>DF</td>
<td>Dropped, Failure</td>
</tr>
<tr>
<td>IP</td>
<td>In Progress</td>
</tr>
<tr>
<td>COM</td>
<td>Competent</td>
</tr>
<tr>
<td>NS</td>
<td>Grade not submitted</td>
</tr>
<tr>
<td>RPT</td>
<td>Repeat</td>
</tr>
</tbody>
</table>

Letter of Permission
Students in good standing (not on probation) without outstanding tuition or fees at CNA-Q may take courses as part of their degree program at another post-secondary institution on a Letter of Permission provided:
1. Students remain within their residency requirements for completion of their CNA-Q diploma or certificate; and
2. Students receive authorized consent to take specific courses towards their CNA-Q diploma.

Letter of Permission credits are considered non-resident credits. Within the parameters of the Residency Requirement 75% of credits is the maximum number of non-resident credits a student may apply toward a diploma program at CNA-Q.

Tuition and other fees for courses taken on Letter of Permission are paid directly by the student to the visiting post-secondary institution. CNA-Q students who are on Probation or Academic Dismissal, or who owe outstanding fees to CNA-Q, are not eligible to take courses on a Letter of Permission.

The registration procedures are coordinated through the Registrar’s Office. The following documentation may be required in order to obtain consent:
1. A course description from the relevant course calendar (year in which student would like to take the course).
2. A course syllabus/outline detailing weekly course content, form of evaluation (e.g. tests/essays) and mark breakdown Credit for a course completed on a Letter of Permission will not be awarded without confirming the successful completion of the course with a minimum grade of 60% or a “C” grade or better for block transfers and a passing grade as determined by the home/sending institution for direct transfer equivalencies.

Residency Requirement
The Residency Requirement defines the number of credits a student must complete in order to obtain a credential from CNA-Q. The College requires that 25% of courses must be completed at CNA-Q.
The Registrar’s Office creates a number of different types of letters for students for a variety of purposes. These letters and their descriptions are noted in the below table. Students must make a formal request for any one of these letters at the Registrar’s Office and should expect a 2 – 3 day turnaround, based on the type of letter.

<table>
<thead>
<tr>
<th>Division</th>
<th>Type of Letter</th>
<th>Description</th>
<th>Availability of the letter</th>
</tr>
</thead>
<tbody>
<tr>
<td>Admissions</td>
<td>Letter of Acknowledgement</td>
<td>This letter is issued to all prospective students who apply to CNA-Q. The letter informs the applicant that a placement test will be scheduled.</td>
<td>Upon processing the application this letter will be emailed to the email address noted in the application.</td>
</tr>
<tr>
<td></td>
<td>Letter with Self Service Information</td>
<td>This letter is also provided to help prospective students check their application status online. The letter contains a system generated Student ID and password for initial access.</td>
<td>Upon processing the application this letter will be emailed to the email address noted in the application.</td>
</tr>
<tr>
<td></td>
<td>Letter of Waitlist</td>
<td>This letter follows the Letter of Acknowledgement after the prospective student is successful in the placement test. The letter will indicate that the student is placed on the waitlist and they will be notified in writing.</td>
<td>Upon processing the placement test scores this letter will be emailed to the email address noted in the application.</td>
</tr>
<tr>
<td></td>
<td>Letter of Conditional Waitlist</td>
<td>This letter follows the Letter of Acknowledgement after the prospective student is successful in the placement test. The letter will indicate that the student is placed on a conditional waitlist and will request to provide the validation letter or the high school transcripts.</td>
<td>Upon processing the placement test scores this letter will be emailed to the email address noted in the application.</td>
</tr>
<tr>
<td></td>
<td>Letter Denying Admission</td>
<td>This letter is issued when an application is rejected due to the noted condition(s): 1. Applicants who did not meet the placement tests levels required by the program. 2. Applicants whose validation was denied by the Ministry of Education and Higher Education.</td>
<td>Upon processing the placement test scores and/or receiving the decision from the Ministry of Education and Higher Education, this letter will be emailed to the email address noted in the Application.</td>
</tr>
<tr>
<td></td>
<td>Letter of Offer to Access Program</td>
<td>This letter is issued to Qatari Applicants when applicants did not meet the Placement test level required by the program. The Applicant will be requested if he/she would like to apply for the Access Program which are Foundation English and Math courses which may help achieve the required level to their desired program.</td>
<td>Upon processing the placement test scores this letter will be emailed to the email address noted in the application.</td>
</tr>
</tbody>
</table>
# Registrar's Office Letters

<table>
<thead>
<tr>
<th>Division</th>
<th>Type of Letter</th>
<th>Description</th>
<th>Availability of the letter</th>
</tr>
</thead>
<tbody>
<tr>
<td>Front Desk</td>
<td>Enrollment Verification (Registration Letter)</td>
<td>This letter confirms student enrollment in the current semester and the student demographic details such as name, nationality, Student ID and Qatari National ID are also included.</td>
<td>This letter is issued upon student request. Students will need to fill a Student Request form which is available at the Registrar’s Office.</td>
</tr>
<tr>
<td></td>
<td>Enrollment Verification Letter - Detailed</td>
<td>This letter is issued when a more detailed letter is required than the standard enrollment verification letter. Includes one or more of the following based on student’s request: 1. Start and end dates of the term enrolled 2. Length or duration of the program enrolled 3. Expected graduating semester 4. Full Name 5. Passport details</td>
<td></td>
</tr>
<tr>
<td>Records</td>
<td>Academic Warning Letter</td>
<td>This letter is issued to students who receive an Academic Warning related to their academic standing at the end of term.</td>
<td>This letter is issued by the Registrar and students will be notified via text message.</td>
</tr>
<tr>
<td></td>
<td>Academic Dismissal Letter</td>
<td>This letter is issued to students who receive an Academic Dismissal related to their academic standing at the end of term.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Honour Standing Letter</td>
<td>This letter is issued to students who receive an honour standing in a semester. Please see the criteria for honour standing in the academic status section on page 22.</td>
<td></td>
</tr>
<tr>
<td>Graduation</td>
<td>TPP Certification Completion Letter</td>
<td>This letter is issued to TPP students only. This indicates the certificate level completed by the student in the TPP program.</td>
<td>Graduation letters will not be issued to prospective graduates during the graduation preparation period that begins three weeks before the graduation date. However alumni can request a graduation letter during this time.</td>
</tr>
<tr>
<td></td>
<td>Graduation Letter</td>
<td>This letter is issued to graduating and graduated students. The letter indicates student details, academic program graduated, GPA, and year of graduation.</td>
<td>These letters are issued by the Registrar after the award recipients are selected in the Fall semester. Students will be notified by email when these letters are available.</td>
</tr>
<tr>
<td></td>
<td>Award and Scholarship Letters</td>
<td>Students who win awards and scholarships are notified by letters indicating the awards they won, the monetary value (if any) and other details at the Rewarding Excellence Awards Ceremony.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Graduation Audit Letter</td>
<td>This letter is issued to a graduating student who has almost completed all academic requirements of the program. The letter indicates student’s details, graduating program, conferral date and the completion of the graduation exit requirement.</td>
<td>This letter is issued upon student request. Students will need to fill a Student Request form which is available at the Registrar’s Office.</td>
</tr>
</tbody>
</table>
Registrar’s Office Letters

<table>
<thead>
<tr>
<th>Division</th>
<th>Type of Letter</th>
<th>Description</th>
<th>Availability of the letter</th>
</tr>
</thead>
<tbody>
<tr>
<td>Registrar</td>
<td>Letter of Permission</td>
<td>A Letter of Permission is issued to students who plan to take a course at an outside institution and apply their credits to a credential at CNA-Q. Letters of Permission are available only to students in clear standing at the College and who have no outstanding financial obligations to the College.</td>
<td>The letter will be sent directly to the Institution from which the course will be taken. The student is responsible to register at and pay for the course(s) at the Institution directly.</td>
</tr>
</tbody>
</table>

**Academic Dismissal**

Students will be academically dismissed if their cumulative grade point average is less than 1.0 and/or they have not passed a minimum of 40% of the credits they attempted in a semester. All students in credit programs are subject to the academic dismissal rules. Please consult the Registrar’s Office for full details regarding rules and their interpretation. The College may waive the academic dismissal policy on a one-time forgiveness basis with a recommendation from the Academic Policy Appeals Committee in concurrence with the following: Students who are registered as full time and for the first time fail to achieve a cumulative grade point average of 1.0 and/or have not passed a minimum of 40% of the credits attempted in the semester will be given a standing of Academic Warning and will be permitted to register for the next semester.

Students who have been placed on Academic Warning and fail a second time to either achieve a cumulative grade point average of 1.0 and/or a minimum of 40% of the credits attempted in any subsequent semester will be dismissed.

**Academic Warning**

Students on Academic Warning will be allowed to continue under the following provisions:
1. They are referred to a college counsellor or/and will participate in a review of their career/academic goals, developing learning strategies that will lead to success.
2. An appropriate course load will be developed by the student in consultation with the academic advisor/counsellor. The maximum course load will not exceed 20 hours per semester for a student on Academic Warning.

**Academic Dismissal for Non-Credit and Language Preparatory Courses**

Students in non-credit academic or language preparatory courses who fail the same course three times will be academically dismissed for one semester. A student who returns to the College and fails the same preparatory course for a fourth time will be academically dismissed a second time and will be eligible to return to the College after a period of one year. When a student starts their academic program, any previous non-credit or language preparatory course dismissal will not be counted toward their academic dismissal standing.

**Re-Admission of Academically Dismissed Students**

1. Students who are academically dismissed from the College must apply for re-admission, and their names will be placed at the end of any existing waitlist.
2. Applications from academically dismissed students to return to the College will be received at any time but students will not be accepted to return on a full-time basis until at least one semester period from the date of dismissal has elapsed.
3. Students who have been academically dismissed from a program on two or more occasions will not be eligible for re-admission to that program for a period of two years from the date of dismissal.

Students will be permitted to register only for those courses for which prerequisites have been met.

Students are reminded that for guidance and information on proper scholarly behaviour, they should seek advice from counsellors, instructors, faculty advisors, or the Registrar’s Office.

It is the policy of this College that all students will register for full-time programs at the beginning of each semester including the Intersession.
Student Appeals (Academic)
Academic appeals fall into three categories:
1. Academic dismissal
2. Attendance dismissal
3. Academic dishonesty

All registered students of the College have the right to appeal decisions or rulings that affect them and that pertain to academic matters. Students wishing to appeal an academic decision must complete an appeal application (available from the Registrar’s Office) with information and documentation supporting their appeal. The deadline for submitting an appeal is the last day of registration in the semester following the academic decision being appealed.

The Academic Appeals Committee is comprised of the Registrar and the Dean of Student Affairs, who act as co-chairs, plus a student representative, one faculty representative from a department other than the department of the student who is presenting the appeal, and one Dean’s representative from a department other than the department of the student who is presenting the appeal. The student has a right to have an advocate at the meeting with them, such as a counsellor, parent, friend, etc.

Appeals will be heard on the first day of classes in the subsequent semester. This will allow students who are successful in their appeal to register and start classes as early as possible. The decision of the Appeals Committee is final. Students will be notified of the Committee’s decision in writing. For additional information or advice concerning appeals, please consult your counsellor or the Registrar’s Office.

Student Appeals (Non-Academic)
Non-academic student appeals may apply to a variety of issues such as vandalism, theft, disturbance and harassment both within and outside the classroom. Penalties for infractions are dependent on the seriousness of the offence. In cases of minor infractions, all staff are encouraged to resolve student disputes informally. Minor offences may lead to a verbal reprimand that may be followed up in writing through the completion of a disturbance incident report. Repeated incidents may lead to additional and/or more severe penalties such as restricted privileges or dismissal with notation on a student’s permanent record. Serious offences (e.g. drugs, alcohol, threats, violence) will lead to an immediate suspension and a possible report to police.

Normally, instructors, faculty advisors and Deans/Chairs/Instructional Coordinators, in full adherence to current policies and regulations, will expend every effort to resolve student disputes thereby avoiding the formal appeal process.

The Registrar will set up the committee to examine the evidence ensuring that all appropriate parties to the complaint are given an opportunity to appear before the Committee. The decision of the Committee will be final and must be conveyed in writing to the student with a copy to the Vice President, Academic within five working days from the receipt of the appeal.
Registration
Date of Registration
Students will register in person or on-line on the date and at the time and place prescribed and publicized by the College.

Late Registration
All students should register by the 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.

Admission to Classes
Students will not be admitted to a class until they have satisfied the regulations regarding entrance and complied with general college regulations. The number of courses constituting a normal semester workload for a student is determined by their program requirements.

Extended Course Loads
Students who wish to register for extra courses must make application to the appropriate Dean/Chair.

Repeating a Course
With the permission of the Dean/Chair, students may repeat any course for which a passing grade has previously been awarded. The original passing grade will remain on the transcript and a second entry will be recorded with the new grade.

The highest mark attained will be used in the calculation of the GPA. Space limitations and other considerations will determine approval.

Change of Registration
Adding Courses
The last date for adding courses is two weeks from the first day of classes in a 15-week semester and one week from the first day of classes in a 7 to 13 week Intersession/semester. In extenuating circumstances during the 15 week semester, the two-week period for adding courses may be extended.

Dropping Courses
Courses may be dropped without academic prejudice up to the end of eight weeks from the first day of classes for a 15-week semester or the end of the second week in a 7 to 13 week Intersession semester. If a course of 6 or 7 weeks in duration is offered in a 15-week semester, the drop date for that particular course will be the end of the second week. Students must complete the appropriate registration change form and all changes must be approved by the instructors concerned, the program administration, and the sponsors, where applicable.

If a student drops a course beyond the last date to drop without academic prejudice, he/she will receive a DF (drop/fail) on their transcript.

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.

Before Going to Work Term
To be eligible to register for your work term course, you must successfully complete all academic courses, have a minimum GPA of 2.0, and register for your work term course in person or online.

Finding a Work Term
The Work Term Coordinator will be assisting the students on finding places for their work term, however the students are responsible for finding their own work term. All work term companies and placements must be approved by CNA-Q.

Work Term is an academic and mandatory course that is taken at the end of a student’s program in Business Studies and Information Technology. If a student has met the work term prerequisites and requirements, he/she may complete the course anytime throughout the academic year.

The work term course is assessed and students receive a grade when they have completed the course.

The work term duration for diploma students from the School of Business Studies is 6 weeks. The duration for students from the School of Information Technology is 8 weeks.

Sponsored students complete their work term at their sponsor’s worksite. Non-sponsored students are placed at a company best suited to their program.

Students must attend a mandatory work term orientation where they are given additional information about the work term course. The Work Term Coordinator will contact eligible students and inform them of the date and time of the orientation.
School of Business Studies

<table>
<thead>
<tr>
<th>COURSE TITLE</th>
<th>WORKTERM DURATION</th>
<th>TOTAL COST</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Administration Certificate</td>
<td>2 weeks</td>
<td>692 QR</td>
</tr>
<tr>
<td>Office Administration Certificate</td>
<td>2 weeks</td>
<td>692 QR</td>
</tr>
<tr>
<td>Office Administration Executive</td>
<td>6 weeks</td>
<td>2,025 QR</td>
</tr>
<tr>
<td>Business Management <em>(Three Year Diploma Programs)</em> (Accounting, Marketing, Human Resource)</td>
<td>6 weeks</td>
<td>2,025 QR</td>
</tr>
<tr>
<td>Business Administration <em>(Two Year Diploma Programs)</em> (Accounting, Marketing, Human Resource)</td>
<td>6 weeks</td>
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</table>

School of Information Technology

<table>
<thead>
<tr>
<th>COURSE TITLE</th>
<th>WORKTERM DURATION</th>
<th>TOTAL COST</th>
</tr>
</thead>
<tbody>
<tr>
<td>Information Systems – Hardware</td>
<td>8 weeks</td>
<td>2,692 QR</td>
</tr>
<tr>
<td>Information Systems – Software</td>
<td>8 weeks</td>
<td>2,692 QR</td>
</tr>
<tr>
<td>Information Systems – Web Developer</td>
<td>8 weeks</td>
<td>2,692 QR</td>
</tr>
<tr>
<td>Information Systems – Network and Systems Administration</td>
<td>8 weeks</td>
<td>2,692 QR</td>
</tr>
</tbody>
</table>

Examinations and Tests

Dates for midterms, finals, and supplementary 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. Grades are rounded in units of five.

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 Intersession (e.g. 5- to 7-week), for which the time frame will be one week prior to the start of examinations.
Supplementary Examinations

Supplementary Examinations provide a chance for students in diploma and certificate programs to improve their grades in courses completed in the current semester.

Supplementary examinations are available in courses in which the final exam is worth 30% or more of the total course evaluation scheme. The grade attained in a supplementary examination will replace only the final examination grade for the course in question and will be combined with marks previously attained for term work.

The following guidelines apply for writing a supplementary examination:

1. Student grade reports will state: Conditional: Eligible for Supplementary if a student meets the conditions for a supplementary examination.
2. Students are eligible to write only one supplementary examination per semester.
3. Supplementary examinations will be written as close to the first day of registration for credit programs in a subsequent semester as can be scheduled. The actual date will be published during the semester.
4. Students must apply in writing for supplementary examinations as soon as possible after final grades are available. The deadline to apply for a supplementary examination is 3:00 pm on the last work day preceding the date of the supplementary exam. The actual date will be published during the semester.
5. If the mark obtained in the supplementary exam is lower than the original mark obtained on the regular final examination, the original mark will remain.
6. Where circumstances warrant, supplementary exams may be written off campus. Students must meet and follow all CNAQ off campus examination conditions and guidelines in order to write supplementary exams off campus.

There are no supplementary examinations in Academic Preparatory and English Language Preparatory courses.

In a supplementary eligible course (a course in which the final exam is worth 30% or more of the total course evaluation), eligibility to write a supplementary exam is based on whether a student has attained the minimum required mark in both of these categories. For example, if successful achievement of a course requires a 60% on the final exam and a 60% on the overall grade, and the student does not achieve both requirements, eligibility to write a supplementary exam has not been met.

Supplementary Exams in the School of Health Sciences

Courses in the School of Health Sciences may require a student to achieve both a passing grade on the final exam and an overall passing cumulative course grade. Requirements for successful completion of a course are stipulated on the official Course Outline.

In a supplementary eligible course (a course in which the final exam is worth 30% or more of the total course evaluation), eligibility to write a supplementary exam is based on whether a student has attained the minimum required mark in both of these categories. For example, if successful achievement of a course requires a 60% on the final exam and a 60% on the overall grade, and the student does not achieve both requirements, eligibility to write a supplementary exam has not been met.

Supplementary Exams in the School of Health Sciences

Courses in the School of Health Sciences may require a student to achieve both a passing grade on the final exam and an overall passing cumulative course grade. Requirements for successful completion of a course are stipulated on the official Course Outline.

Academic Dishonesty on Supplementary Exams

Students who have been deemed to be academically dishonest on a final examination are not eligible to write a supplementary exam for the associated course.

Apply to Remove a Grade from the CNA-Q College Transcript

Students enrolled in the final semester of their graduating year may avail of the opportunity to have a passing grade removed from their cumulative GPA calculation on their academic transcript. Students can apply to have one passing grade removed and have the grade recorded as a “P” or “Pass”. The course will still be recorded on the transcript, but the grade will not be included in the cumulative GPA, so as not to negatively affect the academic record. Students must make this application writing to the Registrar’s Office before the date of the Application to Graduate in their graduating year. Applications for removal of a grade will be granted only once in a student’s academic tenure at CNA-Q.

Deferred Exams

Students who are prevented by illness, bereavement, or other acceptable cause, 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 Registrar’s Office 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 program administrator 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.
Supplementary and Deferred Grade Changes
Supplementary and deferred grade changes are processed only after a student is enrolled in classes. If the revised mark changes to a passing grade, then the change of grade is processed and the Academic Standing is updated with a transcript note.

If the revised mark is less than or equal to the original mark, then the grade is not changed, but the Academic Standing is updated with a transcript note.

If a student has a potential dismissal status and if the student fails or did not attempt the Supplementary Exam, the student will be dismissed.

Soon after the last date to register, all grade changes will be processed and the Academic Standings and transcript notes will be updated.

Once the grade changes are processed, all other Academic Standings (for those who did not attempt the Supplementary Exams) will be updated based on their grades on their transcript.

Incomplete
Subject to the approval of the appropriate program administrator, an incomplete grade may be assigned when the mandatory components of the course are not completed. Incompletes must be cleared by the end of the third week after the beginning of the subsequent semester. If incompletes are not cleared by this date, students will receive a failing grade.

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 three instructional 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 program administrator. If this action is taken, it must be done within five instructional days of receipt of the assessment. Unsatisfactory resolution of the dispute at this stage may enable students to request a review of the grade(s) by the Appeals Committee. Such an appeal should be made within ten days of receipt of the assessment.

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 Registrar’s Office 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.

Aegrotat Standing
Students who, through illness or other exceptional circumstances, have been absent from a scheduled final examination, or who have been unable to complete all of the required work in a course, may, on the recommendation of the counsellor, in consultation with the Program Administrator and faculty, be given credit for the course.

Application for Aegrotat Standing with full details duly authenticated must be made to the Registrar’s Office within two weeks after the last day of examinations indicating each course for which the application is being made.

Academic Documentation
Transcripts, diplomas, and certificates will be withheld from a student who is in possession of college property such as books, equipment or supplies, or who has other obligations to the College.

Grade Reports
Grade reports will be issued at the end of each 15-week semester and after Intersession/Spring session. Midterm grade reports will be issued for each 15-week semester.

Transcripts/Records of Achievement
a) Official transcripts/records of achievement may be obtained at any time from the Registrar’s Office.

b) A transcript depicts the student’s complete academic record including awards and honours, warnings, suspensions, and dismissals. Questions or concerns about an official transcript should be directed to the Registrar.

Academic Misconduct
Students are reminded that for guidance and information on proper scholarly behaviour, they should seek advice from the counsellors, instructors, faculty advisors, or the Registrar’s Office.

Academic Warning
An Academic Warning is issued to a student who is registered as full time and for the first time fails to achieve a cumulative grade point average of 1.0 and/or has not passed a minimum of 40% of the credits attempted in that semester. However such a student is permitted to register for the next semester.
Attendance Policy and Procedure

Attendance
Students are expected to attend all classes and laboratories/workshops associated with courses, and attendance will be recorded by the instructor. Students who miss classes or labs/workshops are required to provide documentation upon their return to class. If the absence is due to illness, a medical note signed by a doctor and displaying an original doctor and hospital/clinic stamp must be presented to the Registrar’s Office for validation and acceptance not more than two days after the student returns to class. If the absence is due to travel for Umrah, approved documents must be presented to the Registrar’s Office for validation and acceptance not more than two days after the student returns to class. If the absence is for other reasons, documentation should be presented to the instructor when the student returns to class. Absences other than those supported by validated medical reports are excused at the discretion of the instructor, with the exception of travel for Umrah, which with proper documentation, will be approved by the Registrar’s Office.

Policy
1. Students have a right to know, at the beginning of the course, the requirements regarding class attendance and punctuality in courses in which they are registered.
2. Students are responsible for attending class and exercising punctuality.

General Guidelines
1. Students’ attendance is recorded by instructors daily. It is recorded as:
   a. Present (and can include Tardy and Left Early)
   b. Absent – excused
   c. Absent – medically excused
   d. Absent - sick
   e. Absent - unexcused
2. Students absent for medical or reasons for travel for Umrah must submit medical or Umrah travel documents to the Registrar’s Office within two working (class) days after the student returns to class.
3. Registrar’s Office accepts or declines medical or travel certificates and records them in the student information system.
4. For the purpose of attendance taking, each semester (Fall, Winter, Intersession) will be considered a separate block.

Attendance Guidelines
Students who are absent 10% or more during the semester and who are failing 25% or more of the course hours attempted in a semester will be dismissed for one semester (upon the Dean’s approval).

Exceptions and Attendance Probation
1. Students who are absent 10% or more during the semester and who are failing 25% or more of the course hours attempted in a semester will be placed on attendance probation for one semester.
2. Students who for the first time are absent 10% or more during the semester and who are failing 25% or more of the course hours attempted in a semester will be placed on attendance probation for one semester.

Purpose and Scope
The purpose of an attendance policy for students is to ensure they attend classes on a regular basis, as regular attendance increases learning opportunities and prepares them for the expectations around punctuality and attendance in the workplace.

Advising students via SMS messaging who are not meeting the attendance expectations provides feedback that their behaviour is not acceptable and defines the consequences if the behaviour continues.
The College offers opportunities to students in many programs to receive a number of scholarships, prizes and awards. Scholarships are monetary awards presented in recognition of specific academic achievements. Some scholarships do not require an application and are determined solely on students’ weighted averages. Other scholarships require an application and are determined on academic performance coupled with other specific criteria such as financial need, contribution to college life, faculty recommendations, etc. Full information about scholarships and awards is available at the Registrar’s Office.

Criteria for Awards and Scholarships

1. Awards administered by the College are decided upon through the recommendations of the Awards Committee.

2. Application forms for awards administered by the College are available at the Registrar’s Office. Unless otherwise stated, applications are not required in order to be considered for medals, scholarships, or prizes.

3. No scholarship will be awarded to a candidate who holds an award of equal or greater value, unless specifically required by the terms of the award. Certain conditions apply.

4. To be eligible for any award, a student must be registered as a full-time student in a recognized college program.

5. There are different eligibility criteria for awarding scholarships and awards. Full information about the eligibility criteria for each scholarship/award is available at the Registrar’s Office.

CNA-Q Library and Learning Commons Award
This award is available to CNA-Q non-sponsored students enrolled in full-time studies. Candidates must have completed at least two semesters in their program of study, and be in good academic standing with a GPA of at least 3.000.

- **Quantity:** One
- **Value:** Cash award of 5,000 QR and recognition certificate

College of the North Atlantic – Qatar Highest Achiever Scholarship
Awarded to the highest academic achiever at the College of the North Atlantic – Qatar. The continuation of this award for the academic year is contingent upon academic performance after each term.

- **Quantity:** One
- **Value:** Cash award of 20,000 QR paid in two installments in Fall and Winter semesters (10,000 QR each). The student has to maintain the level required for the second payment.
- **Award:** Crystal and recognition certificate

College of the North Atlantic – Qatar Highest Achiever of School Scholarship
Quantity: One for the highest achiever in each of the following program areas: Business Studies, Engineering Technology, Health Sciences and Information Technology.

- **Value:** Cash award of 20,000 QR paid in two installments in Fall and Winter semesters (10,000 each). The student has to maintain the level required for the second payment.
- **Award:** Crystal and recognition certificate

College of the North Atlantic EFL Award

- **Quantity:** Two – one male and one female
- **Criteria:** Nominated by faculty for outstanding performance in English as a Foreign Language
- **Award:** Plaque and recognition certificate
- **Value:** 5,000 QR

Merit Award
Awarded to the highest academic achiever, one female and one male, in Business Studies, Office Administration, Engineering Technology, Health Sciences and Information Technology programs.

- **Quantity:** Ten
- **Award:** Crystal and recognition certificate
- **Value:** 5,000 QR

Achievement Award
This award recognizes the outstanding motivation and perseverance demonstrated by students who study English as a second language and subsequently excel in their program of study.

Students will be selected for the Achievement Award if they:

1. Completed at least CNAQ’s EFL 1070 prior to entering their academic program.
2. Achieved a minimum cumulative GPA of 3.2.
3. Their projected graduation date is in the 2019 Graduation Ceremony.
### CNA–Q – ORYX GTL Awards

ORYX GTL supports and encourages our students in the achievement of both their professional and personal goals. This strategy recognizes the importance of developing Qatar’s human capital and supports the Qatar National Vision 2030. In support of this initiative ORYX GTL is providing the following awards:

**CNA–Q – ORYX GTL Award Academic Excellence and Achievement in Entrepreneurship**

This award is presented in the Fall Semester on the basis of a student’s academic achievement and demonstration of outstanding entrepreneurship skills in the College or community.

- **Quantity:** One
- **Award:** TBA

**CNA–Q – ORYX GTL Award Academic Excellence and Achievement in Health and Wellness**

This award is presented in the Fall Semester on the basis of a student’s academic achievement and outstanding contributions and professional skills in the College and/or work term placement and community.

- **Quantity:** One
- **Award:** TBA

**CNA–Q – ORYX GTL Award Academic Excellence and Achievement in Leadership**

This award is presented in the Fall Semester on the basis of a student’s academic achievement and outstanding leadership skills in the College or community.

- **Quantity:** One
- **Award:** TBA

**CNA–Q – ORYX GTL Award Academic Excellence and Achievement in Sports**

This award is presented in the Fall Semester on the basis of a student’s academic achievement, and outstanding sportsmanship in the College or community.

- **Quantity:** One
- **Award:** TBA

**ORYX GTL Distinguished Graduate Award**

This award is presented in the annual President’s Awards for Academic Excellence Ceremony on the basis of a graduate’s academic achievement, exceptional leadership skills, and engagement in the student life in the College and/or work term placement and community.

- **Quantity:** One graduate from each of the following program areas: Business Studies, Engineering Technology, Health Sciences and Information Technology.
- **Award:** TBA

### Student Affairs Awards

**Student Affairs Leadership Achievement Award**

- **Quantity:** Two
- **Criteria:** Demonstrated outstanding leadership at CNA-Q while maintaining a minimum 3.0 GPA.
- **Value:** TBA

**Student Affairs Female Achievement Award**

- **Quantity:** Two
- **Criteria:** Female student with demonstrated engagement in Student Affairs activities and leadership opportunities while maintaining a minimum of 3.0 GPA.
- **Value:** TBA

**Student Affairs Sports Awards**

- **Quantity:** Two
- **Criteria:** Demonstrated sports achievement and sportsmanlike attitude while maintaining a minimum of 3.0 GPA.
- **Value:** TBA

**Student Affairs Female Achievement Award**

- **Quantity:** Two
- **Criteria:** Female student with demonstrated engagement in Student Affairs activities and leadership opportunities while maintaining a minimum of 3.0 GPA.
- **Value:** TBA

**Student’s Representative Council Scholar-Bursary**

- **Quantity:** Three
- **Criteria:** Financial challenges at CNA-Q while maintaining a minimum of 3.0 GPA.
- **Value:** 10,000 QR, disbursed in two payments of 5,000 QR. Student must maintain a 3.0 GPA in order to collect the second disbursement.

**Artistic Achievement Award**

- **Quantity:** Two
- **Criteria:** Demonstrated talent in art and/or photography while maintaining a minimum of 3.0 GPA.
- **Value:** TBA
Honour Standing and Honour Society Criteria
If a registered student meets the Honour Standing Criteria for three consecutive terms, they will become a member of the Honour Society. This award will be recognized at the Rewarding Excellence Ceremony.

CNA-Q President’s Award for Academic Excellence
The College has established a President’s Award of Excellence to be awarded at the annual CNA-Q President’s Award for Academic Excellence Ceremony to one graduate in each program who attains the highest academic standing in their program. The student will receive a certificate.

Recognition
Academic Awards and scholarships administered by the College will be recorded on the recipient’s academic transcript.

Other Academic Recognition

Tuition and Fees

Regulations Governing Payment of Fees and Charges

Student Fees
a) All student fees must be paid prior to or at the time of registration. There is no provision for paying by installment or for deferred payment.

b) Should the College cancel a program, all fees will be refunded.

c) Students who have a fee balance owing from a previous semester are required to pay the total outstanding sum, plus the fees for the upcoming semester before being permitted to register.

Tuition and Fees for 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.

Application Processing Fee
Fee: 100 QR (non-refundable)

The application fee is paid by the applicant at the time the application is submitted to CNA-Q.

Entrance Placement Testing
Fee: 200 QR (non-refundable)

The Oxford Online Placement Test (OOPT), Academic Math Placement (AMP), General English Placement (GEP) and General Math Placement (GMP) fee is paid when the applicant writes the test.

Applications received from sponsors are processed upon receipt. Fees are charged to the sponsor’s account.

Student Services Fee
Fee: 150 QR
This is an annual fee and is payable at the time of registration.

Materials and Supplies Fee
Fee: 150 QR
This fee is payable by all full-time students at the beginning of each semester for an annual total of 300 QR.

Work Term Fee
The work term fee of 5,000 QR is charged for a 15-week work term if the work term is the only course a student is enrolled in for the Fall or Winter semester. Different work term fees are paid for different programs. Consult the Work Term Coordinator at the Registrar’s Office for clarification.

See page 28 for Work Term Fee Schedule.

If the student is full time during the Fall and/or Winter semesters (enrolled in a minimum of 15 hours per week) and his/her fees are paid in full, no payment will be required for the work term during the Intersession with the exception of the TCP program.

If the student has been enrolled on a part-time basis during the Fall and Winter semesters, then he/she will pay the work term fee of 5,000 QR at the time of registration for the Intersession/Summer semester.

Tuition for Non-Sponsored Students
Per year: 20,000 QR
(10,000 QR per semester)
Tuition for the Intersession semester: 2,000 QR per course to a maximum of 6,000 QR
Annual tuition is paid in two equal installments. The first installment (10,000 QR) is due at the time of registration for the Fall Semester. The second installment (10,000 QR) is due at the time of registration for the Winter semester. If the student is full time during Fall and/or Winter semesters and his/her fees are paid in full, no payment will be required for courses in the Intersession semester.

Tuition for Sponsored Students
Per year: 30,000 QR
(15,000 QR per semester)
Sponsored students do not pay tuition fees at the time of registration. The College verifies their sponsorship at the time of registration and collects the tuition fee from the sponsor.

If the student is full time during Fall and/or Winter Semesters and his/her fees were paid in full, no payment will be charged for courses in the Intersession semester.
Tuition and Fees

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

Application Processing Fee
Fee: 100 QR (non-refundable)

Entrance and Placement Assessment Testing
Fee: 200 QR (non-refundable)

The entrance and placement assessment fee is paid when the applicant writes the mandatory English and Mathematics placement tests. The fee is non-refundable.

Applications received from sponsors are processed upon submission. Fees are charged to the sponsor’s account.

Student Services Fee
Fee: 150 QR
This is an annual fee and is payable at the time of registration.

Materials and Supplies
Fee: 25 QR per course

Tuition
Non-sponsored students: 2,000 QR tuition per course
Sponsored students: 3,000 QR tuition per course

Intersession Semester Fees
Sponsored students: 3000 QR per academic course (maximum of three courses)
7500 QR (EFL course)

Non-sponsored students: 2,000 QR per academic course (maximum of three courses)
5,000 QR (EFL course)

Receipts
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.

Refunds
Students are responsible for initiating their own refunds and are required to complete the Student Revenue Refund Form. Forms are available from the Registrar’s Office. All tuition refunds will be issued by cheque from the Finance Department. All refund amounts will be applied against outstanding accounts before any money is returned to the student.

Refunds – 15-Week Semester
A student who withdraws or drops a course or courses within the first two weeks of any 15-week semester will receive a full refund. If the withdrawal/dropping takes place within three to six weeks of registration in a 15-week semester, the refund will be prorated and the student will be liable for the number of weeks enrolled. After the sixth week of classes, no refund will be awarded for course drops or withdrawals.

Refunds – 7- to 13-Week Semester
A student who withdraws in the first week of Intersession will receive a full refund. If the withdrawal/dropping takes place within two to three weeks in a 7- to 13-week semester, the refund will be prorated and the student will be liable for the number of weeks enrolled. After the third week of classes, no refund will be awarded.

Textbooks Refunds
Refunds will be given for returned textbooks under the following conditions:
a) Books are returned within three weeks after the first day of classes
b) Books are unmarked and in saleable condition
c) Original receipts are presented when the refund is requested

Consult the Registrar for clarification of fees, charges, and refunds.

Financial Appeals
Appeals of a financial assessment should be made in writing to the Controller.

Textbooks Refunds

Please refer to page 37 for further details on Refund.
Graduation
Graduating from CNA-Q
Students must meet the following criteria to be eligible to graduate:
• Have completed all courses pertaining to their program plan
• Have a clear academic standing
• Have a minimum GPA of 2.00
• Have cleared all outstanding fees
• Have met their English Proficiency Requirement for their program (Health Sciences only)
• Have returned all College equipment and books

It is the student’s responsibility to ensure that all diploma/certificate and program requirements have been met. Submission of the “Application to Graduate” form by the required deadlines ensures that the Graduation and Awards Officer has 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
Diploma and Certificate students may graduate after completing their program requirements in the Fall, Winter or Intersession semesters. Only one official Graduation Ceremony will be held, in the Spring. All students who had diplomas and certificates conferred the previous Fall or Winter, and those who are eligible to graduate in the Intersession 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 - Diploma is conferred on January 15. The last day to submit an Application to Graduate to the Registrar’s Office to graduate in Fall is October 15.

Winter Graduation - Diploma is conferred on the Spring Convocation date. The last day to submit an Application to Graduate to the Registrar’s Office to graduate in Winter is February 15.

Intersession Graduation -
Intersession I (Spring): Diploma is conferred on July 15. The last day to submit an Application to Graduate to the Registrar’s Office to graduate in Spring is March 15.

Intersession II (Summer): Diploma is conferred on September 15. The last day to submit an Application to Graduate to the Registrar’s Office 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.

Diploma Conferral Dates:
January 15 - Completion in Fall
Spring Convocation Date - Completion in Winter
July 15 - Completion in Intersession I (Spring)
September 15 - Completion in Intersession II (Summer)

If a student is graduating from more than one program, an Application to Graduate Form must be submitted to the Registrar’s Office for each certificate or diploma.

Parchment Replacement
To replace a lost parchment, a Declaration from a Notary Public* and/or the student to verify that the parchment has been lost, stolen or destroyed is required. Replacement parchments will be produced for the Diploma/Certificate Conferral Date only.

*A Notary Public is a public official who can authenticate documents with a notarial seal. Many lawyers are also Notaries. Please contact a local law office in your area for more information. If a student is unable to receive a Declaration from a Notary Public, the College will provide an attested copy of the Diploma/Certificate only.
### Refund/Charges Schedule for Credit Diploma Programs

Follow the charts below to help you to identify the percentage of refund you are eligible to receive based on the date of withdrawal.

**Legend:**
- 100%  
- 80%  
- 73.33%  
- 66.67%  
- 60%  
- 0% This day onwards

#### Refund Schedule for Non-Sponsored Students

#### Reference Programs

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<th>Month</th>
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#### Sponsor Charge Schedule for Sponsored Students

Follow the charts below to help you to identify the percentage of charges to sponsor based on the date of withdrawal.

**Legend:**
- 0%  
- 20%  
- 26.67%  
- 33.33%  
- 40%  
- 100% charged to sponsor this day onwards

#### Reference Programs

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<tr>
<th>Month</th>
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## Charge Schedule for TCP Programs

Follow the charts below to help you to identify the percentage of charges to sponsor based on the date of withdrawal. Sessions that start after the phase dates would have their charge schedule based on their dynamic class start dates.

Legend: 0%  20%  26.67%  33.33%  40%  100% charged to sponsor this day onwards

### Fall Phase August 2018

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Relevant, Value-Added, Innovative Training and Development Solutions

The CNA-Q Corporate Services department delivers relevant, value-added and innovative training solutions in Qatar for industry, government, businesses and organizations, driving results today that support the State of Qatar’s National Vision 2030.

Whether customized or off-the-shelf, face-to-face or blended learning, the CNA-Q Corporate Services team works in partnership with clients to develop and deliver solutions tailored to their unique workforce needs.

Our client solutions include needs assessments, program development and delivery, logistics and project management, account management, evaluation and quality assurance.

Existing and customized courses and programs leverage CNA-Q’s 16 years as the State of Qatar’s premier technical college including state-of-the-art facilities, internationally-recognized instructors, innovative teaching and learning approaches, and internationally accredited curriculum from:

- Business Studies
- Engineering Technology and Trades
- English Language Training and Academics
- Health Sciences
- Information Technology

A snapshot of CNA-Qatar Corporate Training technical and professional development solutions includes:

- Advanced Public Speaking for Leadership Development
- Basic Principles of Healthcare Ethics
- Building Trust in Healthcare Setting
- Canadian Red Cross (CRC) EFA and SFA
- Centrifugal Pump Maintenance
- CIEH courses
- Coaching Skills
- Communications
- Compensation and Employee Benefits
- Comprehensive English – Level 1 (KET 1)

- Comprehensive English – Level 2 (KET 2)
- Confidentiality and Management of Healthcare Information
- Conflict Management in Healthcare
- Conflict Resolution at the Workplace
- Continuous Professional Development (CPD) for Healthcare Practitioners
- Control Valves and Positioners
- Corporate Governance: Strategies for Internal Audit
- Coupling and Shaft Alignment Techniques
- Crisis Management
- Dental Hand Instrumentation and Instrument Transfer
- Dental Health Education and Preventive Care
- Dental Hygiene Instrumentation
- Diabetes Education Certificate
- Direct Current (DC) Motor Maintenance
- Distributed Control System Fundamentals (Process)
- Emergency Medical Technician – Basic
- Empathy in Healthcare
- Employee Relation
- English: Everyday English, Grammar, English for Travel, Telephone Skills, Pronunciation and Conversation
- Ergonomics
- Financial and Management Accounting Basics
- Research for Medical Practitioners
- Health and Wellness for Healthcare Practitioners
- Heat Exchanger Overhaul and Testing Techniques
- Human Resource Functions
- Human Resource Information Systems
- Human Resource Planning
- Infection Control
- Infection Control in Dentistry
- Instructional Skills Workshop (ISW)
- Instrumentation & Distributed Control System Fundamentals
- Intercultural Communication
- Introduction to Qatar Business Law
- IT Systems Analysis and Design
- Managing Customer Service
- Managing Hypertension in Patients with Diabetes
- Introduction to Marketing
- Medical Terminology
- MS Office for Business
- Nutrition Counselling for Dental Health
- Occupational Health & Safety
- Office Administration Training
- Pain Management
- Performance Management
- Planning and Organizing Skills
- Post-Operative Oral Hygiene Instructions
- Presentation Skills
- Programmable Logic Controllers
- Project Management
- Pumps - Positive Displacement
- Recruitment and Selection
- Reflective Practice Journal Entry
- Stress Management
- Three Phase Induction Motor Maintenance
- Time Management
- Train the Trainer (ToT)
- Venipuncture and Laboratory Analysis
- Verbal and non-Verbal Communication

For your specific training and development solution, call +974 4495 2111.

Email corporate.training@cna-qatar.edu.qa or visit www.cna-qatar.com/corporatetraining
Academic Standing for School of Industrial Trades

<table>
<thead>
<tr>
<th>ACADEMIC STANDING</th>
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<tbody>
<tr>
<td>Clear Standing</td>
<td>• Passed 100% of courses taken</td>
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<td>• Cleared all past course deficiencies in current academic program</td>
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<tr>
<td>Conditional Standing – Existing</td>
<td>• Passed 100% courses taken</td>
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<td>• Course deficiencies have not been cleared for current program</td>
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<td>Conditional Standing – Deferred</td>
<td>• Received an official grade of AB (Deferred Examination), IN (Incomplete) or NS (Grade not submitted) in at least one course</td>
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<tr>
<td>Conditional Standing – Eligible for Supplementary</td>
<td>• Failed one or more courses taken</td>
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<td>• Received an official grade that is within eligible limits and the course is eligible for a supplementary examination</td>
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<tr>
<td>Conditional Standing – In Progress</td>
<td>• Received an official grade of IP (In Progress) in at least one course</td>
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<tr>
<td>Conditional Standing</td>
<td>• Failed one or more courses taken</td>
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<td>• Received an official grade that is not within eligible limits OR the course is not eligible for a supplementary examination</td>
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Learner Services

The Office of the Associate Vice President-Academic at CNA-Q advances the mission and vision of the College 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.

The Registrar’s Office, Student Affairs, Library Services, and International Education each play a special role to ensure the CNA-Q 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 and extra-curricular pursuits.

See special sections in this calendar for full information about the Registrar’s Office and Student Affairs. The following pages provide details about Library and Learning Commons services.

The following people in these departments can assist you: Library Manager 4495-2045
Library Information Desk 4495-2051
Learning Commons Information Desk 4495-2049
Learner Services

Library
The library is managed by professional staff and provides research and supplementary resources for all programs taught at the College. The collection includes a comprehensive selection of print and e-books, international and local newspapers, magazines and academic journals (in both print and electronic formats), and DVDs. Individual and group study rooms with flat screen monitors, student computers, tablets, and laptops (for use in the Library) are available. The Library provides general and specialized tours, workshops, and one-on-one sessions for both faculty and students.

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 research and reading library collection. Services in the Learning Commons include help in the areas of mathematics and communication skills, as well as career support.

Located in Building 3

Career Counselling and Resource Centre (CCRC)
The Career Counselling and Resource Centre aims to assist students with their career planning process. It holds a wide array of career resource materials, including computer interactive career education programs.

Located in the Learning Commons, Building 3

IT Help Desk
The Student IT Help Desk is an extension of the IT Operations department with support available to assist students with questions they have about their password, e-mail and connecting to Wi-Fi.

Located in the Learning Commons, Building 3

Digital Media Centre
The 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 CNA-Q with any of their writing needs.

Make an appointment or drop in.

Located in the Learning Commons, Building 3

Math Help Centre
The Math Help Centre contributes to the success of our students by providing extra help for those who need it.

Drop in and bring your notes.

Located in the Learning Commons, Building 3

English Help Centre
The English Help Centre assists students with their English studies by providing extra help for those who need it. Students can have their English level reviewed and a learning plan developed. Also students can get help with their English courses, as well as, help to improve their test taking skills. We can also help prepare students to write the IELTS Exam and the Oxford Online Placement Test (OOPT).

The sessions offered will help familiarize students with the format of the exam and how each skill is tested. Students can improve their test taking skills and write a practice exam under simulated test conditions.

Make an appointment or drop in.

Located in the Learning Commons, Building 3
Learner Services

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 and student tutors from 9:30 – 2:30 Sunday to Thursday and weekends and/or evenings prior to final exams.
Located in Building 12 Room 218.

Science Help Centre
The Science Help Centre is designed to assist students by providing extra help in the areas of Biology, Chemistry and Physics. Make an appointment or drop in.
Located in Building 5, Room 1.13

Bookstore
Textbooks are available at the College Bookstore and should be visited after consultation with your instructor.

Prayer Room Location
Prayer rooms are available to students and visitors throughout the College.
Student Affairs

Vision
We are all proud of our 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: Student Life, Counselling, Sports and Recreation, Alumni, Career Counselling, and International Education.

The following people at the Student Affairs Office can assist you:

- Dean of Student Affairs: 4495-2016
- Dean’s Assistant: 4495-2015
- Career Centre Coordinator: 4495-2432
- Sports & Wellness Manager: 4495-2609
- Student Life Coordinator: 4495-2445
- Alumni Coordinator: 4495-2562
- International Education Coordinator: 4495-2396
- Lead Counselor: counselling@cna-qatar.edu.qa

Student Life
Embracing a global education, the Student Life team collaborates with the Students’ Representative Council and Qatari Youth Club to create opportunities to enhance well-rounded student development. Extracurricular campus-wide events such as Souq Areej Min Baladi, clubs such as the Talent and Debate club, and co-curricular initiatives are organized with student governing bodies. Students can avail themselves of professional development opportunities to enhance their leadership skills.

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

Sports and Wellness
The College offers students many opportunities to participate in a wide variety of athletic and recreational activities. The offering of activities is 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 recreation events held throughout the year. The facilities include a student lounge called the Falcon’s Nest, separate male and female gymnasiums, fitness rooms, swimming pools, tennis courts, an outdoor football field and a billiards room. Health and Wellness is integrated into the programs as a means of helping and facilitating students in achieving their optimal health and well-being.
Student Affairs

Counselling and Personal Development
There is a team of Counsellors at CNA-Q who provide personal, academic and social counselling. Assigned to all program areas, the Counsellors also coordinate additional services such as peer tutoring, student success workshops and awareness campaigns, all intended to enhance academic success and general quality of life. All meetings with the Counsellor are voluntary and confidential.

CNA-Q Access to Student Counselling Records
The College recognizes that the information you provide during a counselling session is private and we are committed to keeping that information confidential. As such, counselling records are excluded from other student academic record requests and the names and identities of students visiting Counsellors are not revealed without written consent.

Sometimes Counsellors work collaboratively in a team and may have to share information and consult with other team members in order to provide the best care for you. The team may consist of other Counsellors, both current and future, employed by CNA-Q.

No information will be released from your counselling record without your consent. There are limits to your right for confidentiality. Your Counsellor will discuss these limitations with you.

At times, other people may request information from your Counselling records. To disclose this confidential information, your express consent, written or verbal, is required. Your Counsellor will discuss any disclosures with you prior to the sharing of information.

These third party people may include, but are not limited to:
• Parents and other family members;
• Instructors or College staff members;
• Your employer or sponsor;
• Friends and other students;
• Insurance companies
• Health care providers

In such cases where you wish to share information with a third party, you will be provided with a Consent for Release of Information Form to authorize consent. Additionally, you are free to withdraw consent at any time for the collection, use, or disclosure of your personal information by providing notice to your Counsellor in writing.

Only CNA-Q Counsellors will have access to your counselling records as deemed necessary to provide support. Counsellors adhere to a strict code of conduct and professional ethics to protect your personal information. This is outlined in CNA’s Learner Records Procedure (see page 16) and Canadian Counselling and Psychotherapy Association’s Standards of Practice, which states, “Counsellors must take all necessary steps to guarantee that client confidentiality is respected and maintained by others with whom they work and consult” (CCPA, 11).
International Education
The International Education Office at CNA-Q administers and coordinates the process of integrating an international, intercultural, or global dimension into the student experience at CNA-Q. This international focus prepares graduates for the globally competitive and interdependent work force of the State of Qatar. This goal can be achieved through:

1. Promoting international programs with a focus on cultural awareness
2. Coordinating full semester exchanges.
3. Engaging in credit course work at partner institutions abroad.
4. Participating in instructor-led short term study abroad programs.
5. Participating in work site visits and internships abroad.

CNA-Q provides opportunities for students to learn, grow, enjoy new cultural experiences, meet interesting people and enhance their understanding of themselves and the world. International trips can be a life-changing adventure.

The benefits of an international education experience include:

- Expanding cultural awareness
- Strengthening language skills
- Building confidence
- Increasing intellectual knowledge in a field of study and in the global work environment, and social development in a cultural context.

For more information, visit the International Education Office at 6.1.09, call 4495-2396.

Alumni
CNA-Q alumni are graduates of the College. The Alumni Association is an organization of CNA-Q alumni members which is run by the Alumni Office. The association creates opportunities for alumni to be further connected with CNA-Q, honour and showcase our alumni to employers and the general Qatar community, and establish and promote fellowship amongst alumni, and friends of CNA-Q. By becoming a member of CNA-Q’s Alumni Association, you will have an active voice in matters which pertain to you (e.g., input into events, programs and initiatives designed for and by our alumni). In addition, you will be notified of a variety of events, opportunities and benefits which are open to graduates of CNA-Q.

Some examples of these include:
- Job opportunities in Qatar
- Alumni-related College events (e.g. Alumni Reunions)
- General College events
- Foreign university visits to the campus
- Discounts at various retail and food outlets
- Professional development workshops
- Networking opportunities

Career Counselling and Resource Centre
The Career Counselling and Resources Centre (CCRC), located in the Learning Commons (Building 3), aims to assist students with their career planning and development. To achieve this goal, the Centre provides a multitude of services which include but are not limited to:

1. Assisting students to make career choices that are congruent with their interests, aptitudes, values and personality.
2. Delivering presentations/workshops on topics such as résumé/cover letter writing, job search skills and job interview preparation.
3. Assisting students to apply to international universities for further education and advising students which universities CNA-Q has established formal articulation (i.e. transfer) agreements with.
4. Arranging for part-time, on-campus employment opportunities for current students.
5. Informing students/alumni of employment opportunities available in Doha, Qatar and the wider Gulf region.

Harassment Policy
It is College 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.

Code of Conduct
CNA-Q recognizes that students are responsible for their behavior and overall conduct while on campus. If a student does not follow the policies, procedures and regulations the College may take action. Minor issues may be resolved directly by College staff, with penalties ranging from reduction of marks to suspension. Serious violations will be dealt with through formal disciplinary procedures. Copies of the Student Code of Conduct and the Student Code of Discipline can be found on the My CNA-Q website.

Appeal Process
All registered students of the College can appeal a decision or ruling that affects them. Issues may relate to academics, attendance, discipline and students rights and responsibilities. The College 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 all buildings at CNA-Q. Some 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 stalls), may result in suspension from the College or other penalties as described in the Student Rights and Responsibilities Policy.
Language and Academic Preparatory Studies

Academic Preparatory Studies courses ensure student success in educational programs that meet international certification requirements. It also ensures that students will gain Canadian credentials offered at the College, upon completion of their program. These courses are designed to provide secondary school graduates with English language, mathematics and science skills required to succeed in their program of choice.

Objectives:
1. Provides academic bridging for students who do not meet entrance requirements. Academic bridging is based on students’ needs and the College’s program requirements.
2. Provides English language proficiency training for students destined for College programs.
3. Provides opportunity for students enrolled in higher levels of preparatory studies to take academic preparatory and/or program courses concurrently.

Accreditation
The English language programs offered by the School of Language Studies and Academics are accredited by the Commission on English Language Program Accreditation (CEA). http://cea-accredit.org

Academic preparatory courses are offered in the following disciplines: Biology
Chemistry
Foundation English
English for Academic Purposes
English for Technical Purposes
Mathematics
Physics
Language and Academic Preparatory Studies

Entrance Requirements
Students wishing to register at CNA-Q are required to achieve a designated score on the College entrance examinations in English and mathematics. Applicants who meet the English language entrance requirements may be admitted directly into their program of choice, subject to availability.

CNA-Q Testing Centre
The CNA-Q Testing Centre conducts all academic and general English/Math placement and exit testing for CNA-Q students. It also offers international exams such as IELTS for CNA-Q and the community through its IELTS Test Centre.

For further information on these tests, test times, and fees, please call the Testing Centre at 4495-2126 or visit Building 3, Floor 2, Room 2.73 between 7:30am and 3:00pm, Sunday to Thursday, and between 9:00am and 3:00pm on Saturdays.

English Placement
Academic program students take the Academic English Placement (AEP) Test. Technician Certificate Program (TCP) students and non-academic students take the General English Placement (GEP) Test. Those requiring English language training will be placed in Language Studies courses. Students who present a valid IELTS Academic Test Report Form received within two years with an overall band 5.0 with no individual skill band below 4.5 are exempt from taking the Academic and/or General English Placement test.

Math Placement
Academic program students take the Academic Math Placement (AMP). Technician Certificate Program (TCP) students and non-academic students take the General Math Placement (GMP). Students are placed in mathematics courses according to their results on the AMP or GMP.

English Language Requirements for Entering Academic Programs
To transition from FL courses to academic program courses, students must demonstrate that their English proficiency is equivalent to academic program admission requirements. Admission to academic programs requires an English language score of 65 or greater on the Oxford Online Placement Test (OOPT) or an overall IELTS Academic band score of 5.0, with no band score less than 4.5 in any one skill.

As part of the FL1090 course requirements, FL 1090 students take an internationally recognized and standardized English language assessment test, such as the OOPT or equivalent, validated by the CNA-Q Testing Centre. Challenge assessments can be requested when enrolled in other FL courses.

Academic Dismissal
Students may attempt a CNA-Q preparatory course three times. In accordance with College policy, students in non-credit academic courses, who fail the same courses three times, will be academically dismissed for one semester.

A student, who returns to the College and fails the same preparatory course for a fourth time, will be academically dismissed a second time and will only be eligible to return after a period of one year.
School of Business Studies

The School of Business Studies prepares students to enter the world of work, equipping them for employment with any organization, company or government agency. Our programs provide students with the knowledge, skills, and experience to compete in today’s workplace, in a variety of business disciplines, including office administration, general management, business strategy and planning, banking and finance, accounting, marketing and human resources. Our highly qualified faculty have prepared more than 1200 graduates to work in businesses, government agencies or as entrepreneurs.

Students in Business Studies have the option of completing programs in Business Administration and Business Management. Students pursuing careers as administrative professionals can undertake a certificate in Office Administration or a diploma in Office Administration (Executive). Students who would like to specialize in accounting, human resource management, or marketing may obtain a two-year diploma in Business Administration or a three-year diploma in Business Management.

Accreditation

The Office Administration (Executive), Business Administration and Business Management programs at the College have been accredited by the Accreditation Council for Business Schools and Programs (ACBSP) https://www.acbsp.org. Founded in 1988 in the United States, ACBSP awards accreditation to business schools based on the mission of the institution and of the business program, with an emphasis on quality in teaching and learning outcomes. ACBSP is recognized by the Council for Higher Education Accreditation (CHEA). CNA–Q holds this accreditation until 2026.

Students in these programs can be assured of the quality of the education they receive. Accreditation means that these programs have been evaluated against an international standard of excellence and that the programs maintain relevant and current program content taught by well-qualified faculty.
Program Options

One Year Certificate*
- Business Administration
- Office Administration

Two Year Diploma*
- Business Administration – Accounting
- Business Administration – Human Resource Management
- Business Administration – Marketing
- Office Administration (Executive)

Three Year Diploma*
- Business Management – Accounting
- Business Management – Human Resource Management
- Business Management – Marketing

* Total program length varies depending on language proficiency, academic preparatory courses required for entry, and academic performance throughout the program of study.

Baccalaureate Degree Options

For those wishing to pursue a baccalaureate degree, university transfer agreements are in place that make it possible for College diploma graduates to attend universities in other countries. A variety of options are available. A current list of post-secondary institutions offering admission and transfer credit to CNA-Q graduates who meet the entrance requirements is available from the Registrar’s Office or the Career Counselling and Resource Centre.

<table>
<thead>
<tr>
<th>COURSE</th>
<th>LEVEL 1 (YEAR 1)</th>
<th>LEVEL 2 (YEAR 2)</th>
<th>LEVEL 3 (YEAR 3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accounting</td>
<td>Business Administration Certificate</td>
<td>Business Administration Diploma</td>
<td>Business Management Diploma</td>
</tr>
<tr>
<td>Marketing</td>
<td>Business Administration Certificate</td>
<td>Business Administration Diploma</td>
<td>Business Management Diploma</td>
</tr>
<tr>
<td>Office Administration</td>
<td>Office Administration Certificate</td>
<td>Office Administration (Executive) Diploma</td>
<td>N/A</td>
</tr>
</tbody>
</table>
Business Administration – Accounting (Two Year Diploma)

Program
The Business Administration (Accounting) program has been developed to provide the student with the knowledge and skills required in the field of general financial accounting. The graduate will be able to provide complex information and comprehensive reports to management.

Objectives
Upon successful completion of the program, graduates will be able to:
1. Prepare and analyze financial statements for internal and external decision making.
2. Use current technology to analyze results and generate appropriate reports.
3. Develop financial and budgetary plans based on varying business objectives, changing business environments and underlying business assumptions.
4. Demonstrate accounting skills needed to secure employment in an entry-level accounting position.
5. Demonstrate application of the Conference Board of Canada employability skills.

Career Opportunities
Graduates may obtain employment in a variety of businesses, organizations and government departments. The following is a brief list of the positions which graduates may occupy after successful completion of the program:
- Accountant
- Comptroller
- Auditor
- Business Analyst
- Taxation Officer
- Financial Officer
- Administrative Manager
- Payroll Officer

Entrance Requirements
1. High school graduation certificate with the following:

<table>
<thead>
<tr>
<th></th>
<th>Average</th>
<th>Minimum</th>
</tr>
</thead>
<tbody>
<tr>
<td>English Language</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Grade 12 level)</td>
<td>Minimum</td>
<td>60%</td>
</tr>
<tr>
<td>Academic Mathematics</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Grade 12 level)</td>
<td>Minimum</td>
<td>60%</td>
</tr>
</tbody>
</table>

Three additional courses at the Grade 12 level

2. The required score on the Academic English Placement (AEP) and Academic Math Placement (AMP). Students who present a valid IELTS Academic Test Report Form, received within two years, with an overall band 5.0 with no individual skill band below 4.5, are exempt from taking the AEP. For score requirements on other internationally-recognized tests, such as TOEFL, contact the Registrar’s Office.

Further Studies
A current list of post-secondary institutions offering admission and transfer credit to CNA-Q graduates who meet the entrance requirements is available from the Registrar’s Office or the Career Counselling and Resource Centre.

Language Proficiency Requirements
Students entering the Business Administration – Accounting program must meet English language proficiency requirements by obtaining one of the following:
1. An overall score of 65 or greater on the Oxford Online Placement Test (OOPT) or a passing score from another approved internationally recognized English language test, as validated by the Registrar’s Office.
2. A valid IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, listening) below 4.5.
3. Successful completion of FL1090, a language development course.

Note: 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 11).
## Business Administration - Accounting

### Level 1 (Year 1)

<table>
<thead>
<tr>
<th>COURSE NUMBER</th>
<th>COURSE TITLE</th>
<th>HOURS/WEEK</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>CR</td>
</tr>
<tr>
<td>AC1260</td>
<td>Financial Accounting I</td>
<td>5</td>
</tr>
<tr>
<td>CM1240</td>
<td>Business Communications I</td>
<td>4</td>
</tr>
<tr>
<td>HN1230</td>
<td>Human Resource Management I</td>
<td>3</td>
</tr>
<tr>
<td>FN1140</td>
<td>Introduction to Finance</td>
<td>3</td>
</tr>
<tr>
<td>MC1240</td>
<td>Computer Applications I</td>
<td>3</td>
</tr>
<tr>
<td>MR1100</td>
<td>Marketing I</td>
<td>4</td>
</tr>
<tr>
<td>AC2260</td>
<td>Financial Accounting II</td>
<td>5</td>
</tr>
<tr>
<td>CM1241</td>
<td>Business Communications II</td>
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<tr>
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</tr>
<tr>
<td>LW1240</td>
<td>Qatar Business Law</td>
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</tr>
<tr>
<td>MR2100</td>
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<td>4</td>
</tr>
<tr>
<td>AC2230</td>
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</tr>
<tr>
<td>CM2200</td>
<td>Oral Communications</td>
<td>2</td>
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<tr>
<td>MC1242</td>
<td>Computer Applications II</td>
<td>3</td>
</tr>
<tr>
<td>OJ1100</td>
<td>Work Exposure (Certificate only)</td>
<td>–</td>
</tr>
</tbody>
</table>

After the successful completion of the above listed courses, the student will be eligible to graduate with a Business Administration Certificate. Students may continue an additional year to achieve a Business Management – Accounting Diploma.
### Business Administration – Accounting

#### Level 2 (Year 2)

<table>
<thead>
<tr>
<th>COURSE NUMBER</th>
<th>COURSE TITLE</th>
<th>HOURS/WEEK</th>
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<tr>
<td>AC2220</td>
<td>Intermediate Financial Accounting I</td>
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<tr>
<td>AC2250</td>
<td>Managerial Accounting I</td>
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<tr>
<td>AC2231</td>
<td>Computerized Accounting II</td>
<td>3</td>
</tr>
<tr>
<td>EC1110</td>
<td>Microeconomics</td>
<td>4</td>
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<tr>
<td>MA1670</td>
<td>Statistics</td>
<td>4</td>
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<tr>
<td>CM2300</td>
<td>Report Writing</td>
<td>2</td>
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<tr>
<td>AC2370</td>
<td>Principles of Taxation</td>
<td>4</td>
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<tr>
<td>AC3220</td>
<td>Intermediate Financial Accounting II</td>
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<td>AC3250</td>
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<tr>
<td>AC2360</td>
<td>Principles of Internal Auditing</td>
<td>3</td>
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<tr>
<td>EP2150</td>
<td>Entrepreneurship</td>
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<tr>
<td>Elective</td>
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<tr>
<td>OJ1580</td>
<td>Work Exposure – Accounting</td>
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</table>

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</tbody>
</table>

After the successful completion of the above listed courses, the student will be eligible to graduate with a Business Administration – Accounting Diploma.
Business Management – Accounting (Three Year Diploma)

Program
The three-year program leading to a Diploma in Business Management (Accounting) has been developed to achieve competencies required in the field of general financial accounting. Management now requires personnel with skills to provide complex information and to produce comprehensive reports. Upon completion of this program, students will be capable of performing many accounting functions in small and large businesses and at various levels of government.

Objectives
Upon successful completion of the program, graduates will be able to:
1. Prepare and analyze financial statements for internal and external decision making.
2. Use current technology to analyze results and generate appropriate reports.
3. Develop financial budgetary plans based on varying business objectives, changing business environments, and underlying business assumptions.
4. Demonstrate accounting skills needed to secure employment in an entry-level accounting position.
5. Integrate business concepts for effective business planning and strategic management.
6. Demonstrate application of the Conference Board of Canada employability skills.

Career Opportunities
Graduates may obtain employment in a variety of businesses, organizations and government departments. The following is a brief list of positions, graduates may occupy after successful completion of the program:
- Accountant
- Comptroller
- Auditor
- Business Analyst
- Taxation Officer
- Financial Officer
- Administrative Manager
- Payroll Officer

Entrance Requirements
1. High school graduation certificate with the following:

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<td>English Language</td>
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Three additional courses at the Grade 12 level

2. The required score on the Academic English Placement (AEP) and Academic Math Placement (AMP). Students who present a valid IELTS Academic Test Report Form, received within two years, with an overall band 5.0 with no individual skill band below 4.5, are exempt from taking the AEP. For score requirements on other internationally-recognized tests, such as TOEFL, contact the Registrar’s Office.
Business Management – Accounting (Three Year Diploma)

Note: 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 11).

Language Proficiency Requirements
Students entering the Business Management – Accounting program must meet English language proficiency requirements by obtaining one of the following:

1. An overall score of 65 or greater on the Oxford Online Placement Test (OOPT) or a passing score from another approved internationally recognized English language test, as validated by the Registrar’s Office.

2. A valid IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, listening) below 4.5.

3. Successful completion of FL1090, a language development course

Further Studies
A current list of post-secondary institutions offering admission and transfer credit to CNA-Q graduates who meet the entrance requirements is available from the Registrar’s Office or the Career Counselling and Resource Centre.
# Business Management – Accounting

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After the successful completion of the above listed courses, the student will be eligible to graduate with a Business Administration Certificate.
### Business Management – Accounting

**Level 2 (Year 2)**

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<td>4</td>
</tr>
<tr>
<td>AC3220</td>
<td>Intermediate Financial Accounting II</td>
<td>5</td>
</tr>
<tr>
<td>AC3250</td>
<td>Managerial Accounting II</td>
<td>4</td>
</tr>
<tr>
<td>AC2360</td>
<td>Principles of Internal Auditing</td>
<td>3</td>
</tr>
<tr>
<td>EP2150</td>
<td>Entrepreneurship</td>
<td>3</td>
</tr>
<tr>
<td>Elective</td>
<td>(Minimum 3 credits)</td>
<td>–</td>
</tr>
<tr>
<td>OJ1580</td>
<td>Work Exposure – Accounting</td>
<td>–</td>
</tr>
</tbody>
</table>

After the successful completion of the above listed courses, the student will be eligible to graduate with a Business Administration – Accounting Diploma.
### Business Management – Accounting

#### Level 3 (Year 3)

<table>
<thead>
<tr>
<th>COURSE NUMBER</th>
<th>COURSE TITLE</th>
<th>HOURS/WEEK</th>
<th>CR</th>
<th>LEC</th>
<th>LAB</th>
</tr>
</thead>
<tbody>
<tr>
<td>AC2340</td>
<td>Principles of Auditing</td>
<td></td>
<td>4</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>EP2250</td>
<td>Small Business Development</td>
<td></td>
<td>4</td>
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<td>2</td>
</tr>
<tr>
<td>FN2110</td>
<td>Business Finance</td>
<td></td>
<td>4</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>MN2600</td>
<td>Strategic Management</td>
<td></td>
<td>3</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>PS2340</td>
<td>Organizational Behaviour</td>
<td></td>
<td>4</td>
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</tr>
<tr>
<td>Option course</td>
<td>Option Course</td>
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<td>AC3251</td>
<td>Managerial Accounting III</td>
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<tr>
<td>EC1210</td>
<td>Macroeconomics</td>
<td></td>
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</tr>
<tr>
<td>EP2200</td>
<td>Business Planning</td>
<td></td>
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<tr>
<td>MA3700</td>
<td>Production and Operations Management</td>
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<td>Elective</td>
<td>(Minimum 3 credits)</td>
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</table>

Options will be selected from the following list after consultation with the students and/or local industry.

<table>
<thead>
<tr>
<th>COURSE NUMBER</th>
<th>COURSE TITLE</th>
<th>HOURS/WEEK</th>
<th>CR</th>
<th>LEC</th>
<th>LAB</th>
</tr>
</thead>
<tbody>
<tr>
<td>AC2540</td>
<td>Oil and Gas Production Accounting</td>
<td></td>
<td>4</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>MN1520</td>
<td>Supervisory Leadership</td>
<td></td>
<td>4</td>
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<td>0</td>
</tr>
<tr>
<td>BK1100</td>
<td>Banking Operations I</td>
<td></td>
<td>4</td>
<td>4</td>
<td>0</td>
</tr>
</tbody>
</table>

Note: All courses may not be available every semester. The Business Management – Accounting program has one elective in the second year; 1 elective in the third year, and 1 option (which must be taken from this list: BK1100, MN1520 and AC2540).

After the successful completion of the above listed courses, the student will be eligible to graduate with a Business Management – Accounting Diploma.
Business Administration – Human Resource Management (Two Year Diploma)

Program
The Business Administration (Human Resource Management) program has been designed to provide students with the theory and practice of effective Human Resource Management. In today’s competitive business environment, managers recognize the importance of their human resources to the success of their organization. The program is designed to provide students with an opportunity to pursue a career in Human Resource Management, Industrial/Labour Relations, Supervision and General Management.

Objectives
Upon successful completion of the program, graduates will be able to:
1. Examine and critique the key fundamentals of strategic human resource management and the employment related legislation (regulations and acts).
2. Propose and apply various human resource practices to effectively manage an organization’s human resources.
3. Demonstrate effective research, negotiation, conflict resolution, and leadership skills for use in the business environment.
4. Demonstrate application of the Conference Board of Canada employability skills.

Career Opportunities
Graduates may obtain employment in a variety of areas such as private businesses, consulting agencies, associations, and government. The following is a brief list of the positions which graduates may occupy after successful completion of the program:
- Recruitment/Selection Officer
- Personnel Officer
- Training and Development Officer
- Compensation/Benefits Specialist
- Employee Assistance Coordinator
- Professional Development Officer
- Human Resource Officer
- Personnel Manager
- Manager of Human Resources
- Classification Officer

Entrance Requirements
1. High school graduation certificate with the following:

<table>
<thead>
<tr>
<th>Average</th>
<th>Minimum 60%</th>
</tr>
</thead>
<tbody>
<tr>
<td>English Language (Grade 12 level)</td>
<td>Minimum 60%</td>
</tr>
<tr>
<td>Academic Mathematics (Grade 12 level)</td>
<td>Minimum 60%</td>
</tr>
<tr>
<td>Three additional courses at the Grade 12 level</td>
<td></td>
</tr>
</tbody>
</table>

2. The required score on the Academic English Placement (AEP) and Academic Math Placement (AMP). Students who present a valid IELTS Academic Test Report Form, received within two years, with an overall band 5.0 with no individual skill band below 4.5, are exempt from taking the AEP. For score requirements on other internationally-recognized tests, such as TOEFL, contact the Registrar’s Office.

Note: 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 11).

Language Proficiency Requirements
Students entering the Business Administration – Human Resource Management program must meet English language proficiency requirements by obtaining one of the following:
1. An overall score of 65 or greater on the Oxford Online Placement Test (OOPT) or a passing score from another approved internationally recognized English language test, as validated by the Registrar’s Office.
2. A valid IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, listening) below 4.5.
3. Successful completion of FL1090, a language development course.

Further Studies
A current list of post-secondary institutions offering admission and transfer credit to CNA-Q graduates who meet the entrance requirements is available from the Registrar’s Office or the Career Counselling and Resource Centre.
## Business Administration – Human Resource Management

### Level 1 (Year 1)

<table>
<thead>
<tr>
<th>COURSE NUMBER</th>
<th>COURSE TITLE</th>
<th>CR</th>
<th>LEC</th>
<th>LAB</th>
</tr>
</thead>
<tbody>
<tr>
<td>AC1260</td>
<td>Financial Accounting I</td>
<td>5</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>CM1240</td>
<td>Business Communications I</td>
<td>4</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>HN1230</td>
<td>Human Resource Management I</td>
<td>3</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>FN1140</td>
<td>Introduction to Finance</td>
<td>3</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>MC1240</td>
<td>Computer Applications I</td>
<td>3</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>MR1100</td>
<td>Marketing I</td>
<td>4</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>AC2260</td>
<td>Financial Accounting II</td>
<td>5</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>CM1241</td>
<td>Business Communications II</td>
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<td>0</td>
</tr>
<tr>
<td>HN1240</td>
<td>Human Resource Management II</td>
<td>3</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>LW1240</td>
<td>Qatar Business Law</td>
<td>3</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>MR2100</td>
<td>Marketing II</td>
<td>4</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>AC2230</td>
<td>Computerized Accounting I</td>
<td>3</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>CM2200</td>
<td>Oral Communications</td>
<td>2</td>
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<td>0</td>
</tr>
<tr>
<td>MC1242</td>
<td>Computer Applications II</td>
<td>3</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>OJ1100</td>
<td>Work Exposure (Certificate only)</td>
<td>-</td>
<td>2 weeks (75 – 80 hours)</td>
<td></td>
</tr>
</tbody>
</table>

After the successful completion of the above listed courses, the student will be eligible to graduate with a Business Administration Certificate. Students may continue an additional year to achieve a Business Management – Human Resource Management Diploma.
### Business Administration – Human Resource Management

#### Level 2 (Year 2)

<table>
<thead>
<tr>
<th>COURSE NUMBER</th>
<th>COURSE TITLE</th>
<th>HOURS/WEek</th>
</tr>
</thead>
<tbody>
<tr>
<td>CM2300</td>
<td>Report Writing</td>
<td>2 2 0</td>
</tr>
<tr>
<td>EC1110</td>
<td>Microeconomics</td>
<td>4 4 0</td>
</tr>
<tr>
<td>OF1400</td>
<td>Managing an Office</td>
<td>3 3 1</td>
</tr>
<tr>
<td>HN2130</td>
<td>Recruitment and Selection</td>
<td>3 3 1</td>
</tr>
<tr>
<td>HN2150</td>
<td>Training and Development</td>
<td>3 3 1</td>
</tr>
<tr>
<td>MA1670</td>
<td>Statistics</td>
<td>4 4 1</td>
</tr>
<tr>
<td>MR2300</td>
<td>Business Research</td>
<td>4 3 2</td>
</tr>
<tr>
<td>AC2600</td>
<td>Managerial Accounting for HRM</td>
<td>4 3 2</td>
</tr>
<tr>
<td>SE1130</td>
<td>Workplace Safety for Human Resources</td>
<td>3 3 0</td>
</tr>
<tr>
<td>Elective</td>
<td>(Minimum 3 credits)</td>
<td>– – –</td>
</tr>
<tr>
<td>HN2230</td>
<td>Employee Relations</td>
<td>3 3 1</td>
</tr>
<tr>
<td>PS2340</td>
<td>Organizational Behaviour</td>
<td>4 4 0</td>
</tr>
<tr>
<td>Elective</td>
<td>(Minimum 3 credits)</td>
<td>– – –</td>
</tr>
<tr>
<td>EP2150</td>
<td>Entrepreneurship</td>
<td>3 3 0</td>
</tr>
<tr>
<td>OJ1550</td>
<td>Work Exposure (HRM)</td>
<td>– 6 weeks (210 – 240 hours)</td>
</tr>
</tbody>
</table>

After the successful completion of the above listed courses, the student will be eligible to graduate with a Business Administration – Human Resource Management Diploma.
Business Management – Human Resource Management (Three Year Diploma)

Program
The Business Management (Human Resource Management) program has been designed to provide students with the theory and practice of effective Human Resource Management. The program seeks to provide the student with a broad understanding of fundamental business principles and practices essential to effective and efficient management. The Business Management (Human Resource Management) program is designed to provide students with an opportunity to pursue a career in Human Resource Management, Industrial/Labour Relations, Supervision and General Management.

Objectives
Upon successful completion of the program, graduates will be able to:
1. Examine and critique the key fundamentals of strategic human resource management and the employment related legislation (regulations and law).
2. Propose and apply various human resource practices to effectively manage an organization’s human resources.
3. Develop effective research, negotiation, conflict resolution, and leadership skills for use in the business environment.
4. Integrate business concepts for effective business planning and strategic management.
5. Demonstrate application of the Conference Board of Canada employability skills.

Career Opportunities
Graduates of the program may obtain employment in a variety of areas, such as private business, government, industry, consulting agencies, institutions and associations. The following is a brief list of the positions which graduates may occupy after successful completion of the program:

- Recruitment/Selection Officer
- Personnel Officer
- Training and Development Officer
- Compensation/Benefits Specialist
- Employee Assistance Coordinator
- Labour Relations Officer
- Professional Development Officer
- Human Resource Officer
- Personnel Manager
- Manager of Human Resources
- Classification Office
- Other business-related occupation

Entrance Requirements
1. High school graduation certificate with the following:
   - Average: Minimum 60%
   - English Language (Grade 12 level): Minimum 60%
   - Mathematics (Grade 12 level): Minimum 60%

   Three additional courses at the Grade 12 level

2. The required score on the Academic English Placement (AEP) and Academic Math Placement (AMP). Students who present a valid IELTS Academic Test Report Form, received within two years, with an overall band 5.0 with no individual band score (reading, writing, speaking, listening) below 4.5.

Language Proficiency Requirements
Students entering the Business Management – Human Resource Management program must meet English language proficiency requirements by obtaining one of the following:
1. An overall score of 65 or greater on the Oxford Online Placement Test (OOPT) or a passing score from another approved internationally recognized English language test, as validated by the Registrar’s Office.
2. A valid IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, listening) below 4.5.
3. Successful completion of FL1090, a language development course.

Further Studies
A current list of post-secondary institutions offering admission and transfer credit to CNA-Q graduates who meet the entrance requirements is available from the Registrar’s Office or the Career Counselling and Resource Centre Level 1 (Year 1).
# Business Management – Human Resource Management

## Level 1 (Year 1)

<table>
<thead>
<tr>
<th>COURSE NUMBER</th>
<th>COURSE TITLE</th>
<th>CR</th>
<th>LEC</th>
<th>LAB</th>
</tr>
</thead>
<tbody>
<tr>
<td>AC1260</td>
<td>Financial Accounting I</td>
<td>5</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>CM1240</td>
<td>Business Communications I</td>
<td>4</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>HN1230</td>
<td>Human Resource Management I</td>
<td>3</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>FN1140</td>
<td>Introduction to Finance</td>
<td>3</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>MC1240</td>
<td>Computer Applications I</td>
<td>3</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>MR1100</td>
<td>Marketing I</td>
<td>4</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>AC2260</td>
<td>Financial Accounting II</td>
<td>5</td>
<td>4</td>
<td>3</td>
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<tr>
<td>CM1241</td>
<td>Business Communications II</td>
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<td>4</td>
<td>0</td>
</tr>
<tr>
<td>HN1240</td>
<td>Human Resource Management II</td>
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<td>3</td>
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</tr>
<tr>
<td>LW1240</td>
<td>Qatar Business Law</td>
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<td>3</td>
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<tr>
<td>MR2100</td>
<td>Marketing II</td>
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</tr>
<tr>
<td>AC2230</td>
<td>Computerized Accounting I</td>
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<td>2</td>
<td>3</td>
</tr>
<tr>
<td>CM2200</td>
<td>Oral Communications</td>
<td>2</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>MC1242</td>
<td>Computer Applications II</td>
<td>3</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>OJ1100</td>
<td>Work Exposure (Certificate only)</td>
<td>–</td>
<td></td>
<td>2 weeks (75 – 80 hours)</td>
</tr>
</tbody>
</table>

After the successful completion of the above listed courses, the student will be eligible to graduate with a Business Administration Certificate.
## Business Management – Human Resource Management

### Level 2 (Year 2)

| COURSE NUMBER | COURSE TITLE                          | HOURS/WEEK |   |
|---------------|---------------------------------------|------------|
|               |                                       | CR | LEC | LAB |
| CM2300        | Report Writing                        | 2  | 2   | 0   |
| EC1110        | Microeconomics                        | 4  | 4   | 0   |
| OF1400        | Managing an Office                    | 3  | 3   | 1   |
| HN2130        | Recruitment and Selection             | 3  | 3   | 1   |
| HN2150        | Training and Development              | 3  | 3   | 1   |
| MA1670        | Statistics                            | 4  | 4   | 1   |
| MR2300        | Business Research                     | 4  | 3   | 2   |
| AC2600        | Managerial Accounting for HRM         | 4  | 3   | 2   |
| SE1130        | Workplace Safety for Human Resources  | 3  | 3   | 0   |
| Elective      | (Minimum 3 credits)                   | –  | –   | –   |
| HN2230        | Employee Relations                    | 3  | 3   | 1   |
| PS2340        | Organizational Behaviour              | 4  | 4   | 0   |
| Elective      | (Minimum 3 credits)                   | –  | –   | –   |
| EP2150        | Entrepreneurship                      | 3  | 3   | 0   |
| OJ1550        | Work Exposure (HRM)                   | –  | 6 weeks (210 – 240 hours) |

After the successful completion of the above listed courses, the student will be eligible to graduate with a Business Administration – Human Resource Management Diploma.
## Business Management – Human Resource Management

### Level 3 (Year 3)

<table>
<thead>
<tr>
<th>COURSE NUMBER</th>
<th>COURSE TITLE</th>
<th>CR</th>
<th>LEC</th>
<th>LAB</th>
</tr>
</thead>
<tbody>
<tr>
<td>EP2250</td>
<td>Small Business Development</td>
<td>4</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>FN2110</td>
<td>Business Finance</td>
<td>4</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>HN2140</td>
<td>Attendance and Disability Management</td>
<td>3</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>HN2200</td>
<td>Strategic Compensation and Benefits</td>
<td>3</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>MN2600</td>
<td>Strategic Management</td>
<td>3</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Elective</td>
<td>(Minimum 3 credits)</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>EP2200</td>
<td>Business Planning</td>
<td>4</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>HN2310</td>
<td>Alternate Dispute Resolution</td>
<td>4</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>HN2210</td>
<td>Human Resource Planning</td>
<td>3</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>HN3110</td>
<td>Current Topics in Human Resource Management and Industrial Relations</td>
<td>3</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>MN3100</td>
<td>Business Ethics</td>
<td>3</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>MN3200</td>
<td>Performance Management</td>
<td>3</td>
<td>3</td>
<td>1</td>
</tr>
</tbody>
</table>
Business Administration – Marketing (Two Year Diploma)

Program
The two-year program, leading to a Diploma in Business Administration (Marketing), is designed to give students a broad background in business management with emphasis on the area of marketing. Graduates find employment in marketing, sales, retailing, administration, advertising, and general management.

Objectives
Upon successful completion of the program, graduates will be able to:
1. Analyze the marketing environment to develop, implement, and monitor a comprehensive marketing strategy.
2. Critically analyze and provide business solutions to marketing product, price, promotion, and distribution decisions.
3. Integrate ethical marketing strategies and tactics for application in both domestic and global marketing environments.
4. Create materials for use with a marketing strategy.
5. Demonstrate application of the Conference Board of Canada employability skills.

Career Opportunities
Graduates of this program may obtain employment in a variety of marketing areas such as distribution, media, advertising, retailing, and personal selling in a variety of industries and organizations.

Entrance Requirements
1. High school graduation certificate with the following:

<table>
<thead>
<tr>
<th>Average</th>
<th>Minimum</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>60%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>English Language (Grade 12 level)</th>
<th>Minimum</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>60%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Academic Mathematics (Grade 12 level)</th>
<th>Minimum</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>60%</td>
</tr>
</tbody>
</table>

Three additional courses at the Grade 12 level

2. The required score on the Academic English Placement (AEP) and Academic Math Placement (AMP). Students who present a valid IELTS Academic Test Report Form, received within two years, with an overall band 5.0 with no individual band score (reading, writing, speaking, listening) below 4.5, are exempt from taking the AEP.

Language Proficiency Requirements
Students entering the Business Administration – Marketing program must meet English language proficiency requirements by obtaining one of the following:
1. An overall score of 65 or greater on the Oxford Online Placement Test (OOPT) or a passing score from another approved internationally recognized English language test, as validated by the Registrar’s Office.
2. A valid IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, listening) below 4.5.
3. Successful completion of FL1090, a language development course.

Further Studies
A current list of post-secondary institutions offering admission and transfer credit to CNA-Q graduates who meet the entrance requirements is available from the Registrar’s Office or the Career Counselling and Resource Centre.

Note: 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 11)
**Business Administration – Marketing**

**Level 1 (Year 1)**

<table>
<thead>
<tr>
<th>COURSE NUMBER</th>
<th>COURSE TITLE</th>
<th>CR</th>
<th>LEC</th>
<th>LAB</th>
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<td>Work Exposure (Certificate only)</td>
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</table>

After the successful completion of the above listed courses, the student will be eligible to graduate with a Business Administration Certificate.
## Business Administration – Marketing

### Level 2 (Year 2)

<table>
<thead>
<tr>
<th>COURSE NUMBER</th>
<th>COURSE TITLE</th>
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<td>Microeconomics</td>
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<td>MA1670</td>
<td>Statistics</td>
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<td>MR1500</td>
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<td>Professional Selling</td>
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<td>Elective</td>
<td>(Minimum 3 credits)</td>
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<tr>
<td>EC1210</td>
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<td>Work Exposure – Marketing</td>
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<td>6 weeks</td>
<td>(210 – 240 hours)</td>
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</table>

After the successful completion of the above listed courses, the student will be eligible to graduate with a Business Administration – Marketing Diploma. Students may continue an additional year to achieve a Business Management – Marketing Diploma.
Business Management – Marketing (Three Year Diploma)

Program
The three-year Business Management (Marketing) diploma program is designed to give students a background in business management with emphasis on the area of Marketing. Students acquire a solid understanding of the practices involved in marketing and promoting a product or service. This includes advertising, market research, professional selling, distribution, business planning, and customer relations.

Objectives
Upon successful completion of the program, graduates will be able to:
1. Analyze the marketing environment to develop, implement, and monitor a comprehensive marketing strategy.
2. Critically analyze and provide business solutions to marketing product, price, promotion, and distribution decisions.
3. Integrate ethical marketing strategies and tactics for application in both domestic and global marketing environments.
4. Create materials for use with a marketing strategy.
5. Integrate business concepts for effective business planning and strategic management.
6. Demonstrate application of the Conference Board of Canada employability skills.

Career Opportunities
Graduates may obtain employment in a variety of businesses, organizations and government departments. The following is a brief list of positions graduates may occupy after successful completion of the program:
- Advertising Manager
- Account Executive
- Account Coordinator
- Brand Manager
- Sales Representative
- Customer Service Representative

Entrance Requirements
1. High school graduation certificate with the following:

<table>
<thead>
<tr>
<th></th>
<th>Average</th>
<th>Minimum</th>
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<tbody>
<tr>
<td>English Language</td>
<td>Minimum</td>
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<td>(Grade 12 level)</td>
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<tr>
<td>Academic Mathematics</td>
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<td>(Grade 12 level)</td>
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<tr>
<td>Three additional courses at the Grade 12 level</td>
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</table>

2. The required score on the Academic English Placement (AEP) and Academic Math Placement (AMP). Students who present a valid IELTS Academic Test Report Form, received within two years, with an overall band 5.0 with no individual skill band below 4.5, are exempt from taking the AEP. For score requirements on other internationally-recognized tests, such as TOEFL, contact the Registrar’s Office.

Note: 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 11)

Program Transferability
The Business Management – Marketing program allows exit points after completion of Certificate, Administration Diploma or Management Diploma levels.
1. Business Administration Certificate students may complete an initial concentration of business courses and a two-week work exposure, leading to a Certificate in Business Administration.
2. Business Administration Diploma students may continue beyond the Business Administration Certificate level program by selecting an area of specialization from one of the following options: Accounting, Human Resource Management or Marketing. Upon successful completion of this area of concentration, along with a six-week work exposure, students may graduate with a Diploma in Business Administration.
3. Business Management Diploma students may continue even further in their area of specialization by completing additional courses beyond the Administration Diploma level. Successful completion of these courses will allow students to graduate with a Diploma in Business Management.

Language Proficiency Requirements
Students entering the Business Management – Marketing program must meet English language proficiency requirements by obtaining one of the following:
1. An overall score of 65 or greater on the Oxford Online Placement Test (OOPT) or a passing score from another approved internationally recognized English language test, as validated by the Registrar’s Office.
2. A valid IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, listening) below 4.5.
3. Successful completion of FL1090, a language development course.

Further Studies
A current list of post-secondary institutions offering admission and transfer credit to CNA-Q graduates who meet the entrance requirements is available from the Registrar’s Office or the Career Counselling and Resource Centre.
## Business Management – Marketing

Level 1 (Year 1)

<table>
<thead>
<tr>
<th>COURSE NUMBER</th>
<th>COURSE TITLE</th>
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<th>HOURS/WEEK</th>
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<td>2 weeks (70 – 80 hours)</td>
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After the successful completion of the above listed courses, the student will be eligible to graduate with a Business Administration Certificate.
## Business Management – Marketing

### Level 2 (Year 2)

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<td>Work Exposure – Marketing</td>
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<td>6 weeks (210 – 240 hours)</td>
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After the successful completion of the above listed courses, the student will be eligible to graduate with a Business Management – Marketing Diploma.
# Business Management – Marketing

## Level 3 (Year 3)

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</table>

After the successful completion of the above listed courses, the student will be eligible to graduate with a Business Management – Marketing Diploma.
Office Administration

Program
Graduates from the certificate program will acquire knowledge and office skills for entry-level employment in the office of today. Graduates may obtain employment as an entry-level administrative assistant, office clerk, data entry clerk or word processing operator.

The Office Administration (Executive) Diploma program is designed to enable students to acquire the knowledge and skills needed to work as administrative assistants in today’s modern office.

The major components of the program include document production, transcription and office management. Related courses include communications, computerized accounting, computer applications and organizational behaviour.

Objectives
Upon successful completion of the program, graduates will be able to:
1. Demonstrate a positive attitude in a business environment to help ensure successful integration into the workplace.
2. Independently organize and manage the activities of an administrative workplace environment for effective and efficient performance.
3. Demonstrate effective written and oral communication skills for use in the business environment.
4. Utilize effective interpersonal and teamwork skills to adapt to various business/community working environments.
5. Conduct research; analyze and present relevant data for use in a business environment.
6. Record financial transactions using generally accepted accounting principles for use in a business environment.
7. Utilize and integrate technology to produce business documents at an advanced level using standard document formatting guidelines.

Career Opportunities
Graduates may expect to find employment opportunities in the public and private sectors, including all levels of government, legal and medical offices, accounting firms, hospital and education facilities, and general business offices. As well as acquiring the skills and knowledge necessary to become effective employees in today’s electronic office, graduates gain insight into the creation of a small business of their own.

The following is a brief list of the positions which graduates may occupy after successful completion of the program:
- Administrative Assistant
- Word Processing Operator
- Computerized Bookkeeper
- Data Processor or Transcriptionist
- Microcomputer Specialist
- As well as additional employment opportunities depending on electives selected

Entrance Requirements
1. High school graduation certificate.
2. The required score on the Academic English Placement (AEP) and Academic Math Placement (AMP). Students who present a valid IELTS Academic Test Report Form, received within two years, with an overall band 5.0 with no individual band score (reading, writing, speaking, listening) below 4.5.
3. Successful completion of FL1090, a language development course.

Language Proficiency Requirements
Students entering the Office Administration program must meet English language proficiency requirements by obtaining one of the following:
1. An overall score of 65 or greater on the Oxford Online Placement Test (OOPT) or a passing score from another approved internationally recognized English language test, as validated by the Registrar’s Office.
2. A valid IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, listening) below 4.5.
3. Successful completion of FL1090, a language development course.

Program Transferability
The Office Administration program offers exit points after the completion of Certificate or Diploma Levels. Students may graduate with an Office Administration Certificate after the completion of the initial one year concentration of Office Administration courses. After a second year of study, students may achieve an Office Administration (Executive) Diploma.
Office Administration

Level 1 (Year 1)

<table>
<thead>
<tr>
<th>COURSE NUMBER</th>
<th>COURSE TITLE</th>
<th>HOURS/WEEK</th>
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<td>Document Production I</td>
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<td>Introduction to Business</td>
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<td>OF1100</td>
<td>Office Management I</td>
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<td>AC2100</td>
<td>Bookkeeping II</td>
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<td>Business Writing Fundamentals</td>
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<td>Electronic Spreadsheet Applications</td>
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<td>Document Production II</td>
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<td>Keyboarding I</td>
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<td>Micro Database Applications</td>
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<td>OJ1130</td>
<td>Work Exposure – Office Administration (Certificate Only)</td>
<td>2 weeks (70 – 80 hours)</td>
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After the successful completion of the above listed courses, students will be eligible to graduate with an Office Administration Certificate.
## Office Administration (Executive)

### Level 2 (Year 2)

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<tr>
<th>COURSE NUMBER</th>
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<td>2</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>OJ1900</td>
<td>Work Exposure – Office Administration (Executive)</td>
<td>–</td>
<td>6 weeks (210 – 240 hours)</td>
<td></td>
</tr>
</tbody>
</table>

After the successful completion of the above listed courses, students will be eligible to graduate with an Office Administration (Executive) Diploma.
School of Engineering Technology and Industrial Trades

College of the North Atlantic – Qatar’s Engineering Technology programs are designed to produce graduates with a diverse technical background, hands-on aptitude and teamwork skills. The development of practical skills and competencies are enhanced through partnerships with industry and world-class shops and labs equipped with the latest industrial equipment. In addition, technology training promotes independent thinking and problem solving. These are critical factors when preparing individuals for troubleshooting and for supervisory and management roles.

Accreditation

The School of Engineering Technology and Industrial Trades actively seeks international accreditation for its programs. The Canadian Technology Accreditation Board (CTAB) www.ctab.ca has accredited the following programs:

Program Options:
• Chemical Processing Technology
• Electrical Engineering Technology
• Mechanical Engineering Technology
• Process Automation Technology
Program Options

Two Year Diploma*
• Chemical Processing Technician
• Electrical Power Systems Technician
• Mechanical Technician (Industrial Maintenance)
• Process Automation Technician
• Telecommunications and Network Technician

Three Year Diploma*
• Chemical Processing Technology
• Electrical Engineering Technology
• Mechanical Engineering Technology (Industrial Maintenance)
• Process Automation Engineering Technology
• Telecommunications and Network Engineering Technology

* Total program length varies depending on language proficiency, academic preparatory courses required for entry, academic performance throughout the program of study and choice of technician or technology exit.

Programs offered at the College prepare individuals for maintenance and operator positions at the technician and technologist levels. The program structure allows students to progress from the two-year technician diploma to the three-year technologist designations in certain disciplines. Disciplines include Chemical Processing, Electrical, Mechanical, Process Automation and Telecommunications. The requirements for operations training are addressed by the Chemical Processing Technician and Technology programs.

Baccalaureate Degree Options

For those wishing to pursue a baccalaureate degree, university transfer agreements are in place which make it possible for three-year diploma graduates to attend Canadian universities. A variety of options are available. Typically, one additional year of study is required to obtain a Bachelor of Technology degree at Memorial University (www.mi.mun.ca).

Articulation agreements have also been signed with institutions in other countries which provide avenues for graduates from the three-year Engineering Technology programs to complete a Bachelor and/or Masters degree.

A current list of post-secondary institutions offering admission and transfer credit to CNA-Q graduates who meet the entrance requirements is available from the Registrar’s Office or the Career Counselling and Resource Centre.
Chemical Processing Technician (Two Year Diploma)

Program
The Chemical Processing Technician Diploma prepares graduates to apply scientific and engineering principles to assist in the design, operation, analysis, optimization and troubleshooting of processing operations. The program equips students with the knowledge and skills required to work safely in plant operations while dealing with the increasing complexity of equipment and control systems found in modern processing industries.

Objectives
Upon successful completion of the program, graduates will be able to:

1. Apply hands-on skills needed to assist in the design, operation and troubleshooting of chemical processing units and equipment.
2. Perform procedures within the chemical process technology environment in accordance with established workplace safety protocols.
3. Apply communication and computer skills required for successful correspondence with chemists, engineers, technologists, technicians and other colleagues.
4. Demonstrate effective interpersonal and communication skills required for workplace team settings.
5. Apply problem-solving methodologies to real-life situations through practice in the classroom and laboratory environments.
6. Perform quality control procedures to optimize chemical processes/equipment.

Career Opportunities
Graduates of the Chemical Processing Technician diploma program will find employment in various chemical processing industries such as oil and gas production, petrochemicals, fertilizers and other process operations. Graduates will be involved in the routine operation and optimization of chemical processing facilities, occupying roles such as Junior Technician or Field Operator. With successful completion of the technician diploma, students are eligible for entry to the Chemical Processing Technology program to further enhance these skills and growth potential.

Entrance Requirements
1. High school graduation certificate with the following:
   - English Language (Grade 12 level): Minimum 60%
   - Academic Mathematics (Grade 12 level): Minimum 60%
   - Advanced Mathematics (Grade 12 level): Minimum 50%
   - Two science courses (Grade 12 level): Chemistry and Physics are highly recommended. Minimum 50%

2. The required score on the Academic English Placement (AEP) and Academic Math Placement (AMP). Students who present a valid IELTS Academic Test Report Form, received within two years, with an overall band 5.0 with no individual band score (reading, writing, speaking, listening) below 4.5, are exempt from taking the AEP. For score requirements on other internationally recognized tests, such as the TOEFL test, contact the Registrar’s Office.

Further Studies
Graduates of the Chemical Processing Technician program may have the opportunity to transfer credits to other academic institutions.

Language Proficiency Requirements
Students entering the Chemical Processing Technician diploma program must meet English language proficiency requirements by obtaining one of the following:

1. An overall score of 65 or greater on the Oxford Online Placement Test (OOPT) or a passing score from another approved internationally recognized English language test, as validated by the Registrar’s Office.
2. A valid IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, listening) below 4.5.
3. Successful completion of FL1090, a language development course.

Important Notes
• This program may not be suitable for applicants who do not have normal colour perception.
• Employers will normally demand that all applicants undergo a physical capabilities assessment prior to hiring.
### Chemical Processing Technician

#### Level 1 (Year 1)

<table>
<thead>
<tr>
<th>COURSE NUMBER</th>
<th>COURSE TITLE</th>
<th>HOURS/WEEK</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>CM1190</td>
<td>Technical Reading</td>
<td>3</td>
<td>3</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>CH1120</td>
<td>Chemistry</td>
<td>4</td>
<td>3</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>PH1100</td>
<td>Physics</td>
<td>4</td>
<td>3</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>MA1700</td>
<td>Mathematics</td>
<td>4</td>
<td>3</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>EG1110</td>
<td>Engineering Graphics</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>CM2180</td>
<td>Technical Reporting I</td>
<td>3</td>
<td>3</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>CH1121</td>
<td>Chemistry</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>MA1101</td>
<td>Mathematics</td>
<td>5</td>
<td>5</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>ET1135</td>
<td>Fundamentals of Electricity</td>
<td>3</td>
<td>2</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>PO1110</td>
<td>Process Systems: Introduction</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>CH2430</td>
<td>Industrial Process Overview</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>MC1120</td>
<td>Computer Apps for Engineering</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>CI1180</td>
<td>Basic Instrumentation</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>
### Chemical Processing Technician

#### Level 2 (Year 2)

<table>
<thead>
<tr>
<th>COURSE NUMBER</th>
<th>COURSE TITLE</th>
<th>HOURS/WEEK</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>CR</td>
</tr>
<tr>
<td>PO1120</td>
<td>Chem Processing Calculations</td>
<td>3</td>
</tr>
<tr>
<td>PO1130</td>
<td>Process Control Systems</td>
<td>4</td>
</tr>
<tr>
<td>PO2100</td>
<td>Process Systems: Operations and Maintenance</td>
<td>2</td>
</tr>
<tr>
<td>PO1140</td>
<td>Process Systems &amp; Equip I</td>
<td>4</td>
</tr>
<tr>
<td>PO1150</td>
<td>Process Systems &amp; Equip II</td>
<td>4</td>
</tr>
<tr>
<td>CM2181</td>
<td>Technical Reporting II</td>
<td>3</td>
</tr>
<tr>
<td>EN2480</td>
<td>Ethics &amp; Environ Awareness</td>
<td>3</td>
</tr>
<tr>
<td>CH2420</td>
<td>Applied Hydrocarbon Chemistry</td>
<td>4</td>
</tr>
<tr>
<td>SE1120</td>
<td>Workplace Safety</td>
<td>3</td>
</tr>
<tr>
<td>MH4500</td>
<td>Prime Movers</td>
<td>4</td>
</tr>
<tr>
<td>PM2560</td>
<td>Facilities Engineering I</td>
<td>4</td>
</tr>
<tr>
<td>SP2340</td>
<td>Quality Assurance</td>
<td>2</td>
</tr>
<tr>
<td>PO2200</td>
<td>Process Systems: Troubleshooting</td>
<td>3</td>
</tr>
<tr>
<td>PM2561</td>
<td>Facilities Engineering II</td>
<td>4</td>
</tr>
</tbody>
</table>

After successful completion of the above listed courses, the student will be eligible to graduate with a Chemical Processing Technician Diploma. Students may complete a third year to achieve a Chemical Processing Technology Diploma.
Chemical Processing Technology (Three Year Diploma)

Program
The Chemical Processing Technology Diploma prepares graduates to apply scientific, engineering, business and project management principles to assist in the design, operation, analysis, optimization, troubleshooting, control and supervision of processing operations. The program equips students with the knowledge and skills required to work safely in plant operations while dealing with the increasing complexity of equipment and control systems found in modern processing industries.

Objectives
Upon successful completion of the program, graduates will be able to:
1. Apply hands-on skills needed to assist in the design, operation and troubleshooting of chemical processing units and equipment.
2. Perform procedures within the chemical process technology environment in accordance with established workplace safety protocols.
3. Apply communication and computer skills required for successful correspondence with chemists, engineers, technologists, technicians and other colleagues.
4. Demonstrate effective interpersonal and communication skills required for workplace team settings.
5. Apply problem-solving methodologies to real-life situations through practice in the classroom and laboratory environments.
6. Perform quality control procedures to optimize chemical processes/equipment.
7. Perform advanced mathematical and statistical calculations to applied science and engineering technology problems.
8. Obtain and report the results of analyses and tests clearly, accurately and effectively to others.
9. Apply current industry practices of project management and business principles.
10. Apply leadership and supervisory skills effectively within a team environment.
11. Research, analyze, document, communicate and defend a technology report relating to a significant chemical processing technology-related issue.

Accreditation
The Chemical Processing Technology (Three Year Diploma) program at CNA-Q is accredited by the Canadian Technology Accreditation Board (CTAB) www.ctab.ca

Career Opportunities
Graduates of the Chemical Processing Technology diploma program will find employment in various chemical processing industries, such as oil and gas production, petrochemicals, fertilizers and other manufacturing operations. Graduates will be involved in the routine operation and maintenance of chemical processing facilities, with increased opportunities to provide supervision of production line operations. Graduates of the program report to the engineering team, often lead junior technicians, and occupy roles such as Senior Technicians and Shift Supervisors.

Entrance Requirements
1. High school graduation certificate with the following:

<table>
<thead>
<tr>
<th>Subject</th>
<th>Average</th>
<th>Minimum</th>
</tr>
</thead>
<tbody>
<tr>
<td>English Language</td>
<td></td>
<td>60%</td>
</tr>
<tr>
<td>Academic Mathematics</td>
<td></td>
<td>60%</td>
</tr>
<tr>
<td>OR Advanced Mathematics</td>
<td></td>
<td>50%</td>
</tr>
<tr>
<td>Two science courses</td>
<td>Minimum</td>
<td>50%</td>
</tr>
</tbody>
</table>

2. The required score on the Academic English Placement (AEP) and Academic Math Placement (AMP). Students who present a valid IELTS Academic Test Report Form, received within two years, with an overall band 5.0 with no individual skill band below 4.5, are exempt from taking the AEP. For score requirements on other internationally recognized tests, such as the TOEFL test, contact the Registrar’s Office.

Note: 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 11).
Chemical Processing Technology

Further Studies
Graduates of the Chemical Processing Technology program may have the opportunity to transfer credits to other academic institutions.

A current list of post-secondary institutions offering admission to and accepting transfer credit from CNA-Q graduates who meet the entrance requirements is available from the Registrar’s Office or the Career Counselling and Resource Centre.

Language Proficiency Requirements
Students entering the Chemical Processing Technology diploma program must meet English language proficiency requirements by obtaining one of the following:

1. An overall score of 65 or greater on the Oxford Online Placement Test (OOPT) or a passing score from another approved internationally recognized English language test, as validated by the Registrar’s Office.
2. A valid IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, listening) below 4.5.
3. Successful completion of FL1090, a language development course.

Important Notes
• This program may not be suitable for applicants who do not have normal colour perception.
• Employers will normally demand that all applicants undergo a physical capabilities assessment prior to hiring.

Level 1 (Year 1)

<table>
<thead>
<tr>
<th>COURSE NUMBER</th>
<th>COURSE TITLE</th>
<th>HOURS/WEEK</th>
</tr>
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<tbody>
<tr>
<td></td>
<td></td>
<td>CR</td>
</tr>
<tr>
<td>CM1190</td>
<td>Technical Reading</td>
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</tr>
<tr>
<td>CH1120</td>
<td>Chemistry</td>
<td>4</td>
</tr>
<tr>
<td>PH1100</td>
<td>Physics</td>
<td>4</td>
</tr>
<tr>
<td>MA1700</td>
<td>Mathematics</td>
<td>4</td>
</tr>
<tr>
<td>EG1110</td>
<td>Engineering Graphics</td>
<td>3</td>
</tr>
<tr>
<td>CM2180</td>
<td>Technical Reporting I</td>
<td>3</td>
</tr>
<tr>
<td>CH1121</td>
<td>Chemistry</td>
<td>4</td>
</tr>
<tr>
<td>MA1101</td>
<td>Mathematics</td>
<td>5</td>
</tr>
<tr>
<td>ET1135</td>
<td>Fundamentals of Electricity</td>
<td>3</td>
</tr>
<tr>
<td>PO1110</td>
<td>Process Systems: Introduction</td>
<td>4</td>
</tr>
<tr>
<td>CH2430</td>
<td>Industrial Process Overview</td>
<td>2</td>
</tr>
<tr>
<td>MC1120</td>
<td>Computer Apps for Engineering</td>
<td>3</td>
</tr>
<tr>
<td>CI1180</td>
<td>Basic Instrumentation</td>
<td>3</td>
</tr>
</tbody>
</table>
## Chemical Processing Technology

### Level 2 (Year 2)

<table>
<thead>
<tr>
<th>COURSE NUMBER</th>
<th>COURSE TITLE</th>
<th>HOURS/WEEK</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>CR</td>
</tr>
<tr>
<td>PO1120</td>
<td>Chem Processing Calculations</td>
<td>3</td>
</tr>
<tr>
<td>PO1130</td>
<td>Process Control Systems</td>
<td>4</td>
</tr>
<tr>
<td>PO2100</td>
<td>Process Systems: Operations and Maintenance</td>
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</tr>
<tr>
<td>PO1140</td>
<td>Process Systems &amp; Equip I</td>
<td>4</td>
</tr>
<tr>
<td>PO1150</td>
<td>Process Systems &amp; Equip II</td>
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</tr>
<tr>
<td>CM2181</td>
<td>Technical Reporting II</td>
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</tr>
<tr>
<td>EN2480</td>
<td>Ethics &amp; Environ Awareness</td>
<td>3</td>
</tr>
<tr>
<td>CH2420</td>
<td>Applied Hydrocarbon Chemistry</td>
<td>4</td>
</tr>
<tr>
<td>SE1120</td>
<td>Workplace Safety</td>
<td>3</td>
</tr>
<tr>
<td>MH4500</td>
<td>Prime Movers</td>
<td>4</td>
</tr>
<tr>
<td>PM2560</td>
<td>Facilities Engineering I</td>
<td>4</td>
</tr>
<tr>
<td>SP2340</td>
<td>Quality Assurance</td>
<td>2</td>
</tr>
<tr>
<td>PO2200</td>
<td>Process Systems: Troubleshooting</td>
<td>3</td>
</tr>
<tr>
<td>PM2561</td>
<td>Facilities Engineering II</td>
<td>4</td>
</tr>
</tbody>
</table>

After successful completion of the above listed courses, the student will be eligible to graduate with a Chemical Processing Technician Diploma.
### Chemical Processing Technology

**Level 3 (Year 3)**

<table>
<thead>
<tr>
<th>COURSE NUMBER</th>
<th>COURSE TITLE</th>
<th>HOURS/WEEK</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>CR</td>
</tr>
<tr>
<td>CM2800</td>
<td>Oral/Written Communication Skills</td>
<td>3</td>
</tr>
<tr>
<td>MA2100</td>
<td>Mathematics</td>
<td>5</td>
</tr>
<tr>
<td>CI3200</td>
<td>Statistical Process Control</td>
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</tr>
<tr>
<td>PO2410</td>
<td>Process Unit Design</td>
<td>5</td>
</tr>
<tr>
<td>PR3214</td>
<td>Capstone Project I (Chemical Processing)</td>
<td>Pass/Fail</td>
</tr>
<tr>
<td>PR3150</td>
<td>Project Management and Financial Analysis</td>
<td>4</td>
</tr>
<tr>
<td>CF3200</td>
<td>Materials and Corrosion</td>
<td>3</td>
</tr>
<tr>
<td>PO2500</td>
<td>Liquefied Natural Gas (LNG)/Gas to Liquid (GTL)</td>
<td>4</td>
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<tr>
<td>TD3131</td>
<td>Applied Thermodynamics</td>
<td>4</td>
</tr>
<tr>
<td>PO2420</td>
<td>Process Simulation</td>
<td>3</td>
</tr>
<tr>
<td>PR3215</td>
<td>Capstone Project II (Chemical Processing)</td>
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</tr>
<tr>
<td>CS3000</td>
<td>Engineering Leadership</td>
<td>2</td>
</tr>
<tr>
<td>PO2430</td>
<td>Applied Fluid Mechanics</td>
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</tr>
<tr>
<td>CL2000</td>
<td>Chemical Reaction Engineering</td>
<td>4</td>
</tr>
</tbody>
</table>

After successful completion of the above listed courses, the student will be eligible to graduate with a Chemical Processing Technology Diploma.
**Electrical Power Systems Technician (Two Year Diploma)**

**Program**
The Electrical Power Systems Technician program is committed to providing students with the skills and knowledge necessary to become competent and effective members of an electrical engineering team. Students will gain technical knowledge and skills in maintenance and troubleshooting of electrical power systems with a focus on utility, large industry, institutional and commercial facilities. Early program studies stress the fundamental knowledge and skills necessary to complete installation, maintenance and troubleshooting tasks.

The program shares a common first year with the Process Automation Technician program.

**Objectives**
Upon successful completion of the two-year program, graduates will have the knowledge and skills to:
1. Function successfully as entry-level technicians in the electrical power industry.
2. Maintain electrical systems.
3. Install, troubleshoot and maintain heavy electrical equipment, including transformers, motors, generators and related control and protective equipment.
4. Use specific computer software in the design of building electrical systems.
5. Communicate with customers and fellow members of the engineering team.
6. Recognize the importance of continuing education and professional affiliations.

**Career Opportunities**
Graduates of the Electrical Technician program may find employment with a large variety of companies involved in the electrical industry. Typical GCC employers include public and private sector power and water utilities, large petrochemical refining and production facilities and government departments. With successful completion of the technician diploma, students are eligible for entry to the Electrical Engineering Technology program to further enhance these skills and growth potential.

**Entrance Requirements**
1. High school graduation certificate with the following:

| Average | Minimum
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>English Language (Grade 12 level)</td>
<td>Minimum 60%</td>
</tr>
<tr>
<td>Academic Mathematics (Grade 12 level)</td>
<td>Minimum 60%</td>
</tr>
<tr>
<td>OR Advanced Mathematics (Grade 12 level)</td>
<td>Minimum 50%</td>
</tr>
</tbody>
</table>

Two science courses selected from Biology, Chemistry, Geology or Physics. One of these must be at the Grade 12 level and the other may be at the Grade 11 level. Chemistry and Physics are highly recommended.

2. The required score on the Academic English Placement (AEP) and Academic Math Placement (AMP). Students who present a valid IELTS Academic Test Report Form, received within two years, with an overall band 5.0 with no individual skill band below 4.5, are exempt from taking the AEP. For score requirements on other internationally recognized tests, such as the TOEFL test, contact the Registrar’s Office.

**Further Studies**
Graduates of the Electrical Power Systems Technician program may have the opportunity to transfer credits to other academic institutions.

A current list of post-secondary institutions offering admission to and accepting transfer credit from CNA-Q graduates who meet the entrance requirements is available from the Registrar’s Office or the Career Counselling and Resource Centre.

**Language Proficiency Requirements**
Students entering the Electrical Power Systems Technician program must meet English language proficiency requirements by obtaining one of the following:

1. An overall score of 65 or greater on the Oxford Online Placement Test (OOPT) or a passing score from another approved internationally recognized English language test, as validated by the Registrar’s Office.
2. A valid IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, listening) below 4.5.
3. Successful completion of FL1090, a language development course.

**Important Notes**
- This program may not be suitable for applicants who do not have normal colour perception.
- Students should be aware of the strenuous physical dexterity required in this training program.
- Employers will normally demand that all applicants undergo a physical capabilities assessment prior to hiring.

Note: 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 71).
## Electrical Power Systems Technician

### Level 1 (Year 1)

<table>
<thead>
<tr>
<th>COURSE NUMBER</th>
<th>COURSE TITLE</th>
<th>HOURS/WEEK</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>CR</td>
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<tr>
<td>EN2480</td>
<td>Ethics and Environmental Awareness</td>
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<tr>
<td>PH1140</td>
<td>Applied Physics</td>
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<tr>
<td>ET1130</td>
<td>Fundamentals of Electricity I</td>
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</tr>
<tr>
<td>CM1190</td>
<td>Technical Reading</td>
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<tr>
<td>MA1700</td>
<td>Mathematics</td>
<td>4</td>
</tr>
<tr>
<td>CI1140</td>
<td>Introduction to Electrical and Instrumentation Technology</td>
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</tr>
<tr>
<td>EG1230</td>
<td>Electrical and Instrumentation CAD</td>
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</tr>
<tr>
<td>ET1131</td>
<td>Fundamentals of Electricity II</td>
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<td>MA1101</td>
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</tr>
<tr>
<td>AE1260</td>
<td>Power Electronics</td>
<td>3</td>
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<tr>
<td>CE1210</td>
<td>Basic Communication Networks I</td>
<td>4</td>
</tr>
<tr>
<td>MP1200</td>
<td>Electrical Motors</td>
<td>4</td>
</tr>
<tr>
<td>CI1350</td>
<td>Basic Process Automation</td>
<td>2</td>
</tr>
<tr>
<td>CI1310</td>
<td>Electrical/Electronic Fabrication Techniques</td>
<td>3</td>
</tr>
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</table>

College of the North Atlantic - Qatar | Academic Calendar 2018-19

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## Electrical Power Systems Technician

**Level 2 (Year 2)**

<table>
<thead>
<tr>
<th>COURSE NUMBER</th>
<th>COURSE TITLE</th>
<th>HOURS/WEek</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>CR</td>
<td>LEC</td>
</tr>
<tr>
<td>CM2180</td>
<td>Technical Reporting I</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>MP2220</td>
<td>Transmission and Distribution Systems</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>MP2370</td>
<td>Power System Transformers</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>MP2160</td>
<td>Electromechanical Motor Controls</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>PE2510</td>
<td>Electrical Practices</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>CM2181</td>
<td>Technical Reporting II</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>MP2250</td>
<td>Electric Power Generation Facilities</td>
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<td>3</td>
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<tr>
<td>MP2260</td>
<td>Solid State Motor Controls</td>
<td>4</td>
<td>3</td>
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<tr>
<td>DP2520</td>
<td>Programmable Logic Controllers</td>
<td>4</td>
<td>3</td>
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<tr>
<td>PE2511</td>
<td>Electrical Practices II</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>PE3120</td>
<td>Facilities Electrical Systems I</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>PE2300</td>
<td>HV Equipment Testing and Maintenance</td>
<td>3</td>
<td>2</td>
</tr>
</tbody>
</table>

After successful completion of the above listed courses, the student will be eligible to graduate with an Electrical Power Systems Technician Diploma. Students may continue to complete a third year and be eligible to graduate with an Electrical Engineering Technology Diploma.
Electrical Engineering Technology (Three Year Diploma)

Program

The Electrical Engineering Technology program is accredited by the Canadian Technology Accreditation Board (CTAB). The program is committed to providing students with the skills and knowledge necessary to become competent and effective members of an electrical engineering team. Students will gain technical knowledge and skills in maintenance, troubleshooting and design of electrical power systems with a focus on utility, large industry, institutional and commercial facilities. Early program studies stress the fundamental knowledge and skills necessary to complete installation, maintenance and troubleshooting tasks. Later studies provide the skills and knowledge tools necessary to undertake analysis and design tasks.

Students may exit after two years to earn an Electrical Power Systems Technician Diploma. The program shares a common first year with the Process Automation Engineering Technology program. Many second and third year courses are also shared, allowing for a reduced time to obtain a dual qualification.

Objectives

Upon successful completion of the three-year program, graduates will have the knowledge and skills to:

1. Function successfully as entry-level technicians or engineering technologists in the electrical power industry.
2. Design, analyze and maintain electrical systems.
3. Install, troubleshoot and maintain heavy electrical equipment, including transformers, motors, generators and related control and protective equipment.
4. Use specific computer software in the design of building electrical systems.
5. Communicate with customers and fellow members of the engineering team.
6. Recognize the importance of continuing education and professional affiliations.

Accreditation

The Electrical Engineering Technology (Two Year Diploma) program at CNA-Q is accredited by the Canadian Technology Accreditation Board (CTAB) www.ctab.ca

Career Opportunities

Graduates of the Electrical Engineering Technology program may find employment with a large variety of companies involved in the electrical industry. Typical GCC employers include public and private sector power and water utilities, large petrochemical refining and production facilities and government departments.

Entrance Requirements

1. High school graduation certificate with the following:

<table>
<thead>
<tr>
<th></th>
<th>Minimum 60%</th>
</tr>
</thead>
<tbody>
<tr>
<td>English Language</td>
<td>Minimum 60%</td>
</tr>
<tr>
<td>(Grade 12 level)</td>
<td></td>
</tr>
<tr>
<td>Academic Mathematics</td>
<td>Minimum 60%</td>
</tr>
<tr>
<td>(Grade 12 level)</td>
<td></td>
</tr>
<tr>
<td>OR Advanced Mathematics</td>
<td>Minimum 50%</td>
</tr>
<tr>
<td>(Grade 12 level)</td>
<td></td>
</tr>
<tr>
<td>Two science courses selected from Biology, Chemistry, Geology or Physics. One of these must be at the Grade 12 level and the other may be at the Grade 11 Level. Chemistry and Physics are highly recommended.</td>
<td>Minimum 50%</td>
</tr>
</tbody>
</table>

2. The required score on the Academic English Placement (AEP) and Academic Math Placement (AMP). Students who present a valid IELTS Academic Test Report Form, received within two years, with an overall band 5.0 with no individual band score (reading, writing, speaking, listening) below 4.5, are exempt from taking the AEP. For score requirements on other internationally recognized tests, such as the TOEFL test, contact the Registrar’s Office.

Note: 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 11).

Further Studies

Graduates of the Electrical Engineering Technology program may have the opportunity to transfer credits to other academic institutions.

A current list of post-secondary institutions offering admission to and accepting transfer credit from CNA-Q graduates who meet the entrance requirements is available from the Registrar’s Office or the Career Counselling and Resource Centre.

Language Proficiency Requirements

Students entering the Electrical Engineering Technology program must meet English language proficiency requirements by obtaining one of the following:

1. An overall score of 65 or greater on the Oxford Online Placement Test (OOPT) or a passing score from another approved internationally recognized English language test, as validated by the Registrar’s Office.
2. A valid IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, listening) below 4.5.
3. Successful completion of FL1090, a language development course.

Important Notes

- This program may not be suitable for applicants who do not have normal colour perception.
- Students should be aware of the strenuous physical dexterity required in this training program.
- Employers will normally demand that all applicants undergo a physical capabilities assessment prior to hiring.
## Electrical Engineering Technology

### Level 1 (Year 1)

<table>
<thead>
<tr>
<th>COURSE NUMBER</th>
<th>COURSE TITLE</th>
<th>HOURS/WEEK</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN2480</td>
<td>Ethics and Environmental Awareness</td>
<td>3 CR, 3 LEC, 0 LAB</td>
</tr>
<tr>
<td>PH1140</td>
<td>Applied Physics</td>
<td>4 CR, 3 LEC, 2 LAB</td>
</tr>
<tr>
<td>ET1130</td>
<td>Fundamentals of Electricity I</td>
<td>4 CR, 3 LEC, 2 LAB</td>
</tr>
<tr>
<td>CM1190</td>
<td>Technical Reading</td>
<td>3 CR, 3 LEC, 0 LAB</td>
</tr>
<tr>
<td>MA1700</td>
<td>Mathematics</td>
<td>4 CR, 3 LEC, 3 LAB</td>
</tr>
<tr>
<td>CI1140</td>
<td>Introduction to Electrical and Instrumentation Technology</td>
<td>3 CR, 2 LEC, 2 LAB</td>
</tr>
<tr>
<td>EG1230</td>
<td>Electrical and Instrumentation CAD</td>
<td>3 CR, 2 LEC, 2 LAB</td>
</tr>
<tr>
<td>ET1131</td>
<td>Fundamentals of Electricity II</td>
<td>4 CR, 3 LEC, 2 LAB</td>
</tr>
<tr>
<td>MA1101</td>
<td>Mathematics</td>
<td>5 CR, 5 LEC, 0 LAB</td>
</tr>
<tr>
<td>AE1260</td>
<td>Power Electronics</td>
<td>3 CR, 2 LEC, 2 LAB</td>
</tr>
<tr>
<td>CE1210</td>
<td>Basic Communication Networks I</td>
<td>4 CR, 3 LEC, 3 LAB</td>
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<tr>
<td>MP1200</td>
<td>Electrical Motors</td>
<td>4 CR, 3 LEC, 2 LAB</td>
</tr>
<tr>
<td>CI1350</td>
<td>Basic Process Automation</td>
<td>2 CR, 1 LEC, 2 LAB</td>
</tr>
<tr>
<td>CI1310</td>
<td>Electrical/Electronic Fabrication Techniques</td>
<td>3 CR, 2 LEC, 3 LAB</td>
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## Electrical Engineering Technology

### Level 2 (Year 2)

<table>
<thead>
<tr>
<th>COURSE NUMBER</th>
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<th>HOURS/WEEK</th>
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<tr>
<td>CM2180</td>
<td>Technical Reporting I</td>
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<td>MP2220</td>
<td>Transmission and Distribution Systems</td>
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</tr>
<tr>
<td>MP2370</td>
<td>Power System Transformers</td>
<td>4</td>
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<tr>
<td>MP2160</td>
<td>Electromechanical Motor Controls</td>
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<td>PE2510</td>
<td>Electrical Practices</td>
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<td>CM2181</td>
<td>Technical Reporting II</td>
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<td>MP2250</td>
<td>Electric Power Generation Facilities</td>
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<td>MP2260</td>
<td>Solid State Motor Controls</td>
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<tr>
<td>DP2520</td>
<td>Programmable Logic Controllers</td>
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<tr>
<td>PE2511</td>
<td>Electrical Practices II</td>
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</tr>
<tr>
<td>PE3120</td>
<td>Facilities Electrical Systems I</td>
<td>4</td>
</tr>
<tr>
<td>PE2300</td>
<td>HV Equipment Testing and Maintenance</td>
<td>3</td>
</tr>
</tbody>
</table>

After successful completion of the above listed courses, the student will be eligible to graduate with an Electrical Power Systems Technician Diploma. Students may continue to complete a third year and be eligible to graduate with an Electrical Engineering Technology Diploma.
## Electrical Engineering Technology

### Level 3 (Year 3)

<table>
<thead>
<tr>
<th>COURSE NUMBER</th>
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<tbody>
<tr>
<td>MA2100</td>
<td>Mathematics</td>
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<tr>
<td>CM2800</td>
<td>Oral/Written Communication Skills</td>
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<td>PR3270</td>
<td>Capstone Project I (Electrical)</td>
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<td>PE3121</td>
<td>Facilities Electrical Systems II</td>
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<td>CI2100</td>
<td>Pressure and Level Measurement and Control</td>
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<tr>
<td>MA1530</td>
<td>Statistics</td>
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<td>PR3271</td>
<td>Capstone Project II (Electrical)</td>
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<tr>
<td>MP3120</td>
<td>HV Systems Protection and Coordination</td>
<td>4</td>
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<tr>
<td>CI2230</td>
<td>Flow and Temperature Measurement and Control</td>
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<tr>
<td>PR3150</td>
<td>Project Management and Financial Analysis</td>
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<tr>
<td>MP2230</td>
<td>Power System Harmonics</td>
<td>2</td>
</tr>
<tr>
<td>MP3330</td>
<td>Transmission and Distribution Systems Operational Analysis</td>
<td>4</td>
</tr>
<tr>
<td>DP3450</td>
<td>Advanced Programmable Logic Controllers</td>
<td>4</td>
</tr>
</tbody>
</table>
Program
The Mechanical Technician (Industrial Maintenance) program equips graduates with the technical knowledge and hands-on skills required to install, operate and maintain mechanical systems. Specific areas of study include: rotating equipment, pumps, piping systems, hydraulics, pneumatics, preventive maintenance and non-destructive testing.

Graduates of the Mechanical Technician (Industrial Maintenance) program are eligible for entrance into the third year of the Mechanical Engineering Technology (Industrial Maintenance) program.

Objectives
Through this program of study, graduates acquire the technical knowledge and hands-on skills required to:
1. Implement and install petroleum production equipment, power generation systems and general mechanical support systems.
2. Operate and maintain petroleum production equipment, power generation systems and general mechanical support systems.
3. Identify, troubleshoot and resolve technical mechanical problems.
4. Apply foundational knowledge and skills in an industrial maintenance technician setting.
5. Function effectively as an individual and as a member of technical teams.
6. Demonstrate application of the Conference Board of Canada employability skills.

Career Opportunities
Given the broad base of the mechanical field, graduates have employment opportunities in numerous industries, including oil and gas production, refining, petrochemical plants, manufacturing plants, engineering firms and government departments. With successful completion of the technician diploma, students are eligible for entry to the Mechanical Engineering Technology program to further enhance these skills and growth potential.

Entrance Requirements
1. High school graduation certificate with the following:

<table>
<thead>
<tr>
<th></th>
<th>Average</th>
<th>Minimum 60%</th>
</tr>
</thead>
<tbody>
<tr>
<td>English Language</td>
<td>Minimum 60%</td>
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<tr>
<td>(Grade 12 level)</td>
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<tr>
<td>Academic Mathematics</td>
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<tr>
<td>OR Advanced Mathematics</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Two science courses</td>
<td>Minimum 50%</td>
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</tr>
<tr>
<td>selected from Biology, Chemistry, Geology or Physics (Grade 12 level). Chemistry and Physics are highly recommended.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2. The required score on the Academic English Placement (AEP) and Academic Math Placement (AMP). Students who present a valid IELTS Academic Test Report Form, received within two years, with an overall band 5.0 with no individual band score (reading, writing, speaking, listening) below 4.5, are exempt from taking the AEP. For score requirements on other internationally recognized tests, such as the TOEFL test, contact the Registrar’s Office.

Further Studies
Graduates of the Mechanical Technician (Industrial Maintenance) program may have the opportunity to transfer credits to other academic institutions.

A current list of post-secondary institutions offering admission to and accepting transfer credit from CNA-Q graduates who meet the entrance requirements is available from the Registrar’s Office or the Career Counselling and Resource Centre.

Language Proficiency Requirements
Students entering the Mechanical Technician (Industrial Maintenance) program must meet English language proficiency requirements by obtaining one of the following:
1. An overall score of 65 or greater on the Oxford Online Placement Test (OOPT) or a passing score from another approved internationally recognized English language test, as validated by the Registrar’s Office.
2. A valid IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, listening) below 4.5.
3. Successful completion of FL1090, a language development course.

Important Notes
• This program may not be suitable for applicants who do not have normal colour perception.
• Students should be aware of the strenuous physical dexterity required in this training program.
• Employers will normally demand that all applicants undergo a physical capabilities assessment prior to hiring.

Note: 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 11).
## Mechanical Technician (Industrial Maintenance)

### Level 1 (Year 1)

<table>
<thead>
<tr>
<th>COURSE NUMBER</th>
<th>COURSE TITLE</th>
<th>HOURS/WEEK</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>COURSE TITLE</strong></td>
<td><strong>CR</strong></td>
</tr>
<tr>
<td>EN2480</td>
<td>Ethics and Environmental Awareness</td>
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<tr>
<td>PH1140</td>
<td>Applied Physics</td>
<td>4</td>
</tr>
<tr>
<td>ET1130</td>
<td>Fundamentals of Electricity I</td>
<td>4</td>
</tr>
<tr>
<td>CM1190</td>
<td>Technical Reading</td>
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</tr>
<tr>
<td>MA1700</td>
<td>Mathematics</td>
<td>4</td>
</tr>
<tr>
<td>CI1140</td>
<td>Introduction to Electrical and Instrumentation Technology</td>
<td>3</td>
</tr>
<tr>
<td>EG1230</td>
<td>Electrical and Instrumentation CAD</td>
<td>3</td>
</tr>
<tr>
<td>ET1131</td>
<td>Fundamentals of Electricity II</td>
<td>4</td>
</tr>
<tr>
<td>MA1101</td>
<td>Mathematics</td>
<td>5</td>
</tr>
<tr>
<td>AE1260</td>
<td>Power Electronics</td>
<td>3</td>
</tr>
<tr>
<td>CE1210</td>
<td>Basic Communication Networks I</td>
<td>4</td>
</tr>
<tr>
<td>MP1200</td>
<td>Electrical Motors</td>
<td>4</td>
</tr>
<tr>
<td>CI1350</td>
<td>Basic Process Automation</td>
<td>2</td>
</tr>
<tr>
<td>CI1310</td>
<td>Electrical/Electronic Fabrication Techniques</td>
<td>3</td>
</tr>
</tbody>
</table>
Mechanical Technician (Industrial Maintenance)

Level 2 (Year 2)

<table>
<thead>
<tr>
<th>COURSE NUMBER</th>
<th>COURSE TITLE</th>
<th>HOURS/WEEK</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>CR</td>
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<tr>
<td>CM2180</td>
<td>Technical Reporting I</td>
<td>3</td>
</tr>
<tr>
<td>MP2220</td>
<td>Transmission and Distribution Systems</td>
<td>5</td>
</tr>
<tr>
<td>MP2370</td>
<td>Power System Transformers</td>
<td>4</td>
</tr>
<tr>
<td>MP2160</td>
<td>Electromechanical Motor Controls</td>
<td>4</td>
</tr>
<tr>
<td>PE2510</td>
<td>Electrical Practices</td>
<td>2</td>
</tr>
<tr>
<td>CM2181</td>
<td>Technical Reporting II</td>
<td>3</td>
</tr>
<tr>
<td>MP2250</td>
<td>Electric Power Generation Facilities</td>
<td>4</td>
</tr>
<tr>
<td>MP2260</td>
<td>Solid State Motor Controls</td>
<td>4</td>
</tr>
<tr>
<td>DP2520</td>
<td>Programmable Logic Controllers</td>
<td>4</td>
</tr>
<tr>
<td>PE2511</td>
<td>Electrical Practices II</td>
<td>2</td>
</tr>
<tr>
<td>PE3120</td>
<td>Facilities Electrical Systems I</td>
<td>4</td>
</tr>
<tr>
<td>PE2300</td>
<td>HV Equipment Testing and Maintenance</td>
<td>3</td>
</tr>
</tbody>
</table>

After successful completion of the above listed courses, the student will be eligible to graduate with an Electrical Power Systems Technician Diploma.
Mechanical Engineering Technology (Industrial Maintenance) (Three Year Diploma)

Program
The Mechanical Engineering Technology (Industrial Maintenance) program equips graduates with the technical knowledge and hands-on skills required to install, operate, maintain, design and manage mechanical systems. Specific areas of study include: rotating equipment, pumps, piping systems, CNC machining, hydraulics, pneumatics, refrigeration and building systems, 3D modelling, preventive and predictive maintenance, and non-destructive testing.

Objectives
Through this program of study, graduates acquire the technical knowledge and hands-on skills required to:
1. Design, implement and install petroleum production equipment, power generation systems and general mechanical support systems.
2. Operate, maintain and manage petroleum production equipment, power generation systems and general mechanical support systems.
3. Develop mechanical working drawings and computer-based models of mechanical systems using related engineering analysis software.
4. Apply foundational knowledge and skills in an industrial maintenance technology setting.
5. Conduct, analyze and interpret research results to improve processes.
6. Function effectively as an individual and as a member or leader of a team in diverse technical teams.
7. Design or improve existing mechanical systems or mechanical parts based on economic, social, environmental and safety considerations.
8. Demonstrate application of the Conference Board of Canada employability skills.

Accreditation
The Mechanical Engineering Technology (Industrial Maintenance) (Three Year Diploma) program at CNA-Q is accredited by the Canadian Technology Accreditation Board (CTAB) www.ctab.ca

Entrance Requirements
1. High school graduation certificate with the following:

<table>
<thead>
<tr>
<th>Average</th>
<th>Minimum 60%</th>
</tr>
</thead>
<tbody>
<tr>
<td>English Language (Grade 12 level)</td>
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<td>OR Advanced Mathematics (Grade 12 level)</td>
<td>Minimum 50%</td>
</tr>
<tr>
<td>Two science courses selected from Biology, Chemistry, Geology or Physics (Grade 12 level). Chemistry and Physics are highly recommended.</td>
<td>Minimum 50%</td>
</tr>
</tbody>
</table>

2. The required score on the Academic English Placement (AEP) and Academic Math Placement (AMP). Students who present a valid IELTS Academic Test Report Form, received within two years, with an overall band 5.0 with no individual skill band below 4.5, are exempt from taking the AEP. For score requirements on other internationally recognized tests, such as for score requirements on other internationally recognized tests, such as the TOEFL test, contact the Registrar’s Office.

Career Opportunities
Given the broad base of the mechanical field, graduates have employment opportunities in numerous industries, including oil and gas production, refining, petrochemical plants, manufacturing plants, engineering firms and government departments.

Further Studies
Graduates of the Mechanical Engineering Technology (Industrial Maintenance) program may have the opportunity to transfer credits to other academic institutions.

A current list of post-secondary institutions offering admission to and accepting transfer credit from CNA-Q graduates who meet the entrance requirements is available from the Registrar’s Office or the Career Counselling and Resource Centre.

Language Proficiency Requirements
Students entering the Mechanical Engineering Technology (Industrial Maintenance) program must meet English language proficiency requirements by obtaining one of the following:

1. An overall score of 65 or greater on the Oxford Online Placement Test (OOPT) or a passing score from another approved internationally recognized English language test, as validated by the Registrar’s Office.
2. A valid IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, listening) below 4.5.
3. Successful completion of FL1090, a language development course.

Important Notes
• This program may not be suitable for applicants who do not have normal colour perception.
• Students should be aware of the strenuous physical dexterity required in this training program.
• Employers will normally demand that all applicants undergo a physical capabilities assessment prior to hiring.

Note: 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 71).
# Mechanical Engineering Technology (Industrial Maintenance)

## Level 1 (Year 1)

<table>
<thead>
<tr>
<th>COURSE NUMBER</th>
<th>COURSE TITLE</th>
<th>HOURS/WEEK</th>
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<td>MA1700</td>
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<td>PH1100</td>
<td>Physics</td>
<td>4, 3, 3</td>
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<td>CM1190</td>
<td>Technical Reading</td>
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<td>Fundamentals of Electricity</td>
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<td>EN2480</td>
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<td>PH1101</td>
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<td>4, 3, 2</td>
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<td>MH1110</td>
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<tr>
<td>SE1120</td>
<td>Workplace Safety</td>
<td>3, 3, 0</td>
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<tr>
<td>CI1180</td>
<td>Basic Instrumentation</td>
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<tr>
<td>CH1120</td>
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<tr>
<td>EG1430</td>
<td>AutoCAD Essentials</td>
<td>3, 2, 2</td>
</tr>
<tr>
<td>SP1200</td>
<td>Machine Shop Practice</td>
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## Academic Calendar 2018-19

### School of Engineering Technology and Industrial Trades

#### Level 2 (Year 2)

<table>
<thead>
<tr>
<th>COURSE NUMBER</th>
<th>COURSE TITLE</th>
<th>CR</th>
<th>LEC</th>
<th>LAB</th>
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<tbody>
<tr>
<td>CM2180</td>
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<td>MW2240</td>
<td>Industrial Mechanics</td>
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<td>MH2320</td>
<td>Power Plant Components</td>
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<td>3</td>
<td>2</td>
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<td>PF1180</td>
<td>Piping Fabrication and Rigging</td>
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<td>CF1160</td>
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<td>WD1420</td>
<td>Welding Fundamentals</td>
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<td>FM2160</td>
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<td>Hydraulics and Pneumatics</td>
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</table>

After successful completion of the above listed courses, the student will be eligible to graduate with a Mechanical Technician (Industrial Maintenance) Diploma. Students may continue a third year to complete the Mechanical Engineering Technology Diploma.
# Mechanical Engineering Technology (Industrial Maintenance)

## Level 3 (Year 3)

<table>
<thead>
<tr>
<th>COURSE NUMBER</th>
<th>COURSE TITLE</th>
<th>HOURS/WEEK</th>
<th>CR</th>
<th>LEC</th>
<th>LAB</th>
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<tbody>
<tr>
<td>CM2800</td>
<td>Oral/Written Communication Skills</td>
<td>3</td>
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<td>CF2240</td>
<td>Mechanics of Solids</td>
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<td>TD3131</td>
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</tbody>
</table>

After successful completion of the above listed courses, the student will be eligible to graduate with a Mechanical Engineering Technology (Industrial Maintenance) Diploma.
Process Automation Technician (Two Year Diploma)

Program
The Process Automation Technician program combines technical problem solving abilities, an appreciation for working in a team environment and an aptitude for hands-on work. Graduates will work closely with engineers, technologists, technicians and tradespersons. Process Automation Engineering Technicians rely on strong technical knowledge of the operation of process instrumentation 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. Graduates of the Process Automation Technician program are eligible for entrance into the third year of the Process Automation Engineering Technology program.

The program shares a common first year with the Electrical Power Systems Technician program.

Objectives
Upon successful completion of the two-year program, graduates will have the knowledge and skills to:
1. Function successfully as entry-level technicians in the processing industry.
2. Analyze and maintain process automation systems.
3. Install, troubleshoot and maintain process automation field and control room devices and systems, such as programmable logic control, distributed control and emergency shutdown systems.
4. Use specific computer software in the implementation, calibration and design of process automated systems.

Career Opportunities
Process Automation has very diverse applications. Program graduates may find employment in production plants, hospitals, and oil and gas facilities, as well as private, government and non-profit sectors. With successful completion of the technician diploma, students are eligible for entry to the Process Automation Engineering Technology program to further enhance these skills and growth potential.

Entrance Requirements
1. High school graduation certificate with the following:

<table>
<thead>
<tr>
<th>Average</th>
<th>Minimum</th>
</tr>
</thead>
<tbody>
<tr>
<td>English Language</td>
<td>60%</td>
</tr>
<tr>
<td>Academic Mathematics</td>
<td>60%</td>
</tr>
<tr>
<td>OR Advanced Mathematics</td>
<td>50%</td>
</tr>
</tbody>
</table>

2. The required score on the Academic English Placement (AEP) and Academic Math Placement (AMP). Students who present a valid IELTS Academic Test Report Form, received within two years, with an overall band 5.0 with no individual skill band below 4.5, are exempt from taking the AEP. For score requirements on other internationally recognized tests, such as the TOEFL test, contact the Registrar’s Office.

Further Studies
Graduates of the Process Automation Technician program may have the opportunity to transfer credits to other academic institutions.

A current list of post-secondary institutions offering admission to and accepting transfer credit from CNA-Q graduates who meet the entrance requirements is available from the Registrar’s Office or the Career Counselling and Resource Centre.

Language Proficiency Requirements
Students entering the Process Automation Technician program must meet English language proficiency requirements by obtaining one of the following:
1. An overall score of 65 or greater on the Oxford Online Placement Test (OOPT) or a passing score from another approved internationally recognized English language test, as validated by the Registrar’s Office
2. A valid IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, listening) below 4.5.
3. Successful completion of FL1090, a language development course.

Important Notes
• This program may not be suitable for applicants who do not have normal colour perception.
• Students should be aware of the strenuous physical dexterity required in this training program.
• Employers will normally demand that all applicants undergo a physical capabilities assessment prior to hiring.
## Process Automation Technician

### Level 1 (Year 1)

<table>
<thead>
<tr>
<th>COURSE NUMBER</th>
<th>COURSE TITLE</th>
<th>HOURS/WEEK</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>MA1700</td>
<td>Mathematics</td>
<td>4</td>
<td>3</td>
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<td></td>
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<tr>
<td>PH1100</td>
<td>Physics</td>
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<tr>
<td>CM1190</td>
<td>Technical Reading</td>
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<tr>
<td>ET1135</td>
<td>Fundamentals of Electricity</td>
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<td>2</td>
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<tr>
<td>EN2480</td>
<td>Ethics and Environ Awareness</td>
<td>3</td>
<td>3</td>
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<td>MA1101</td>
<td>Mathematics</td>
<td>5</td>
<td>5</td>
<td>0</td>
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</tr>
<tr>
<td>PH1101</td>
<td>Physics</td>
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<td>3</td>
<td>2</td>
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<td>MH1110</td>
<td>Mechanical Systems</td>
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<tr>
<td>EG1110</td>
<td>Engineering Graphics</td>
<td>3</td>
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<tr>
<td>SE1120</td>
<td>Workplace Safety</td>
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<td>CI1180</td>
<td>Basic Instrumentation</td>
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<td>AutoCAD Essentials</td>
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## Process Automation Technician

**Level 2 (Year 2)**

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<th>COURSE TITLE</th>
<th>HOURS/WEEK</th>
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<tr>
<td></td>
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<td>CR</td>
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<tr>
<td>CM2181</td>
<td>Technical Reporting II</td>
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</tr>
<tr>
<td>CI2300</td>
<td>Advanced Control Strategies</td>
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<tr>
<td>DP2360</td>
<td>Function Block Programming</td>
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</tr>
<tr>
<td>CI2100</td>
<td>Pressure and Level Measurement and Control</td>
<td>4</td>
</tr>
<tr>
<td>CI2120</td>
<td>Final Control Elements and Instrument Air Systems</td>
<td>3</td>
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<tr>
<td>CM2180</td>
<td>Technical Reporting I</td>
<td>3</td>
</tr>
<tr>
<td>MP2160</td>
<td>Electromechanical Motor Controls</td>
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</tr>
<tr>
<td>PE2720</td>
<td>Industrial Instrumentation Practices</td>
<td>2</td>
</tr>
<tr>
<td>CI2230</td>
<td>Flow and Temperature Measurement and Control</td>
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</tr>
<tr>
<td>DP2520</td>
<td>Programmable Logic Controllers</td>
<td>4</td>
</tr>
<tr>
<td>PE2230</td>
<td>Hazardous Area Training</td>
<td>3</td>
</tr>
<tr>
<td>MP2260</td>
<td>Solid State Motor Controls</td>
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</table>

After successful completion of the above listed courses, the student will be eligible to graduate with a Process Automation Technician Diploma. Students may continue for a third year to achieve a Process Automation Engineering Technology Diploma.
Program
The Process Automation Engineering Technology program is accredited by the Canadian Technology Accreditation Board (CTAB). The Program combines technical problem-solving abilities, an appreciation for working in a team environment and an aptitude for hands-on work. Graduates will work closely with engineers, technologists, technicians and tradespersons. Process Automation Engineering Technologists rely on strong technical knowledge of the design and operation of process instrumentation 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. Students may exit after two years to earn a Process Automation Technician Diploma.

Objectives
Upon successful completion of the three-year program, graduates will have the knowledge and skills to:
1. Function successfully as entry-level technicians or engineering technologists in the processing industry.
2. Design, analyze and maintain process automation systems.
3. Install, troubleshoot and maintain process automation field and control room devices and systems, such as programmable logic control, distributed control and emergency shutdown systems.
4. Use specific computer software in the implementation, calibration and design of process automated systems.

Accreditation
The Process Automation Engineering Technology [Three Year Diploma] program at CNA-Q is accredited by the Canadian Technology Accreditation Board (CTAB) www.ctab.ca

Career Opportunities
Process Automation has very diverse applications. Program graduates may find employment in production plants, hospitals, and oil and gas facilities, as well as private, government and non-profit sectors.

Entrance Requirements
1. High school graduation certificate with the following:

<table>
<thead>
<tr>
<th>Average</th>
<th>Minimum</th>
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</thead>
<tbody>
<tr>
<td>English Language (Grade 12 level)</td>
<td>Minimum 60%</td>
</tr>
<tr>
<td>Academic Mathematics (Grade 12 level)</td>
<td>Minimum 60%</td>
</tr>
<tr>
<td>OR Advanced Mathematics (Grade 12 level)</td>
<td>Minimum 50%</td>
</tr>
</tbody>
</table>

Two science courses selected from Biology, Chemistry, Geology or Physics (Grade 12 level). One of these courses must be at the Grade 12 level and the other may be at the Grade 11 Level. Chemistry and Physics are highly recommended.

2. The required score on the Academic English Placement (AEP) and Academic Math Placement (AMP). Students who present a valid IELTS Academic Test Report Form, received within two years, with an overall band 5.0 with no individual band score (reading, writing, speaking, listening) below 4.5, are exempt from taking the AEP. For score requirements on other internationally recognized tests, such as the TOEFL test, contact the Registrar’s Office.

Further Studies
Graduates of the Process Automation Engineering Technology program may have the opportunity to transfer credits to other academic institutions.

A current list of post-secondary institutions offering admission to and accepting transfer credit from CNA-Q graduates who meet the entrance requirements is available from the Registrar’s Office or the Career Counselling and Resource Centre.

Language Proficiency Requirements
Students entering the Process Automation Engineering Technology program must meet English language proficiency requirements by obtaining one of the following:
1. An overall score of 65 or greater on the Oxford Online Placement Test (OOPIT) or a passing score from another approved internationally recognized English language test, as validated by the Registrar’s Office
2. A valid IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, listening) below 4.5.
3. Successful completion of FL1090, a language development course.

Important Notes
• This program may not be suitable for applicants who do not have normal colour perception.
• Students should be aware of the strenuous physical dexterity required in this training program.
• Employers will normally demand that all applicants undergo a physical capabilities assessment prior to hiring.

Note: 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 11).
# Process Automation Engineering Technology

**Level 1 (Year 1)**

<table>
<thead>
<tr>
<th>COURSE NUMBER</th>
<th>COURSE TITLE</th>
<th>HOURS/WEEK</th>
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<tbody>
<tr>
<td>MA1700</td>
<td>Mathematics</td>
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<td>PH1140</td>
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<td>CM1190</td>
<td>Technical Reading</td>
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<td>EN2480</td>
<td>Ethics and Environmental Awareness</td>
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<td>Basic Communications Networks I</td>
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<td>CI1350</td>
<td>Basic Process Automation</td>
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<td>CI1310</td>
<td>Electrical/Electronic Fabrication Techniques</td>
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## Process Automation Engineering Technology

### Level 2 (Year 2)

<table>
<thead>
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<th>HOURS/WEEK</th>
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<tr>
<td></td>
<td></td>
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<tr>
<td>CM2181</td>
<td>Technical Reporting II</td>
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<tr>
<td>CI2300</td>
<td>Advanced Control Strategies</td>
<td>4</td>
</tr>
<tr>
<td>DP2360</td>
<td>Function Block Programming</td>
<td>4</td>
</tr>
<tr>
<td>CI2100</td>
<td>Pressure and Level Measurement and Control</td>
<td>4</td>
</tr>
<tr>
<td>CI2120</td>
<td>Final Control Elements and Instrument Air Systems</td>
<td>3</td>
</tr>
<tr>
<td>CM2180</td>
<td>Technical Reporting I</td>
<td>3</td>
</tr>
<tr>
<td>MP2160</td>
<td>Electromechanical Motor Controls</td>
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</tr>
<tr>
<td>PE2720</td>
<td>Industrial Instrumentation Practices</td>
<td>2</td>
</tr>
<tr>
<td>CI2230</td>
<td>Flow and Temperature Measurement and Control</td>
<td>4</td>
</tr>
<tr>
<td>DP2520</td>
<td>Programmable Logic Controllers</td>
<td>4</td>
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<tr>
<td>PE2230</td>
<td>Hazardous Area Training</td>
<td>3</td>
</tr>
<tr>
<td>MP2260</td>
<td>Solid State Motor Controls</td>
<td>4</td>
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</table>

After successful completion of the above listed courses, the student will be eligible to graduate with a Process Automation Technician Diploma.
Process Automation Engineering Technology

Level 3 (Year 3)

<table>
<thead>
<tr>
<th>COURSE NUMBER</th>
<th>COURSE TITLE</th>
<th>HOURS/WEEK</th>
<th>CR</th>
<th>LEC</th>
<th>LAB</th>
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</thead>
<tbody>
<tr>
<td>CM2800</td>
<td>Oral/Written Communication Skills</td>
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<td>3</td>
<td>0</td>
</tr>
<tr>
<td>PR3150</td>
<td>Project Management and Financial Analysis</td>
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<td>4</td>
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<td>CH3100</td>
<td>Chemistry for Process Analyzers</td>
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<td>3</td>
<td>2</td>
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<tr>
<td>MA2100</td>
<td>Mathematics</td>
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<td>MA2101</td>
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<td>DP3240</td>
<td>DCS (Distributed Control Systems) Configuration</td>
<td></td>
<td>4</td>
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<tr>
<td>CI3160</td>
<td>Introduction to Process Analysis</td>
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<td>Advanced Process Control Applications</td>
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<tr>
<td>PR3281</td>
<td>Capstone Project II (Process Automation)</td>
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<tr>
<td>CI3310</td>
<td>Process Optimization and Asset Management</td>
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<td>Foundation Fieldbus</td>
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<tr>
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<td>Process Analyzers</td>
<td></td>
<td>1</td>
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</tr>
</tbody>
</table>

After successful completion of the above listed courses, the student will be eligible to graduate with a Process Automation Engineering Technology Diploma.
Telecommunications and Network Technician (Two Year Diploma)

Program
The Telecommunications and Network Technician (TNT) program is an electronics technician program with an emphasis on Networking and Communications Technologies. The program is designed to provide graduates with the skills and knowledge to work with modern communication systems, such as data services providers, Internet services, and wireless and wired systems, including fiber optic principles. Graduates will obtain both theory and practical hands-on experience with networking, internetworking, and transmission and communication systems, such as public address, closed circuit systems and radar. Graduates will obtain hands on experience in troubleshooting, maintaining, configuring and aligning communications systems. Graduates of this two year program will receive the Diploma of Telecommunications and Network Technician.

Objectives
As engineering technicians, graduates of this program will have the knowledge and skills that will allow them to:
1. Develop a high level of skill in the application of electronics principles.
2. Specify, design, construct, troubleshoot, and characterize modern communication systems.
3. Maintain and troubleshoot computer networks for use in the secure transmission of data.
4. Maintain and configure telecommunications network systems.
5. Maintain and troubleshoot electronic systems using computer software or traditional workbench techniques.
6. Demonstrate an acceptable level of workplace safety practices and procedures, especially in the oil and gas sector.
7. Recognize the importance of continuing education and professional affiliations.

Upon completion of this program, graduates may choose to further their education by continuing into the third year of Telecommunications and Network Engineering Technology (TNET) Diploma at CNA-Q.

Graduates complete courses in the Cisco Networking Academy program which offers a strong foundation in computer networking skills and knowledge using the industry’s leading equipment provider. These courses prepare graduates to obtain Cisco’s CCNA certification.

Note: This program may not be suitable for applicants who do not have normal colour perception.

Career Opportunities
The Telecommunications and Network Technician Diploma program produces graduates who possess the skill set, attitude and knowledge to establish careers as certified technicians in the fields of electronic communications and local and wide-area networks.

Network and Telecommunications Technicians are trained to configure and support the telecommunications infrastructure. They are employed as network support specialists, communications integrators and network administrators.

Graduates of the program may find employment with a large variety of companies involved in the deployment and maintenance of telecommunications and network infrastructure. Typical GCC employers include public and private sector telecommunications, network services companies and IT providers. The types of work environments that may use the services of graduates with these skills include, among others, data and telecommunications service providers, TV and satellite services organizations, computer network sales and services organizations, electronic systems research and development facilities, and entertainment industries.
Entrance Requirements

1. High school graduation certificate with the following:

<table>
<thead>
<tr>
<th>Average</th>
<th>Minimum</th>
</tr>
</thead>
<tbody>
<tr>
<td>English Language</td>
<td>60%</td>
</tr>
<tr>
<td>(Grade 12 level)</td>
<td></td>
</tr>
<tr>
<td>Academic Mathematics</td>
<td>60%</td>
</tr>
<tr>
<td>(Grade 12 level)</td>
<td></td>
</tr>
<tr>
<td>OR Advanced Mathematics</td>
<td>50%</td>
</tr>
<tr>
<td>(Grade 12 level)</td>
<td></td>
</tr>
<tr>
<td>Two science courses</td>
<td>50%</td>
</tr>
<tr>
<td>(Grade 12 level)</td>
<td></td>
</tr>
<tr>
<td>Chemistry and Physics</td>
<td></td>
</tr>
<tr>
<td>are highly recommended.</td>
<td></td>
</tr>
</tbody>
</table>

2. The required score on the Academic English Placement (AEP) and Academic Math Placement (AMP). Students who present a valid IELTS Academic Test Report Form, received within two years, with an overall band 5.0 with no individual skill band below 4.5, are exempt from taking the AEP. For score requirements on other internationally recognized tests, such as the TOEFL test, contact the Registrar’s Office.

Note: 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 11).

Further Studies

Graduates of the Telecommunications and Network Technician program have the opportunity to continue into the third year of the Telecommunications and Network Engineering Technology (TNET) Diploma offered by CNA-Q.

Language Proficiency Requirements

Students entering the Telecommunications and Network Technician program must meet English language proficiency requirements by obtaining one of the following:

1. An overall score of 65 or greater on the Oxford Online Placement Test (OOPT) or a passing score from another approved internationally recognized English language test, as validated by the Registrar’s Office
2. A valid IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, listening) below 4.5.
3. Successful completion of FL1090, a language development course.
# Telecommunications and Network Technician

## Level 1 (Year 1)

<table>
<thead>
<tr>
<th>COURSE NUMBER</th>
<th>COURSE TITLE</th>
<th>HOURS/WEEK</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>CR</td>
</tr>
<tr>
<td>PH1140</td>
<td>Applied Physics</td>
<td>4</td>
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<tr>
<td>MA1700</td>
<td>Mathematics</td>
<td>4</td>
</tr>
<tr>
<td>CE1220</td>
<td>Basic Networks</td>
<td>4</td>
</tr>
<tr>
<td>CM1190</td>
<td>Technical Reading</td>
<td>3</td>
</tr>
<tr>
<td>ET1130</td>
<td>Fundamentals of Electricity I</td>
<td>4</td>
</tr>
<tr>
<td>MA1101</td>
<td>Mathematics</td>
<td>5</td>
</tr>
<tr>
<td>DP1130</td>
<td>Digital Electronics</td>
<td>4</td>
</tr>
<tr>
<td>CE 3371</td>
<td>Switching and Routing</td>
<td>4</td>
</tr>
<tr>
<td>ET1131</td>
<td>Fundamentals of Electricity II</td>
<td>4</td>
</tr>
<tr>
<td>EN1140</td>
<td>Hazards, Safety and Ethics</td>
<td>3</td>
</tr>
<tr>
<td>CE3430</td>
<td>Infrastructure Cabling</td>
<td>4</td>
</tr>
<tr>
<td>CE2720</td>
<td>RF Transmission and Antennas</td>
<td>4</td>
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</table>

## Level 2 (Year 2)

<table>
<thead>
<tr>
<th>COURSE NUMBER</th>
<th>COURSE TITLE</th>
<th>HOURS/WEEK</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>CR</td>
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<tr>
<td>CM2180</td>
<td>Technical Reporting I</td>
<td>3</td>
</tr>
<tr>
<td>AE2340</td>
<td>Analog Electronics I</td>
<td>4</td>
</tr>
<tr>
<td>CE3381</td>
<td>Advanced Routing and Switching</td>
<td>4</td>
</tr>
<tr>
<td>CE2220</td>
<td>Analog Communications</td>
<td>4</td>
</tr>
<tr>
<td>ET1160</td>
<td>Electronic Circuits and Devices</td>
<td>4</td>
</tr>
<tr>
<td>CM2181</td>
<td>Technical Reporting II</td>
<td>3</td>
</tr>
<tr>
<td>AE2370</td>
<td>Analog Electronics II</td>
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</tr>
<tr>
<td>CI1310</td>
<td>Electrical/Electronic Fabrication Techniques</td>
<td>3</td>
</tr>
<tr>
<td>CE2310</td>
<td>Telecom Networks Overview</td>
<td>4</td>
</tr>
<tr>
<td>DP1120</td>
<td>Digital Microprocessors</td>
<td>4</td>
</tr>
<tr>
<td>CE1230</td>
<td>Troubleshooting Comms Systems</td>
<td>3</td>
</tr>
<tr>
<td>EG1140</td>
<td>Electronic Circuit Simulation</td>
<td>2</td>
</tr>
<tr>
<td>CE3220</td>
<td>WANs and SP Operations</td>
<td>4</td>
</tr>
</tbody>
</table>

After successful completion of the above listed courses, the student will be eligible to graduate with a Telecommunications and Network Technician Diploma. Students may continue for a third year to achieve a Telecommunications and Network Engineering Technology Diploma.
Telecommunications and Network Engineering Technology (Three Year Diploma)

Program
The Telecommunications and Network Engineering Technology [TNET] program is an electronics engineering technology program with an emphasis on Networking and Communications Technologies. The program is designed to provide graduates with the skills and knowledge to work with modern communication systems, such as data services providers, Internet services, and wireless and wired systems, including fiber optic principles. Graduates will obtain both theory and practical hands-on experience with networking, internetworking, security, embedded microcontrollers and transmission and communication systems, such as public address, closed circuit systems and radar. Graduates will obtain hands-on experience in troubleshooting and maintaining, configuring and aligning communications systems, using established methods. Graduates of this three-year program will receive the Diploma of Telecommunications and Network Engineering Technology.

Upon completion of this program, graduates may choose to further their education by completing a bachelor degree in technology or engineering at one of several institutions in the United Kingdom, Canada or the United States of America.

Graduates complete courses in the Cisco Networking Academy program which offers a strong foundation in computer networking skills and knowledge using the industry’s leading equipment provider. These courses prepare graduates to obtain either one or both of Cisco’s CCNA and CCNA - Voice certifications. Graduates are also given exposure to the topics necessary for Cisco’s CCNA security certification. Students may exit the TNET program at the two year mark with a Telecommunications and Network Technician diploma.

Objectives
As engineering technologists, graduates of this program will have the knowledge and skills that will allow them to:
1. Develop a high level of skill in the application of electronics principles.
2. Specify, design, construct, troubleshoot, and characterize modern communication systems.
3. Analyze, troubleshoot and design computer networks for use in the secure transmission of data.
4. Manage telecommunications network systems.
5. Specify, select, design, build, and troubleshoot micro-processor or microcontroller based systems.
6. Analyze and design electronic systems using computer software or traditional workbench techniques.
7. Demonstrate an acceptable level of workplace safety practices and procedures, especially in the oil and gas sector.
8. Recognize the importance of continuing education and professional affiliations.

Career Opportunities
The Telecommunications and Network Engineering Technology diploma program produces graduates who possess the skill set, attitude and knowledge to establish careers as certified technologists in the fields of local-area and wide-area voice, video and integrated data communications.

The rapid development and enrichment of global communications has produced a worldwide reliance on Internet Protocol (IP) networks and the convergence of data and telecommunications has stimulated the need for larger and more integrated network implementations.

Network and telecommunications engineering technologists are trained to design, configure and support this telecommunications infrastructure. They are employed as network support specialists, network operations and telecommunications analysts, communications integrators, network administrators and consultants.

Graduates of the program may find employment with a large variety of companies involved in the deployment and maintenance of telecommunications and network infrastructure.

Typical GCC employers include public and private sector telecommunications and network services companies and IT providers. The types of work environments which may use the services of graduates with these skills include, among others, data and telecommunications service providers, TV and satellite services organizations, computer network sales and services organizations, electronic systems research and development facilities and entertainment industries.

Note: This program may not be suitable for applicants who do not have normal colour perception.
Telecommunications and Network Engineering Technology

Entrance Requirements

1. High school graduation certificate with the following:

<table>
<thead>
<tr>
<th>Subject</th>
<th>Minimum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average</td>
<td>60%</td>
</tr>
<tr>
<td>English Language (Grade 12 level)</td>
<td>Minimum 60%</td>
</tr>
<tr>
<td>Academic Mathematics (Grade 12 level)</td>
<td>Minimum 60%</td>
</tr>
<tr>
<td>OR Advanced Mathematics (Grade 12 level)</td>
<td>Minimum 50%</td>
</tr>
<tr>
<td>Two science courses (Grade 12). Chemistry and Physics are highly recommended.</td>
<td>Minimum 50%</td>
</tr>
</tbody>
</table>

2. The required score on the Academic English Placement (AEP) and Academic Math Placement (AMP). Students who present a valid IELTS Academic Test Report Form, received within two years, with an overall band 5.0 with no individual skill band below 4.5, are exempt from taking the AEP. For score requirements on other internationally recognized tests, such as the TOEFL test, contact the Registrar’s Office.

Note: 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 11).

Further Studies

Graduates of the Telecommunications and Network Engineering Technology program may have the opportunity to transfer credits to other academic institutions.

A current list of post-secondary institutions offering admission to and accepting transfer credit from CNA-Q graduates who meet the entrance requirements is available from the Registrar’s Office or the Career Counselling and Resource Centre.

Language Proficiency Requirements

Students entering the Telecommunications and Network Engineering Technology program must meet English language proficiency requirements by obtaining one of the following:

1. An overall score of 65 or greater on the Oxford Online Placement Test (OOPT) or a passing score from another approved internationally recognized English language test, as validated by the Registrar’s Office.
2. A valid IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, listening) below 4.5.
3. Successful completion of FL1090, a language development course.

Important Notes

• This program may not be suitable for applicants who do not have normal colour perception.
• Students should be aware of the strenuous physical dexterity required in this training program.
• Employers will normally demand that all applicants undergo a physical capabilities assessment prior to hiring.
Telecommunications and Network Engineering Technology

Level 1 (Year 1)

<table>
<thead>
<tr>
<th>COURSE NUMBER</th>
<th>COURSE TITLE</th>
<th>HOURS/WEEK</th>
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<tr>
<td></td>
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<tr>
<td>PH1140</td>
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<td>MA1700</td>
<td>Mathematics</td>
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<tr>
<td>CE1220</td>
<td>Basic Networks</td>
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<tr>
<td>CM1190</td>
<td>Technical Reading</td>
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<tr>
<td>ET1130</td>
<td>Fundamentals of Electricity I</td>
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<tr>
<td>MA1101</td>
<td>Mathematics</td>
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<tr>
<td>DP1130</td>
<td>Digital Electronics</td>
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<tr>
<td>CE3371</td>
<td>Switching and Routing</td>
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<tr>
<td>ET1131</td>
<td>Fundamentals of Electricity II</td>
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</tr>
<tr>
<td>EN1140</td>
<td>Hazards, Safety and Ethics</td>
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<td>CE3430</td>
<td>Infrastructure Network</td>
<td>4</td>
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<tr>
<td>CE2720</td>
<td>RF Transmission and Antennas</td>
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Telecommunications and Network Engineering Technology

Level 2 (Year 2)

<table>
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<th>COURSE NUMBER</th>
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<tr>
<td>CM2180</td>
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<td>AE2340</td>
<td>Analog Electronics I</td>
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<tr>
<td>CE3381</td>
<td>Advanced Routing and Switching</td>
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</tr>
<tr>
<td>CE2220</td>
<td>Analog Communications</td>
<td>4</td>
</tr>
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<td>ET1160</td>
<td>Electronic Circuits and Devices</td>
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<td>CM2181</td>
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<td>AE2370</td>
<td>Analog Electronics II</td>
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<td>CI1310</td>
<td>Electrical/Electronic Fabrication Techniques</td>
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</tr>
<tr>
<td>CE2310</td>
<td>Telecom Networks Overview</td>
<td>4</td>
</tr>
<tr>
<td>DP1120</td>
<td>Digital Microprocessors</td>
<td>4</td>
</tr>
<tr>
<td>CE1230</td>
<td>Troubleshooting Comms Systems</td>
<td>3</td>
</tr>
<tr>
<td>EG1140</td>
<td>Electronic Circuit Simulation</td>
<td>2</td>
</tr>
<tr>
<td>CE3220</td>
<td>WANs and SP Operations</td>
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</tr>
</tbody>
</table>

After successful completion of the above listed courses, the student will be eligible to graduate with a Telecommunications and Network Technician Diploma.
Telecommunications and Network Engineering Technology

Level 3 (Year 3)

<table>
<thead>
<tr>
<th>COURSE NUMBER</th>
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<th>HOURS/WEEK</th>
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<td>Capstone Project I (TNET)</td>
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<td>Unified Communications (VOIP)</td>
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<td>MA1530</td>
<td>Statistics</td>
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<td>CE3120</td>
<td>IP Network Security</td>
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<td>2</td>
</tr>
<tr>
<td>DP2230</td>
<td>Microcontrollers</td>
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<td>3</td>
<td>2</td>
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<tr>
<td>CT2300</td>
<td>Applied Programming</td>
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<td>3</td>
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<td>ET2150</td>
<td>Advanced Circuit Analysis</td>
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<tr>
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<td>Microwave and RF Systems</td>
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<td>Digital Signal Processing</td>
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<td>4</td>
<td>3</td>
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</tr>
</tbody>
</table>

After successful completion of the above listed courses, the student will be eligible to graduate with a Telecommunications and Network Engineering Technology Diploma.
Industrial Trades - Technician Certificate Program

The Technician Certificate Program (TCP) at College of the North Atlantic – Qatar is designed to prepare graduates to work as entry level maintenance and operations personnel within the Energy and Industry (E & I) sector of Qatar. Emphasis is placed on developing practical skills and the ability to work safely, and as part of a team. The College has shops and labs to provide advanced, state-of-the-art education and training. These are equipped with the latest industrial equipment, process simulation labs and pilot plant facilities. TCP 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 Technician Certificate Program options are delivered in an alternating model, consisting of practical college training and on-the-job workplace learning.

Students who successfully complete the program will receive a Technician Certificate. After acquiring industry experience, graduates will be able to continue their studies at CNA-Q, receiving a specified number of transfer credits toward a diploma in Engineering Technology.

Program Options:
- Electrical Technician
- Instrumentation Technician
- Mechanical Technician
- Process Operator Technician
Program
An electrical technician installs, operates, tests and repairs electrical equipment and electronic controls. Working in Qatar’s Energy and Industry sector (E & I), an electrical technician carries out routine maintenance checks, ensuring that the testing and calibration of equipment are conducted according to standard operating procedures and manufacturer guidelines. Electrical technicians generally work in the maintenance departments of factories, plants, refineries and other industrial establishments.

The Technician Certificate (Electrical) program prepares graduates for entry into a career as technicians in the electrical field within Qatar’s E & I sector. The program is competency-based, with two workplace learning components carried out within the students’ sponsoring company: a 4-week workplace orientation in the first half of the program, and a 24-week worksite practicum at the end.

Students receive workplace safety training at the beginning of the program, with safety principles reinforced throughout every course and technical task in the program. Program courses include Fabrication Hand Tools, Basic DC Theory, Conductors and Cables, Single-Phase and Three-Phase Electricity, and Electrical Drawings, as well as discipline specific electives.

This program is designed to be delivered using a block training schedule of 12-week semesters.

Note:
Students in the Technician Certificate (Electrical) program will receive extensive preparatory Foundation Mathematics and English training upon entry to the program subject to their results on applicable Math and English Placement Tests.

Objectives
Upon successful completion of the program, graduates will be able to:
1. Install, examine, replace and repair electrical wiring.
2. Test electrical and electronic equipment.
3. Conduct preventative maintenance procedures to switchgears, transformers, electric motors, generators and electrical control systems.
4. Read and interpret electrical drawings.
5. Work as a member of a team in a variety of technical projects and tasks.
6. Apply safe work practices and personal protection.

Career Opportunities
Electrical technicians find employment with oil refineries, petrochemical and chemical companies, electrical power companies, oil and natural gas companies, electrical construction firms and primary steel producers.

Entrance Requirements
The program entrance requirements for the Technician Certificate program are as follows:
1. High school completion with an overall average of 50% or higher
2. Qatari nationality
3. Male
4. Under 30 years of age
5. Pass the CNA-Q English Placement Test
6. Obtain required score on CNA-Q Math Placement Test
7. 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)
8. Medical fitness as determined by Qatar Petroleum’s Standard Medical Test
9. Director of Administration (DA) approval
10. Sponsored from a company within E&I Industry

Further Studies
Graduates of the Technician Certificate (Electrical) program will have the opportunity to transfer selected credits to Engineering Technology diploma programs at CNA-Q. Graduates may be required to undertake further coursework in Language Studies and/or Academics in order to qualify for transfer.

A current list of post-secondary institutions offering admission and transfer credit to CNA-Q graduates who meet the entrance requirements is available from the Registrar’s Office or the Career Counselling and Resource Centre.
# Technician Certificate - Electrical

## Semester 1 - 12 weeks

<table>
<thead>
<tr>
<th>COURSE NUMBER</th>
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<th>LAB</th>
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**WORKPLACE ORIENTATION**

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## Semester 2 - 12 weeks

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## Technician Certificate - Electrical

### Semester 3 – 12 weeks

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### Semester 4 – 12 weeks

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<td>Hazardous Areas</td>
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<td>ET1260</td>
<td>Circuit Breakers and Fuses</td>
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<td>ET1266</td>
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**WORK PLACEMENT**

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Technician Certificate - Instrumentation

Program
An instrumentation technician inspects and tests instruments and plant machinery to ensure optimal and safe operation. Working in Qatar’s Energy and Industry (E & I) sector, an instrumentation 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, and consults with process operators. Instrumentation technicians generally work in the maintenance departments of factories, plants, refineries, and other industrial establishments.

The Technician Certificate (Instrumentation) program prepares graduates for entry into a career as technicians in the instrumentation field within Qatar’s E & I sector. The program is competency-based with two workplace learning components carried out within the students’ sponsoring company: a 4-week workplace orientation in the first half of the program, and a 24-week worksite practicum at the end.

Students receive workplace safety training at the beginning of the program, with safety principles reinforced throughout every course and technical task in the program. Program courses include Process Control Fundamentals, Instrumentation Drawings, Pneumatic Components/Valves, Electrical, Electronic, and Digital Logic Circuits, as well as Pressure, Level, Flow, Temperature, and Advanced Control Loops.

This program is designed to be delivered using a block training schedule within 12-week semesters.

Objectives
Upon successful completion of the program, graduates will be able to:
1. Calibrate and maintain instrument components used to control or measure level, pressure, flow and temperature.
2. Consult manufacturers’ manuals to determine testing and maintenance procedures.
3. Use pneumatic, electrical, and electronic testing devices to inspect and test plant instruments.
4. Read and interpret instrumentation drawings.
5. Work as a member of a team in a variety of technical projects and tasks.
6. Apply safe work practices and personal protection.

Career Opportunities
With industry becoming increasingly automated, instrumentation technicians are needed virtually anywhere there are control and metering systems. They are employed in the following industries: petrochemical, oil and natural gas, industrial chemicals manufacturers, electricity power generation, primary steel producers, industrial instrument and other manufacturing companies, fertilizer production, and industrial instrument servicing.

Entrance Requirements
The program entrance requirements for the Technician Certificate program are as follows:
1. High school completion with an overall average of 50% or higher;
2. Qatari nationality;
3. Male;
4. Under 30 years of age;
5. Pass the CNA-Q English Placement Test;
6. Obtain required score on CNA-Q Math Placement Test;
7. 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)
8. Medical fitness as determined by Qatar Petroleum’s Standard Medical Test;
9. Director of Administration (DA) approval;
10. Sponsored from a company within E&I Industry.

Further Studies
Graduates of the Technician Certificate (Instrumentation) program will have the opportunity to transfer selected credits to Engineering Technology diploma programs at CNA-Q. Graduates may be required to undertake further coursework in Language Studies and/or Academics in order to qualify for transfer.

A current list of post-secondary institutions offering admission and transfer credit to CNA-Q graduates who meet the entrance requirements is available from the Registrar’s Office or the Career Counselling and Resource Centre.
## Technician Certificate - Instrumentation

### Semester 1 - 12 weeks

<table>
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<tr>
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<td>IN1110</td>
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### Semester 2 - 12 weeks

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### WORKPLACE FAMILIARIZATION

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## Technician Certificate - Instrumentation

### Semester 3 - 12 weeks

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### Semester 4 - 12 weeks

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**Work Placement**

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</table>
Program
A mechanical technician installs, maintains, and repairs industrial machinery and mechanical equipment. Working in Qatar’s Energy and Industry (E & I) sector, a mechanical technician reads and interprets technical drawings, installs, aligns, and dismantles mechanical equipment, and operates various devices and machine tools, such as lathes, welding equipment, and milling machines. Mechanical technicians generally work in the maintenance departments of factories, plants, refineries, and other industrial establishments.

The Technician Certificate (Mechanical) program prepares graduates for entry into a career as technicians in the mechanical field within Qatar’s E & I sector. The program is competency-based, with two workplace learning components carried out within the students’ sponsoring company: a 4-week workplace orientation in the first half of the program, and a 24-week worksite practicum at the end.

Students receive workplace safety training at the beginning of the program, with safety principles reinforced throughout every course and technical task in the program. Program courses include Precision Measuring Tools, Technical Drawings, Engineering Materials, Threading Techniques, and a series of courses in Valve, Heat Exchanger, Filter and Strainer, Coupling, Seal, Bearing, Pump, Compressor and Internal Combustion (IC) Engine Maintenance.

This program is designed to be delivered using a block training schedule of 12-week semesters.

Note:
Students in the Technician Certificate (Mechanical) program will receive extensive preparatory Foundation Mathematics and English training upon entry to the program subject to their results on applicable Math and English Placement Tests.

Objectives
Upon successful completion of the program, graduates will be able to:
1. Assemble, replace, repair, and maintain machinery and mechanical equipment using hand and power tools and welding equipment.
2. Conduct preventative maintenance procedures on valves, heat exchangers, filters and strainers, couplings, seals, bearings, pumps, compressors and IC engines.
3. Operate hoisting and lifting devices.
4. Read and interpret technical drawings.
5. Work as a member of a team in a variety of technical projects and tasks.
6. Apply safe work practices and personal protection.

Career Opportunities
The competencies acquired in this program will prepare the graduate for careers in a wide variety of occupational settings, such as oil refineries, petrochemical and chemical companies, electrical power companies, oil and natural gas companies, industrial processing plants, primary steel producers, and machinery and equipment manufacturers.

Entrance Requirements
The program entrance requirements for the Technician Certificate program are as follows:
1. High school completion with an overall average of 50% or higher;
2. Qatari nationality;
3. Male;
4. Under 30 years of age;
5. Pass the CNA-Q English Placement Test;
6. Obtain required score on CNA-Q Math Placement Test;
7. 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)
8. Medical fitness as determined by Qatar Petroleum’s Standard Medical Test;
9. Director of Administration (DA) approval;
10. Sponsored from a company within E&I Industry.

Further Studies
Graduates of the Technician Certificate (Mechanical) program will have the opportunity to transfer selected credits to Engineering Technology diploma programs at CNA-Q. Graduates may be required to undertake further coursework in Language Studies and/or Academics in order to qualify for transfer.

A current list of post-secondary institutions offering admission and transfer credit to CNA-Q graduates who meet the entrance requirements is available from the Registrar’s Office or the Career Counselling and Resource Centre.
## Technician Certificate - Mechanical

### Semester 1 - 12 weeks

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### Semester 2 - 12 weeks

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## Technician Certificate - Mechanical

### Semester 3 - 12 weeks

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Technician Certificate - Process Operations

Program
A process operator monitors, adjusts, operates, and maintains processing units and equipment in industrial plants. Working in Qatar’s Energy and Industry (E & I) 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) program prepares graduates for entry into a career as technicians in the process operations field within Qatar’s E & I sector. The program is competency-based, with two workplace learning components carried out within the students’ sponsoring company: a 4-week workplace orientation in the first half of the program, and a 24-week worksite practicum at the end.

Students receive workplace safety training at the beginning of the program, with safety principles reinforced throughout every course and technical task in the program. Program courses include a series of courses in Steam, Air and Electricity Supply, Pipework, Valve, and Distillation Systems, as well as Pump Operation, Prime Movers, Compressors, Turbo Expanders, and Reactors.

This program is designed to be delivered using a block training schedule within 12-week semesters.

Note:
Students in the Technician Certificate (Process Operations) program will receive extensive preparatory Foundation Mathematics and English training upon entry to the program subject to their results on applicable Math and English Placement Tests.

Objectives
Upon successful completion of the program, graduates will be able to:
1. Read and interpret process diagrams.
2. Read instruments to gauge pressure, flow, level, concentration, and density.
3. Operate process control systems.
4. Adjust equipment, valves, pumps, and controls.
5. Work as a member of a team in a variety of technical projects and tasks.
6. Apply safe work practices and personal protection.

Career Opportunities
The competencies acquired in this program will prepare the graduate for careers in a wide variety of industries where manufacturing and processing are key elements in their operations. Companies involved with petroleum, petrochemical, gas producing, and industrial and agricultural manufacturing processes have an ever-increasing need for skilled process operators.

Entrance Requirements
The program entrance requirements for the Technician Certificate program are as follows:
1. High school completion with an overall average of 50% or higher;
2. Qatari nationality;
3. Male;
4. Under 30 years of age;
5. Pass the CNA-Q English Placement Test;
6. Obtain required score on CNA-Q Math Placement Test;
7. 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)
8. Medical fitness as determined by Qatar Petroleum’s Standard Medical Test;
9. Director of Administration (DA) approval;
10. Sponsored from a company within E&I Industry.

Further Studies
Graduates of the Technician Certificate (Process Operations) program will have the opportunity to transfer selected credits to Engineering Technology diploma programs at CNA-Q. Graduates may be required to undertake further coursework in Language Studies and/or Academics in order to qualify for transfer.

A current list of post-secondary institutions offering admission and transfer credit to CNA-Q graduates who meet the entrance requirements is available from the Registrar’s Office or the Career Counselling and Resource Centre.
## Technician Certificate - Process Operations

### Semester 1 - 12 weeks

<table>
<thead>
<tr>
<th>COURSE NUMBER</th>
<th>COURSE TITLE</th>
<th>HOURS</th>
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</thead>
<tbody>
<tr>
<td></td>
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<td>CR</td>
</tr>
<tr>
<td>TC-TE2000</td>
<td>Technical English I</td>
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</tr>
<tr>
<td>TC-MA1000</td>
<td>Technician Certificate Mathematics I</td>
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<tr>
<td>SE1036</td>
<td>Workplace Safety</td>
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<tr>
<td>PT1120</td>
<td>Operator Responsibilities</td>
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<tr>
<td>PT1125</td>
<td>Process Diagrams</td>
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<tr>
<td>PT1130</td>
<td>Process Water Systems</td>
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### Semester 2 - 12 weeks

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<td>TC-TE2001</td>
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<td>PT1140</td>
<td>Air Supply Systems</td>
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<tr>
<td>PT1146</td>
<td>Electricity Supply Systems</td>
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<tr>
<td>PT1150</td>
<td>Pipework Systems</td>
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</tr>
<tr>
<td>PT1155</td>
<td>Valve Systems</td>
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</tr>
<tr>
<td>PT1170</td>
<td>Heat Exchangers</td>
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</tr>
<tr>
<td></td>
<td>WORKPLACE FAMILIARIZATION</td>
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<tr>
<td>PT1175</td>
<td>Workplace Orientation</td>
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</table>

College of the North Atlantic - Qatar | Academic Calendar 2017-18
## Technician Certificate - Process Operations

### Semester 3 - 12 weeks

<table>
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<td><strong>SEMESTER 3</strong></td>
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<tr>
<td>TC-TE2002</td>
<td>Technical English III</td>
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<tr>
<td>PT1160</td>
<td>Process Physics</td>
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<td>PT1166</td>
<td>Process Chemistry</td>
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<td>PT1180</td>
<td>Pump Operation</td>
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<tr>
<td>PT1185</td>
<td>Prime Movers</td>
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<tr>
<td>PT1190</td>
<td>Process Instrumentation</td>
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<tr>
<td>PT1195</td>
<td>Process Control Systems</td>
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<tr>
<td>PT1215</td>
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### Semester 4 - 12 weeks

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<td><strong>SEMESTER 4</strong></td>
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<tr>
<td>PT1128</td>
<td>Turbo Expanders</td>
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<tr>
<td>PT1225</td>
<td>Storage of Liquids and Gases</td>
<td>1</td>
</tr>
<tr>
<td>PT1230</td>
<td>Heating Furnaces</td>
<td>1</td>
</tr>
<tr>
<td>PT1235</td>
<td>Reactors</td>
<td>1</td>
</tr>
<tr>
<td>PT1240</td>
<td>Gas Absorption and Dehydration</td>
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</tr>
<tr>
<td>PT1245</td>
<td>Distillation Systems</td>
<td>1</td>
</tr>
<tr>
<td>PT1250</td>
<td>Refrigeration and Liquefaction</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Electives</td>
<td>2</td>
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**WORK PLACEMENT**

<table>
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<tr>
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<th>HOURS</th>
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<tbody>
<tr>
<td>PT1255</td>
<td>Worksite Practicum</td>
<td>24</td>
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</table>
School of Health Sciences

College of the North Atlantic – Qatar’s School of Health Sciences is recognized as the premier institution for the development of world class allied health care professionals in the State of Qatar. Guided by the Qatar National Health Strategy and the National Vision, the School of Health Sciences enhances Qatar’s national health care workforce by delivering current, internationally accredited educational programs. Through leadership and innovation in education, clinical practice, research, community service and engagement, the School of Health Sciences prepares professionals and advances health care for a growing and diverse society.

The School of Health Sciences offers education in a variety of allied health professions designed to align with Canada’s rigorous health standards, while being responsive to Qatar’s growing health care needs and cultural attributes. The programs include comprehensive didactic sessions, hands-on skills training, and clinical and work term rotations. Emphasis is placed on developing effective communication skills, promoting professional and ethical behaviour, and maintaining up-to-date professional knowledge. Graduates will be equipped with the skills and expertise necessary to provide world-class medical care within Qatar and globally.

Accreditation

The School of Health Sciences actively seeks international accreditation for its programs. Currently, the following programs have been accredited:

- American Heart Association (AHA) - accredited international training center
- Canadian Red Cross (CRC) - accredited training provider
- Pharmacy Technician - accredited by the Canadian Council for Accreditation of Pharmacy Programs (CCAPP)
  http://ccapp-accredit.ca
- Qatar Council Healthcare Practitioners – accredited training provider for Continuous Professional Development (CPD) courses
- Respiratory Therapy - accredited by the Council on Accreditation for Respiratory Therapy Education (CoARTE)
  http://www.csrt.com

Note: The Occupational Health, Safety and Environment Program contains selected accredited content by the National Examination Board in Occupational Safety and Health (NEBOSH)
Baccalaureate Degree Options
For those wishing to pursue a baccalaureate degree, university transfer agreements are in place which enable CNA-Q diploma graduates to attend international universities.

A current list of post-secondary institutions offering admission and transfer credit to CNA-Q graduates who meet the entrance requirements is available from the Registrar’s Office or the Career Counselling and Resource Centre.

Program Options
Two Year Diploma*
• Occupational Health, Safety and Environment
• Pharmacy Technician

Three Year Diploma*
• Advanced Care Paramedicine
• Dental Hygiene
• Environmental Health
• Medical Radiography
• Respiratory Therapy

One Year Post Diploma*
• Health and Wellness Promotion

Advanced Diploma*
• Health Education: Diabetes

* Total program length varies depending on language proficiency, academic preparatory courses required for entry, and academic performance throughout the program of study.

Objectives
1. To provide a comprehensive education in health professions as considered necessary by the State, the College and the community.
2. To graduate highly qualified professionals who can serve their employers and the community with the highest degree of competence.
3. To develop students’ abilities to effectively function as part of an interdisciplinary healthcare team.
4. To promote and instill a high degree of professionalism and responsibility in students.
5. To impress on students the vital importance of maintaining a high level of competence, at all times, in the performance of their duties.
6. To foster in students the importance of lifelong learning and maintaining up-to-date professional knowledge.

Important Notes
Note: Course Pass Mark – Most program courses offered within the School of Health Sciences require students to achieve minimum course pass marks which are generally higher than most other programs of study. Minimum course pass marks may range from 50% to 80%, depending on the course and program of study.

All students in Health Sciences programs must possess, at minimum, a valid Standard First Aid certificate to be eligible for a Diploma from the School of Health Sciences.

All students in Health Sciences programs will be required to use a smartphone or tablet (Android or Apple) for competency tracking in labs/clinical courses. Any costs associated with this device are the students’ responsibility.

For more information regarding device requirements and costs please visit www.studentlogbook.com or contact the School of Health Sciences at 4495-2600.

Police Clearance Check
Students enrolled in Health Sciences programs may be required to have a criminal background check, as a standard work requirement.
Program
Paramedics are highly skilled members of a health care team who function in the realm of emergency medical services, delivering medical treatment for individuals in urgent and non-urgent situations. Based on sound knowledge, paramedics demonstrate rational problem-solving abilities and excellent decision-making skills.

The Advanced Care Paramedicine program is designed to provide students with knowledge and skills for delivering emergency health care and to prepare them to function as leaders in emergency situations. Graduates of the program will have demonstrated the ability to safely and competently assess, diagnose, and treat patients in a variety of situations. Mental and physical fitness and healthy lifestyles are emphasized throughout the program, as paramedics must be fit to perform their required professional duties.

This is a challenging program that provides the student with extensive classroom and clinical/practicum experiences. Graduates of this program will be prepared to work in a competent and skillful manner providing out-of-hospital care in accordance with the national standards for paramedics.

Objectives
Upon successful completion of the first two levels, students will be able to:
1. Demonstrate required skills, knowledge, and abilities, as prescribed by the Canadian National Occupational Competency Profile for Paramedics, with consistency, independence, timeliness, accuracy, and appropriateness.
2. Integrate assessment, diagnostic, and treatment procedures into the holistic management of patients in the out-of-hospital setting.
3. Use critical thinking and problem-solving skills which promote logical and independent decision-making in the provision of paramedic care.
4. Maintain a level of physical and mental health necessary to perform the bona fide occupational requirements.
5. Communicate effectively and work collaboratively with other members of the health care team to serve patients and employers with the highest degree of competence.
6. Reflect professionalism through personal conduct and public interactions.
7. Demonstrate ethical behaviour, empathy and respect for individuals.

Upon successful completion of the third level, students will be able to:
8. Perform advanced skills in respiratory, cardiac, trauma, obstetric care, pediatrics, pharmacology and medical emergencies.
9. Meet the entry-to-practice competencies and requirements of a Critical Care Paramedic (CCP) as defined by the State of Qatar’s Ministry of Public Health scope of practice for CCPs.

Career Opportunities
Students who exit at the Primary Care Paramedicine Diploma are eligible for licensing at the Ambulance Paramedic level. Graduates of the Advanced Care Paramedicine program 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.

Employment opportunities also exist in the Ministry of Defence, and in the private industries. Graduates may occupy positions as Ambulance Paramedics and Critical Care Paramedics with the military or within the oil and gas and construction sectors.

Tuition per Academic Year
20,000 QR
Please refer to page 34 of the Academic Calendar for further information on tuition and fees.

Book Fees
Approximate cost 4,000 QR for program duration.

Additional Costs
Students are required to use a smartphone or tablet (Android or Apple) for competency tracking in labs and clinical courses. Any costs associated with this device are the student’s responsibility. Students will also need to purchase uniforms and personal equipment for their Clinical and Practicum placements, at a cost of approximately 2,500 QR.
Advanced Care Paramedicine

Entrance Requirements
1. High school graduation certificate with the following:

<table>
<thead>
<tr>
<th>Average (Grade 12 level)</th>
<th>Minimum 60%</th>
</tr>
</thead>
<tbody>
<tr>
<td>English Language</td>
<td>Minimum 60%</td>
</tr>
<tr>
<td>Academic Mathematics</td>
<td>Minimum 60%</td>
</tr>
<tr>
<td>* Biology and Chemistry</td>
<td>Minimum 60%</td>
</tr>
</tbody>
</table>

* Qatari national applicants who do not meet the Science requirement may be admitted to the academic preparatory curriculum, which is designed to provide upgrading in the basic skills required for successful completion of allied health programs.

2. The required score on the Academic English Placement (AEP) and Academic Math Placement (AMP). Students who present a valid IELTS Academic Test Report Form, received within two years, with an overall band 5.0 with no individual skill band below 4.5, are exempt from taking the AEP. For score requirements on other internationally-recognized tests, such as TOEFL, contact the Registrar’s Office.

3. Valid driver’s license in the practice jurisdiction.

Note: 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 11).

Medical Assessment
1. Completed medical assessment by a physician to include past and present health history.
2. Pre-physical fitness activity check.

Immunization Requirements
1. Proof of current immunity to the following diseases:
   - Measles, Mumps, Rubella
   - Varicella
   - Hepatitis A, B (include all dates)
2. Proof of tetanus/diphtheria booster (required every 10 years)
3. Hepatitis C and HIV screening
4. TB screening and BCG history- Mantoux 2-step skin testing if status unknown
5. Chest x-ray if indicated by Mantoux skin test
6. Yearly seasonal flu vaccination strongly recommended

Note: Students will be denied access to clinical placements without medical verification of complete immunization/screening requirements.

Language Proficiency Requirements
1. Students entering the Advanced Care Paramedicine program must meet English language proficiency requirements by obtaining one of the following:
   a) An overall score of 65 or greater on the Oxford Online Placement Test (OOPT) or a passing score from another approved internationally recognized English language test, as validated by the Registrar’s Office
   b) A valid IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, listening) below 4.5.
   c) Successful completion of FL1090, a language development course.

2. Students graduating from the Advanced Care Paramedicine program must meet English language exit requirements by presenting a valid IELTS Academic Test Report Form with an overall band of 6.0 with no individual band score below 5.5.

Further Studies
Graduates of the Advanced Care Paramedicine program may have the opportunity to transfer course credits to other academic institutions.

A current list of post-secondary institutions offering admission and transfer credit to CNA-Q graduates who meet the entrance requirements is available from the Registrar’s Office or the Career Counselling and Resource Centre.
Advanced Care Paramedicine

Level 1 (Year 1)

<table>
<thead>
<tr>
<th>COURSE NUMBER</th>
<th>COURSE TITLE</th>
<th>CR</th>
<th>LEC</th>
<th>LAB</th>
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</thead>
<tbody>
<tr>
<td>BL1180</td>
<td>Anatomy &amp; Physiology</td>
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<td>5</td>
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<tr>
<td>PS1420</td>
<td>Health Care Organization and Structure</td>
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<td>TM1130</td>
<td>Medical Terminology</td>
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<tr>
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<tr>
<td>PA1210</td>
<td>Health &amp; Fitness I</td>
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<td>1</td>
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<tr>
<td>PA1370</td>
<td>Pharmacology I</td>
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<td>PA1125</td>
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<td>Health &amp; Fitness II</td>
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<tr>
<td>PA1520</td>
<td>Mental Health</td>
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<tr>
<td>PA1371</td>
<td>Pharmacology II</td>
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<td>PA1230</td>
<td>Airway Management</td>
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<td>PA1280</td>
<td>Cardiovascular Emergencies</td>
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Level 2 (Year 2)

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<td>Community Paramedicine</td>
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<td>1</td>
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<tr>
<td>PA1430</td>
<td>Medical Emergencies</td>
<td>5</td>
<td>4</td>
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<tr>
<td>PA1440</td>
<td>Clinical</td>
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<td>8 hours Lab + Clinical</td>
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<tr>
<td>PA2000</td>
<td>Traumatology</td>
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<td>3</td>
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<td>PA2005</td>
<td>Obstetrics &amp; Pediatrics</td>
<td>3</td>
<td>2</td>
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<td>PA1515</td>
<td>Special Populations</td>
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<td>PA1415</td>
<td>Interagency Relations</td>
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<td>Simulation Lab</td>
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<td>Practicum</td>
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After successful completion of the above listed courses, the student will be eligible to graduate with a Primary Care Paramedicine Diploma.
## Advanced Care Paramedicine

Level 3 (Year 3)

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<tr>
<th>COURSE NUMBER</th>
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<td>PA2035</td>
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<td>PA2045</td>
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<td>PA2055</td>
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</table>

After successful completion of the above listed courses, the student will be eligible to graduate with an Advanced Care Paramedicine Diploma.
Dental Hygiene (Three Year Diploma)

Program

In a clinic or hospital setting, a dental hygienist works under the supervision of a licensed dentist. The dental hygienist aims to improve oral and overall health by providing preventive, therapeutic and educational services to the public in the State of Qatar. Dental hygiene services include assessing general and oral health status, advising patients on oral hygiene, removing dental deposits and stains, applying cavity-preventing agents, performing radiographic exams, examining patients’ teeth and gums, taking measurements, taking impressions and recording the presence of oral diseases and abnormalities. The dental hygienist is a critical member of the oral health care team and an advocate for overall health promotion.

The Dental Hygiene curriculum is a balance of didactic and clinical training. Dental hygiene training is supplemented with seminars, lectures, laboratory sessions, clinical practice sessions, group work, independent study, problem-based learning and community outreach. Emphasis is placed on the development of critical thinking, evidence-based inquiry skills and problem-solving abilities. In the first year pre-requisite courses, students will gain general health and science knowledge. Students will advance in community and client care, while working with the public in the CNA-Q Dental Clinic. In the final year, emphasis is placed on developing entry-to-practice level competencies, professionalism and skills.

CNA–Q’s Dental Hygiene program is fully aligned to the Canadian Dental Hygienist Association’s (CDHA) competencies and the Commission on Dental Accreditation of Canada’s (CDAC) standards. The Dental Hygiene program also meets or exceeds the current scope of practice for Dental Hygienists in Qatar, as outlined by the Ministry of Public Health.

Objectives

Upon successful completion of the program, students will be able to:

1. Demonstrate the theoretical knowledge and clinical skills outlined in the dental hygiene national competency profile.

2. Operate in a clinical environment to provide a professional standard of oral health care appropriate to the needs of Qatar.

3. Communicate effectively with patients, dentists and other members of the oral health team within the scope of the dental hygiene profession.

4. Identify patients requiring further treatment and coordinate the referral.

5. Assess patients’ general and oral health status and correlate oral and systemic findings.

6. Describe the initiation and progression of oral diseases, and the scientific and behavioral factors which relate to systemic conditions.

7. Implement the dental hygiene process of care: assess, diagnose, plan, implement and evaluate dental hygiene services.

8. Recognize, diagnose and treat early onset of oral and dental diseases.

9. Use appropriate health education to promote individual and community oral health.

Career Opportunities

Graduates of the Dental Hygiene program are eligible to work as clinical dental hygienists within a hospital, community healthcare center, or private practice setting. Dental hygienists can also pursue careers as dental hygiene educators and researchers within public health agencies or educational institutions.
Entrance Requirements
1. High school graduation certificate with the following:

<table>
<thead>
<tr>
<th>Subject</th>
<th>Average</th>
<th>Minimum</th>
</tr>
</thead>
<tbody>
<tr>
<td>English Language</td>
<td></td>
<td>60%</td>
</tr>
<tr>
<td>(Grade 12 level)</td>
<td></td>
<td>60%</td>
</tr>
<tr>
<td>Academic Mathematics</td>
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<td>60%</td>
</tr>
<tr>
<td>(Grade 12 level)</td>
<td></td>
<td>60%</td>
</tr>
<tr>
<td>*Biology and Chemistry</td>
<td></td>
<td>60%</td>
</tr>
<tr>
<td>(Grade 12 level)</td>
<td></td>
<td>60%</td>
</tr>
</tbody>
</table>

*Qatari national applicants who do not meet the Science requirement may be admitted to the academic preparatory curriculum, which is designed to provide upgrading in the basic skills required for successful completion of allied health programs.

2. The required score on the Academic English Placement (AEP) and Academic Math Placement (AMP). Students who present a valid IELTS Academic Test Report Form, received within two years, with an overall band 5.0 with no individual skill band below 4.5, are exempt from taking the AEP. For score requirements on other internationally-recognized tests, such as TOEFL, contact the Registrar’s Office.

Note: 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 11).

Medical Assessment
1. Completed medical assessment by a physician to include past and present health history.
2. Pre-physical fitness activity check.

Immunization Requirements
1. Proof of current immunity to the following diseases:
   • Measles, Mumps, Rubella
   • Varicella
   • Hepatitis A, B (include all dates)
2. Proof of tetanus/diphtheria booster (required every 10 years)
3. Hepatitis C and HIV screening
4. TB screening and BCG history
5. Chest x-ray if indicated by Mantoux skin test
6. Yearly seasonal flu vaccination strongly recommended

Note: Students will be denied access to clinical placements without medical verification of complete immunization/screening requirements.

Further Studies
Graduates of the Dental Hygiene program may have the opportunity to transfer course credits to other academic institutions.

A current list of post-secondary institutions offering admission and transfer credit to CNA-Q graduates who meet the entrance requirements is available from the Registrar’s Office or the Career Counselling and Resource Centre.

Language Proficiency Requirements
1. Students entering the Dental Hygiene program must meet English language proficiency requirements by obtaining one of the following:
   a. An overall score of 65 or greater on the Oxford Online Placement Test (OOPT) or a passing score from another approved internationally recognized English language test, as validated by the Registrar’s Office
   b. A valid IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, listening) below 4.5.
   c. Successful completion of FL1090, a language development course.

2. Students graduating from the Dental Hygiene program must meet English language exit requirements by presenting a valid IELTS Academic Test Report Form with an overall band of 6.0 with no individual band score below 5.5.

Tuition per Academic Year
20,000 QR

Please refer to page 34 of the Academic Calendar for further information on tuition and fees.

Book Fees
Approximate cost 4,700 QR for program duration.

Instruments
It is the student’s responsibility to purchase a set of dental hygiene instruments for use in the program. Initial costs are approximately QR2500.

Additional Costs
Students are required to use a smartphone or tablet (Android or Apple) for competency tracking in labs and clinical courses. Any costs associated with this device are the student’s responsibility.

Note: Students of the Dental Hygiene program are responsible for finding their own patients for clinical practicum courses.
## Dental Hygiene

### Level 1 (Year 1)

<table>
<thead>
<tr>
<th>COURSE NUMBER</th>
<th>COURSE TITLE</th>
<th>HOURS/WEEK</th>
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</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>CR</td>
</tr>
<tr>
<td>BL1200</td>
<td>Biology</td>
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<tr>
<td>CH1200</td>
<td>Chemistry</td>
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<tr>
<td>PS1100</td>
<td>Psychology I</td>
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<tr>
<td>CM1190</td>
<td>Technical Reading</td>
<td>3</td>
</tr>
<tr>
<td>CM2180</td>
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<td>BL1210</td>
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<td>CH1210</td>
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<td>PS1420</td>
<td>Healthcare Organization and Structure</td>
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</tr>
<tr>
<td>DH1200</td>
<td>Principles and Issues I</td>
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</tr>
<tr>
<td>DH1450</td>
<td>Oral Embryology &amp; Histology</td>
<td>2</td>
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<tr>
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## Dental Hygiene

### Level 2 (Year 2)

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<th>HOURS/WEEK</th>
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<td>Clinical Theory I</td>
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<tr>
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<td>Periodontology I</td>
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<tr>
<td>DH1201</td>
<td>Principles &amp; Issues II</td>
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<td>DH1300</td>
<td>General Dentistry Introduction</td>
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<tr>
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<td>DH1261</td>
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<tr>
<td>DH2100</td>
<td>Oral Pathology I</td>
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<tr>
<td>DH2250</td>
<td>Clinical Theory III</td>
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<tr>
<td>DH2260</td>
<td>Clinical Practice III</td>
<td>2</td>
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<tr>
<td>DH2150</td>
<td>Community Oral Health I</td>
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<tr>
<td>DH2460</td>
<td>Pharmacology</td>
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**Dental Hygiene**

Level 3 (Year 3)

<table>
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<td>DH2310</td>
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<td>DH2101</td>
<td>Oral Pathology II</td>
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<td>DH2251</td>
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<td>DH2261</td>
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<tr>
<td>DH2151</td>
<td>Community Oral Health II</td>
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<tr>
<td>DH2200</td>
<td>Principles &amp; Issues III</td>
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<td>DH3260</td>
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<td>DH3150</td>
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<tr>
<td>DH3261</td>
<td>Clinical Practice VI</td>
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</tr>
</tbody>
</table>

After successful completion of the above listed courses, the student will be eligible to graduate with a Dental Hygiene Diploma.
Environmental Health (Three Year Diploma)

Program
Environmental Health is a field of applied science that requires practitioners to monitor, control, manage, promote and manipulate environmental factors that have an impact on human health.

The environmental health officer protects individual and community wellness through health promotion activities, risk assessments, inspections and the enforcement of State regulations. Graduates of the Environmental Health program will provide leadership and technical expertise in the development of strategic plans to protect and improve public health in the State of Qatar.

The curriculum is multidisciplinary, emphasizing both academic and theoretical training. General and specialized subject matter are integrated as much as possible. Didactic training is supplemented with practical laboratory sessions and supervised field trips. Students are required to spend two semesters in an approved field practicum, working closely with a qualified environmental health officer.

Objectives
Upon successful completion of the program, students will be able to:

1. 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.
2. Develop and implement intervention strategies to reduce health hazards.
3. Conduct research on the links between environmental and public health and communicate findings to State officials.
4. Prepare and implement public educational programs to increase awareness on environmental health issues.

Career Opportunities
Graduates of the Environmental Health program are eligible for a wide range of jobs in preventative health. Tougher legislation regarding public health issues and a recognized need for better trained professionals in the field have created diverse and growing career opportunities. Career possibilities exist with State public health agencies as Environmental Health Officers/Public Health Inspectors or with the oil and gas sector as Health, Safety, Security and Environment (HSEE) Officers.

Entrance Requirements
1. High school graduation certificate with the following:

<table>
<thead>
<tr>
<th>Average</th>
<th>Minimum</th>
</tr>
</thead>
<tbody>
<tr>
<td>English Language (Grade 12 level)</td>
<td>60%</td>
</tr>
<tr>
<td>Academic Mathematics Grade 12 level</td>
<td>60%</td>
</tr>
<tr>
<td>* Biology and Chemistry (Grade 12 level)</td>
<td>60%</td>
</tr>
</tbody>
</table>

*Qatari national applicants who do not meet the Science requirement may be admitted to the academic preparatory curriculum, which is designed to provide upgrading in the basic skills required for successful completion of allied health programs.

2. The required score on the Academic English Placement (AEP) and Academic Math Placement (AMP). Students who present a valid IELTS Academic Test Report Form, received within two years, with an overall band 5.0 with no individual skill band below 4.5, are exempt from taking the AEP. For score requirements on other internationally-recognized tests, such as TOEFL, contact the Registrar’s Office.

Further Studies
Graduates of the Environmental Health program may have the opportunity to transfer course credits to other academic institutions.

A current list of post-secondary institutions offering admission and transfer credit to CNA-Q graduates who meet the entrance requirements is available from the Registrar’s Office or the Career Counselling and Resource Centre.

Language Proficiency Requirements
1. Students entering the Environmental Health program must meet English language proficiency requirements by obtaining one of the following:
   a) An overall score of 65 or greater on the Oxford Online Placement Test (OOPT) or a passing score from another approved internationally recognized English language test, as validated by the Registrar’s Office.
   b) A valid IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score below 4.5.
   c) Successful completion of FL1090, a language development course.

2. Students graduating from the Environmental Health program must meet English language exit requirements by presenting a valid IELTS Academic Test Report Form with an overall band of 6.0 with no individual band score below 5.5.

Tuition per Academic Year
20,000 QR
Please refer to page 34 of the Academic Calendar for further information on tuition and fees.

Book Fees
Approximate cost 8,500 QR for program duration.

Additional Costs
Students are required to purchase safety shoes and two lab coats for the program. One lab coat is for course laboratories and the second is for field trips. Failure to purchase these items may mean the student will not be able to participate in field trips. Approximate cost for these items is 600 QR.
## Environmental Health

### Level 1 (Year 1)

<table>
<thead>
<tr>
<th>COURSE NUMBER</th>
<th>COURSE TITLE</th>
<th>HOURS/WEEK</th>
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</thead>
<tbody>
<tr>
<td></td>
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<td>CR</td>
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<tr>
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<tr>
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<tr>
<td>CH1200</td>
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<td>4</td>
</tr>
<tr>
<td>CM1190</td>
<td>Technical Reading</td>
<td>3</td>
</tr>
<tr>
<td>MC1250</td>
<td>Computer Applications I</td>
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<tr>
<td>HL1140</td>
<td>Principles of EHS</td>
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<tr>
<td>MA1670</td>
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<td>BL1131</td>
<td>Microbiology</td>
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<td>CM2180</td>
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<td>SE1110</td>
<td>Introduction to Health, Safety and Environment (HSE)</td>
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<td>HL1210</td>
<td>Epidemiology</td>
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### Level 2 (Year 2)

<table>
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<tr>
<th>COURSE NUMBER</th>
<th>COURSE TITLE</th>
<th>HOURS/WEEK</th>
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<td></td>
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<td>EN2310</td>
<td>Environmental Health Law</td>
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<td>HL1310</td>
<td>Communicable Disease Control I</td>
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<td>EN1420</td>
<td>Environmental Sanitation</td>
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## Environmental Health

### Level 3 (Year 3)

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<td>HL1610</td>
<td>Public Health Administration</td>
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<td>2</td>
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<td>EN1551</td>
<td>Water Quality II</td>
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<tr>
<td>EV1710</td>
<td>Indoor Air Quality</td>
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<td>EH Inspection and Investigation</td>
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</table>

After successful completion of the above listed course, the student will be eligible to graduate with an Environmental Health Diploma.
Health and Wellness Promotion (One Year Post Diploma)

Program
Health and Wellness professionals are vital members of the health management team. They relay pertinent information using basic terminology and various communication techniques to help patients and their families better understand the messages and directions they are receiving from health care professionals. Program graduates will have exceptional communication skills and are able to act as a liaison between patients and health care providers. They possess the necessary knowledge, skills and abilities to interact with patients of all ages and ethnic, cultural and socioeconomic backgrounds.

The roles and responsibilities of health and wellness promotion professionals include planning, delivering, and evaluating patient education. They may also engage in health promotion campaigns in schools, hospitals and the wider community. This role requires a high level of ethical and professional competence.

Objectives
Upon successful completion of the program, students will be able to:
1. Employ facilitation and communication skills in a health care setting.
2. Complete individualized learning needs assessments which take into account understanding of condition, patient and family involvement, patient characteristics, learning environment, and motivation.
4. Develop and deliver an effective health education campaign.
5. Demonstrate a clear knowledge and understanding of moral and legal issues related to patient advocacy and confidentiality.
6. Demonstrate professional and ethical behaviors in a health care setting.

Career Opportunities
Graduates may find employment in both private and public organizations which are involved with disease prevention and aim to reduce adverse health behaviours for patients and the wider general population. Employment opportunities may also exist in private industry with corporations who wish to enhance their health services with the addition of a health and wellness promotion professional.

Entrance Requirements
The entrance requirements for the Health and Wellness Promotion program are:
1. Three year diploma or an undergraduate degree in any healthcare-related field OR an undergraduate degree in Education (Secondary/Post-Secondary).
2. The required score on the Academic English Placement (AEP) and Academic Math Placement (AMP). Students who present a valid IELTS Academic Test Report Form, received within two years, with an overall band 6.0 with no individual skill band below 5.5, are exempt from taking the AEP. For score requirements on other internationally-recognized tests, such as TOEFL, contact the Registrar’s Office.

Medical Assessment
1. Completed medical assessment by a physician to include past and present health history.
2. Pre-physical fitness activity check.

Immunization Requirements
1. Proof of current immunity to the following diseases:
   • Measles, Mumps, Rubella
   • Varicella
   • Hepatitis A, B (include all dates)
2. Proof of tetanus/diphtheria booster (required every 10 years)
3. Hepatitis C and HIV screening
4. TB screening and BCG history-Mantoux 2-step skin testing if status unknown
5. Chest x-ray if indicated by Mantoux skin test
6. Yearly seasonal flu vaccination strongly recommended

Further Studies
Graduates of the Health and Wellness Promotion program may have the opportunity to transfer course credits to other academic institutions.

A current list of post-secondary institutions offering admission and transfer credit to CNA-Q graduates who meet the entrance requirements is available from the Registrar’s Office or the Career Counselling and Resource Centre.

Language Proficiency Requirements
1. Students entering the Health and Wellness Promotion program must meet English language proficiency requirements. One of the following is required:
   • An overall score of 71 or greater on the Oxford Online Placement Test (OOPT) or a passing score from another approved internationally recognized English language test, as validated by the Registrar’s Office.
   • A valid IELTS Academic Test Report Form, received within two years, with an overall band score of 6.0 with no individual band score below 5.5

Tuition per Academic Year
20,000 QR
Please refer to page 34 of the Academic Calendar for further information on tuition and fees.

Book Fees
Approximate cost 2,100 QR for program duration.
Health and Wellness Promotion – Post Diploma

Level 1 (Year 1)

<table>
<thead>
<tr>
<th>COURSE NUMBER</th>
<th>COURSE TITLE</th>
<th>HOURS/WEEK</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>CR</td>
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<tr>
<td>HD1100</td>
<td>Patient Education Principles</td>
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<tr>
<td>HG1680</td>
<td>Ethics in Health Care</td>
<td>3</td>
</tr>
<tr>
<td>HD1200</td>
<td>Educator-Patient Interactions</td>
<td>4</td>
</tr>
<tr>
<td>HD1240</td>
<td>Instructional Skills</td>
<td>4</td>
</tr>
<tr>
<td>HD1270</td>
<td>Learning Needs Assessments</td>
<td>4</td>
</tr>
<tr>
<td>HD1300</td>
<td>Clinical Skills I</td>
<td>1</td>
</tr>
<tr>
<td>HD2100</td>
<td>Health Education Campaigns</td>
<td>3</td>
</tr>
<tr>
<td>HD2200</td>
<td>Patient Education Plans</td>
<td>4</td>
</tr>
<tr>
<td>HD2220</td>
<td>Delivering Patient Education</td>
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</tr>
<tr>
<td>HD2240</td>
<td>Evaluating Patient Education</td>
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</tr>
<tr>
<td>HD2260</td>
<td>Research in Patient Education</td>
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</tr>
<tr>
<td>HD1301</td>
<td>Clinical Skills II</td>
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</tr>
<tr>
<td>HD2300</td>
<td>Patient Education Practicum</td>
<td>7</td>
</tr>
</tbody>
</table>
Health Education: Diabetes (Advanced Diploma)

Program
Diabetes educators play a vital role in supporting people living with diabetes to manage their condition and achieve optimal health outcomes. They help patients understand their diagnosis and treatment, as well as empower them to develop effective self-care behaviors.

The responsibilities of the diabetes educator include: assessing diabetes risk, evaluating patients’ needs, teaching patients to self-manage their care (e.g., monitor blood sugars and medications), recommending appropriate diet and exercise regimens, and developing individualized follow-up plans. Program graduates may be engaged in diabetes prevention through the promotion of healthy lifestyle choices and culturally-specific diabetes education.

Diabetes educators can work in a variety of public and private settings, including hospitals, clinics, physician’s offices, community agencies, home health, wellness programs, etc.

Note: Health Education: Diabetes (Advanced Diploma) can be taken over 1 Year of full time study or 2 Years of part-time study

Objectives
Upon successful completion of this program, graduates will be able to:
1. Plan, deliver, and evaluate patient education.
2. Employ facilitation and communication skills in a health care setting.
3. Counsel patients about relevant risks and complications.
4. Develop and deliver culturally specific health education campaigns.
5. Demonstrate a clear knowledge and understanding of ethical issues related to patient advocacy and confidentiality.
6. Demonstrate professional and ethical behaviors at all times.
7. Ensure that patient care is delivered in accordance with evidence-based practices.

Entrance Requirements
The entrance requirements for the Health Education: Diabetes (Advanced Diploma) are:
1. Graduation from a recognized two- or three-year post-secondary diploma or degree in a healthcare-related field.
2. The required score on the Academic English Placement (AEP) and the Academic Math Placement (AMP).
Students who present a valid IELTS Academic Test Report Form, received within two years, with an overall band of 5.0 and no band below 4.5, are exempt from the AEP. For score requirements on other internationally-recognized tests, such as TOEFL, contact the Registrar’s office.

Career Opportunities
Given the prevalence of diabetes in the State of Qatar, there is a need for health care providers who are specifically trained in Diabetes Education to help patients better manage this disease. Graduates may find employment in public and private hospitals, as well as in organizations which treat and/or prevent diabetes and aim to reduce adverse health behaviors in patients and the wider population (e.g., Hamad Medical Corporation, Sidra Medicine, and Primary Health Care).

Language Proficiency Requirements
Students entering the Health Education Diabetes program must meet English language proficiency requirements. One of the following is required:
a) An overall score of 65 or greater on the Oxford Online Placement Test (OOPT) or a passing score from another approved internationally recognized English language test, as validated by the Registrar’s Office.
b) A valid IELTS Academic Test Report Form, received within two years, with an overall band score of 5.0 with no individual band score below 4.5

Tuition per Academic Year
20,000 QR
Please refer to page 34 of the Academic Calendar for further information on tuition and fees.

Book Fees
Approximate cost 2,000 QR for program duration.
# Health Education: Diabetes (One Year Advanced Diploma)

## Level 1 (Year 1)

<table>
<thead>
<tr>
<th>COURSE NUMBER</th>
<th>COURSE TITLE</th>
<th>HOURS/WEEK</th>
<th>CR</th>
<th>LEC</th>
<th>LAB</th>
</tr>
</thead>
<tbody>
<tr>
<td>DE1000</td>
<td>Principles of Diabetes Education</td>
<td></td>
<td>3</td>
<td>3</td>
<td>0</td>
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<tr>
<td>DE1010</td>
<td>Understanding and Managing Diabetes I</td>
<td></td>
<td>3</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>PS1420</td>
<td>Health Care Organization and Structure</td>
<td></td>
<td>3</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>CM1270</td>
<td>Communications in Health</td>
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<td>3</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>PA2010</td>
<td>Evidence-based Practice</td>
<td></td>
<td>2</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>DE2010</td>
<td>Diabetes in Special Populations</td>
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<td>1</td>
<td>0</td>
</tr>
<tr>
<td>DE2020</td>
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<tr>
<td>HG1680</td>
<td>Ethics in Health Care</td>
<td></td>
<td>3</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>HD2100</td>
<td>Health Education Campaigns</td>
<td></td>
<td>3</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>HD1240</td>
<td>Instructional Skills</td>
<td></td>
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<td>3</td>
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<tr>
<td>DE2030</td>
<td>Diabetes Educator Practicum</td>
<td></td>
<td>7</td>
<td></td>
<td>35 hours per week for 7 weeks</td>
</tr>
</tbody>
</table>

After successful completion of the above listed courses, the student will be eligible to graduate with a Health Education: Diabetes (Advanced Diploma).
Medical Radiography (Three Year Diploma)

Program
Medical Radiography technologists play a vital role in the diagnosis and treatment of many injuries and illnesses. At a physician’s request, medical radiographers operate equipment that emits x-rays to produce images of a body part or system. Their work involves a broad variety of procedures and specialties including: general radiography, fluoroscopy and computer tomography.

The first phase of the medical radiography program is academic, combining general and specialized subject material. The second phase is specialized, with emphasis on specific medical radiography course content. Classroom and laboratory sessions are supplemented by weekly assignments at Hamad Medical Corporation (HMC). The third phase of the program is designed to provide the student with exposure to the practical aspects of medical radiography and to familiarize the student to the working conditions of the radiology department. This portion of the course is a clinical internship during which the student will apply, under supervision, the theories and principles learned during the previous years of didactic education.

The aims of the clinical phase of the program are:
1. To ensure that the student can accurately and confidently perform the many and varied examinations that are carried out on a daily basis in a radiology department.
2. To ensure that the student has performed the number and variety of examinations required to complete the course.

The clinical phase is conducted at sites of Hamad Medical Corporation (HMC) and Aspetar Orthopedic and Sports Medicine Hospital. Students will follow a rotation schedule designed to provide broad clinical exposure and will be required to spend some evenings and weekends at the clinical site.

Accreditation
Successful completion of the Medical Radiography program will enable graduates to access the CAMRT (Canadian Association of Medical Radiation Technologists) registry examination. The Medical Radiography program also meets the current scope of practice for entry-level Medical Radiographers in Qatar, as outlined by the Ministry of Public Health.

Successful completion of the CAMRT exam provides practitioners with the professional designation (RTR) and satisfies requirements for entry-level practitioners in Canada.

Objectives
Upon successful completion of program, students will be able to:
1. Perform the required competencies, demonstrate the required knowledge and model the professional behaviors and attitudes for entry into practice as outlined by the Canadian Association of Medical Radiation Technologists (CAMRT) National Occupational Competency profile for Diagnostic Medical Radiographers.
2. Meet the scope of practice requirements for Medical Radiography Technologists, as defined by the Qatar Council of Healthcare Practitioners under the Qatar Ministry of Public Health.
3. Demonstrate technical proficiency in all current aspects of medical radiography while maintaining knowledge in current trends and future directions of the profession.
4. Integrate professional knowledge with critical thinking and problem solving skills to help ensure positive patient outcomes with a high level of patient care and patient safety.
5. Utilize self-reflection and assessment skills to ensure an ongoing process of learning and adaptation to the changing health care environment.
6. Develop a professional identity and sense of responsibility to their patients, colleagues, employer and community.
7. Provide the community with trained personnel who can serve their employers and patients with the highest degree of competence.
8. Maintain a level of physical and mental health necessary to perform the bona fide occupational requirements.
9. Reflect professionalism through personal deportment and public interactions.
10. Demonstrate ethical behavior, empathy and respect for individuals.
11. Build on existing knowledge and skills to develop greater critical-thinking processes, increased leadership qualities, develop and enhance skills in specialty imaging modalities.
12. Function effectively as an individual and as a member of a team or a leader in a culturally diverse, multi-disciplinary healthcare environment.
13. Communicate effectively, orally and in writing, to employers, team members, clients, consumers and others, using structured, well-developed arguments.

Career Opportunities
Graduates of the Medical Radiography program are valued members of the paramedical team. They are employed in hospitals and clinics, where they utilize highly sophisticated technology to produce x-rays and create detailed anatomical images, while providing quality care to patients. Job opportunities also exist in research centres, educational institutions and medical equipment sales and services. Additionally, advancement within the field is possible into specialized imaging modalities, such as magnetic resonance imaging, ultrasound and echo cardiology.

Entrance Requirements

1. High school graduation certificate with the following:

<table>
<thead>
<tr>
<th>Subject</th>
<th>Average</th>
<th>Minimum</th>
</tr>
</thead>
<tbody>
<tr>
<td>English Language (Grade 12 level)</td>
<td>60%</td>
<td>60%</td>
</tr>
<tr>
<td>Academic Mathematics (Grade 12 level)</td>
<td>60%</td>
<td>60%</td>
</tr>
<tr>
<td>* Biology and Chemistry (Grade 12 level)</td>
<td>Minimum 60%</td>
<td>Minimum 60%</td>
</tr>
</tbody>
</table>

*Qatari national applicants who do not meet the Science requirement may be admitted to the academic preparatory curriculum, which is designed to provide upgrading in the basic skills required for successful completion of allied health programs.

2. The required score on the Academic English Placement (AEP) and the Academic Math Placement (AMP). Students who present a valid IELTS Academic Test Report Form, received within two years, with an overall band of 5.0 and no band below 4.5, are exempt from the AEP. For score requirements on other internationally-recognized tests, such as TOFEL, contact the Registrar’s office.

Note: 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 11).
Medical Radiography

Tuition per Academic Year
20,000 QR
Please refer to page 34 of the Academic Calendar for further information on tuition and fees.

Book Fees
Approximate cost 7,000 QR for program duration.

Additional Costs
Students are required to use a smartphone or tablet (Android or Apple) for competency tracking in labs and clinical courses. Any costs associated with this device are the student’s responsibility. Additionally, on successful completion of the MRT program, students who would like to write the Canadian Association of Medical Radiation Technologists (CAMRT) credentialing examination will be required to pay a fee of approximately CDN 840.00 directly to CAMRT. In addition, students must pay an additional Test Center fee of approximately CDN 144.00.

Note: Students are required to purchase a lab coat, scrub set and anatomical lead markers for the program. Students will not be able to participate in clinical field trips, clinical orientation sessions, labs or work term placements without these items.

Medical Assessment
1. Completed medical assessment by a physician to include past and present health history.
2. Pre-physical fitness activity check.

Immunization Requirements
1. Proof of current immunity to the following diseases:
   • Measles, Mumps, Rubella
   • Varicella
   • Hepatitis A, B (include all dates)
2. Proof of tetanus/diphtheria booster (required every 10 years)
3. Hepatitis C and HIV screening
4. TB screening and BCG history- Mantoux 2-step skin testing if status unknown
5. Chest x-ray if indicated by Mantoux skin test
6. Yearly seasonal flu vaccination strongly recommended

Note: Students will be denied access to clinical placements without medical verification of complete immunization/ screening requirements.

Further Studies
Graduates of the Medical Radiography program may have the opportunity to transfer course credits to other academic institutions.

A current list of post-secondary institutions offering admission and transfer credit to CNA-Q graduates who meet the entrance requirements is available from the Registrar’s Office or the Career Counselling and Resource Centre.

Language Proficiency Requirements
1. Students entering the Medical Radiography program must meet English language proficiency requirements by obtaining one of the following:
   a) An overall score of 65 or greater on the Oxford Online Placement Test (OOPT) or a passing score from another approved internationally recognized English language test, as validated by the Registrar’s Office
   b) A valid IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, listening) below 4.5.
   c) Successful completion of FL1090, a language development course.
   
2. Students graduating from the Medical Radiography program must meet English language exit requirements by presenting a valid IELTS Academic Test Report Form with an overall band of 6.0 with no individual band score below 5.5.
## Medical Radiography

### Level 1 (Year 1)

<table>
<thead>
<tr>
<th>COURSE NUMBER</th>
<th>COURSE TITLE</th>
<th>CR</th>
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<th>LAB</th>
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<tr>
<td>CM2181</td>
<td>Technical Reporting II</td>
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<td>Mathematics</td>
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<tr>
<td>PH1100</td>
<td>Physics</td>
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<td>CH1200</td>
<td>Chemistry</td>
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<td>MA1670</td>
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<tr>
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<td>PS1420</td>
<td>Health Care Organization and Structure</td>
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<td>HG1680</td>
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<td>CM2200</td>
<td>Oral Communications</td>
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### Medical Radiography

**Level 2 (Year 2)**

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<tr>
<th>COURSE NUMBER</th>
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<td>MX2110</td>
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<tr>
<td>MX2200</td>
<td>Image Recording</td>
<td>4</td>
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<td>2</td>
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<tr>
<td>MX2310</td>
<td>Apparatus and Accessories</td>
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<tr>
<td>MX2410</td>
<td>Patient Care and Safety</td>
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<td>PH2200</td>
<td>Radiation Physics</td>
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<td>Clinical Orientation</td>
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<td>Image Recording</td>
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</tr>
<tr>
<td>MX2301</td>
<td>Apparatus and Accessories</td>
<td>5</td>
<td>4</td>
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<tr>
<td>MX2500</td>
<td>Radiation Protection and Radiobiology</td>
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<td>MX1621</td>
<td>Clinical Orientation</td>
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**Level 3 (Year 3)**

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<th>HOURS/WEEK</th>
<th>CR</th>
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<tbody>
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<td>MX1510</td>
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<tr>
<td>MX3250</td>
<td>Clinical Radiography</td>
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<tr>
<td>MX3260</td>
<td>Clinical Radiography</td>
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</table>

After successful completion of the above listed courses, the student will be eligible to graduate with a Medical Radiography Diploma. Students rotate through the clinical sites of Hamad Medical Corporation (HMC) and Aspetar Orthopedic and Sports Medicine Hospital. Night, evening and/or weekend shifts may be required. Students must wear a uniform during clinical experiences.
Program
Occupational health and safety plays a vital role in preventing injuries and illnesses to the workforce. This diploma prepares students for a career in the field of occupational health, safety and environment in any industry. Occupational Health, Safety and Environment focuses on identifying health, safety and environmental hazards in the workplace, assessing the risk of those hazards, and implementing control measures to eliminate or minimize those risks.

In this diploma, students develop the knowledge and skills to perform as a Health, Safety and Environment (HSE) Practitioner. HSE Practitioners support management in its overall goal of developing, implementing and maintaining a health, safety and environment management system. This involves preventing human, environmental and financial losses related to health, safety and environment hazards in the workplace. HSE Practitioners need keen observational and analytical skills, a sound understanding of local laws and international standards, and strong communication and interpersonal skills.

This program is for individuals who:
- Enjoy working with people and have an interest in leadership and management
- Care about creating safe, healthy and environmentally friendly workplaces
- Are interested in building creative and critical thinking skills to solve problems

Objectives
Upon successful completion of the program, students will be able to:
1. Assist with the planning of an organization’s HSE compliance and performance strategy
2. Conduct qualitative and quantitative risk assessments to analyze causes, consequences and controls related to work tasks
3. Coordinate workplace inspection, investigation, and audit activities to systematically monitor HSE compliance and performance
4. Produce oral and written reports for management about HSE performance with recommendations for corrective action
5. Communicate, engage with and influence others to mitigate HSE risks and optimize HSE performance
6. Make HSE decisions and judgments based on knowledge of national laws, industry standards, guidelines, and codes of practice
7. Plan for and appropriately respond to potential HSE emergencies
8. Function effectively as an individual, and as a member or leader of a diverse team in multi-disciplinary and multi-cultural settings

Career Opportunities
HSE Practitioners are employed in a variety of industries, including construction, manufacturing, health care, education, and oil and gas. HSE Practitioners are responsible for preventing human, environmental and financial losses by effectively identifying, assessing and controlling HSE risks and complying with HSE laws, standards, and international best practices. HSE Practitioners are also employed by government ministries who are responsible for enforcing HSE legislation. In both the private and public sector, HSE Practitioners play a vital role in protecting the health and safety of workers and the environment.

Entrance Requirements
1. High school graduation certificate with the following:

<table>
<thead>
<tr>
<th>Average</th>
<th>Minimum 60%</th>
</tr>
</thead>
<tbody>
<tr>
<td>English Language (Grade 12 level)</td>
<td>Minimum 60%</td>
</tr>
<tr>
<td>Academic Mathematics Grade 12 level</td>
<td>Minimum 60%</td>
</tr>
</tbody>
</table>

* Two Grade 12 or equivalent science courses selected from: Biology, Chemistry and Physics

*Qatari national applicants who do not meet the Science requirement may be admitted to the academic preparatory curriculum, which is designed to provide upgrading in the basic skills required for successful completion of allied health programs.

2. The required score on the Academic English Placement (AEP) and Academic Math Placement (AMP). Students who present a valid IELTS Academic Test Report Form, received within two years, with an overall band 5.0 with no individual skill band below 4.5, are exempt from taking the AEP. For score requirements on other internationally-recognized tests, such as TOEFL, contact the Registrar’s Office.

Note: 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 11).
Further Studies
Graduates of the Occupational Health, Safety and Environment program may have the opportunity to transfer course credits to other academic institutions. A current list of post-secondary institutions offering admission and transfer credit to CNA-Q graduates who meet the entrance requirements is available from the Registrar’s Office or the Career Counseling and Resource Centre.

After successful completion of the Occupational Health, Safety and Environment diploma requirements, students are eligible to write the National Examination Board in Occupational Safety and Health (NEBOSH) International General Certificate examination, which is subject to additional registration fees.

Language Proficiency Requirements
1. Students entering the Occupational Health, Safety and Environment program must meet English language proficiency requirements by obtaining one of the following:
   a) An overall score of 65 or greater on the Oxford Online Placement Test (OOPT) or a passing score from another approved internationally recognized English language test, as validated by the Registrar’s Office.
   b) A valid IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, listening) below 4.5.
   c) Successful completion of FL1090, a language development course.

Tuition per Academic Year
20,000 QR
Please refer to page 34 of the Academic Calendar for further information on tuition and fees.

Book Fees
Approximate cost 4,500 QR for program duration.

Additional Costs
Students are required to purchase safety shoes and a hard hat for the program. Failure to purchase these items may mean the student will not be able to participate in field trips. An approximate cost for these items is 800 QR. Additionally, students who would like to write the NEBOSH General International Certificate examination, will be required to pay an examination fee of approximately 500 QR. (Part 1-200 QR, Part 2-200 QR, Part3-100 QR).
### Occupational Health, Safety and Environment

#### Level 1 (Year 1)

<table>
<thead>
<tr>
<th>COURSE NUMBER</th>
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<td></td>
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<td>Introduction to Health, Safety and Environment</td>
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<td>MA1670</td>
<td>Statistics</td>
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<td>Introductory Psychology</td>
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After successful completion of the listed courses, the student will be eligible to graduate with an Occupational Health, Safety and Environment Diploma.
Occupational, Health, Safety and Environment

Level 2 (Year 2)

<table>
<thead>
<tr>
<th>COURSE NUMBER</th>
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<td>Occupational Health Hazards and Control</td>
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<td>SE2125</td>
<td>Management of Health &amp; Well-Being at Work</td>
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<td>SE2130</td>
<td>Health, Safety and Environment Law, Regulations and Standards</td>
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<td>SE2135</td>
<td>Health, Safety &amp; Environment in Process Industries</td>
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<td>PR2155</td>
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<td>SE2160</td>
<td>Fire Safety and Risk Management</td>
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<td>SE2165</td>
<td>Inspections, Investigations and Auditing</td>
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<td>SE2170</td>
<td>Occupational Hygiene</td>
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<td>SE2175</td>
<td>Professionalism and Ethics</td>
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<tr>
<td>SE2180</td>
<td>Health, Safety and Environment Practicum</td>
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After successful completion of the above listed courses, the student will be eligible to graduate with a Health and Wellness Promotion-Post Diploma.
Program
Pharmacy Technicians are essential members of the allied healthcare profession and fulfill a key role. Graduates of the Pharmacy Technician program will have the skills and knowledge necessary to become competent and effective members of the health care team and to meet the needs of the labour market. Pharmacy technicians assist pharmacists to maintain inventories of medications and prescription records of pharmaceutical products, ensure the information on prescriptions is accurate, enter patient information in databases and prepare medications for patients, compound oral solutions, ointments and creams, bill third party insurers and may help with scheduling and workflow. Pharmacy Technicians are employed in community and hospital pharmacy settings, in long-term care facilities, pharmaceutical manufacturing, and insurance companies.

The Pharmacy Technician program meets the current scope of practice for entry level Pharmacy Technician in Qatar as outlined by the Ministry of Public Health and is accredited by the Canadian Council for Accreditation of Pharmacy Programs (CCAPP). The program includes coursework, team-oriented projects and a final 12-week clinical placement at different sites, focusing on areas of technical learning, interpersonal skills, team-building, communications and inter-professional practice. This program provides diverse opportunities for students to gain competencies and enhance skills so they are able to contribute to the social, economic and cultural wellbeing of their communities.

Accreditation
The Pharmacy Technician program at CNA-Q is accredited by the Canadian Council for Accreditation of Pharmacy Programs (CCAPP). CCAPP’s goals encompass the attainment of the National Association of Pharmacy Regulatory Authorities (NAPRA) Professional Competencies for Canadian Pharmacy Technicians at Entry to Practice and the Canadian Pharmacy Technician Educators Association (CPTEA) standards. The Pharmacy Technician program also meets the current scope of practice for entry level Pharmacy Technician in Qatar, as outlined by the Ministry of Public Health.

Tuition per Academic Year
20,000 QR
Please refer to page 34 of the Academic Calendar for further information on tuition and fees.

Book Fees
Approximate cost 3,000 QR for program duration.

Additional Costs
Students are required to use a smartphone or tablet (Android or Apple) for competency tracking in labs and clinical courses. Any costs associated with this device are the student’s responsibility.

Objectives
Upon successful completion of this two year program, graduates will be able to:

1. Demonstrate required skills, knowledge and abilities as prescribed 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.
2. Demonstrate safe and aseptic practice within the legal framework of National regulations.
3. Communicate effectively and work collaboratively with other members of the health care team to serve patients and employers with the highest degree of competence.
4. Reflect professionalism through interactions with patients, co-workers and employers.
5. Describe effective pharmacy management, business principles, and inventory control.
6. Recognize the importance of continuing education and professional affiliations.
7. Demonstrate prescription processing including compounding.
8. Integrate knowledge and skills to effectively operate pharmacy computer software programs and recall techniques for saving data.
9. Use problem-solving skills which promote independent decision making in the practice of a pharmacy technician.
Pharmacy Technician

Career Opportunities
Program graduates may obtain employment in a variety of pharmacy practice areas such as:
• Hospital pharmacy in a government or private setting
• Community pharmacy in a retail pharmacy or government/private clinic
• Pharmaceutical manufacturing site (following additional company training)
• Home health care agency
• Research facility
• Insurance company
• Long-term care facility
• Qatar Petroleum and/or other oil/gas companies
• Controlled substance surveillance facility

Entrance Requirements
1. High school graduation certificate with the following:
   - Average Minimum 60%
   - English Language (Grade 12 level) Minimum 60%
   - Mathematics (Grade 12 level) Minimum 60%
   - Biology and Chemistry (Grade 12 level or equivalent) Minimum 60%

   *Qatari national applicants who do not meet the Science requirement may be admitted to the academic preparatory curriculum, which is designed to provide upgrading in the basic skills required for successful completion of allied health programs.

2. The required score on the Academic English Placement (AEP) and Academic Math Placement (AMP). Students who present a valid IELTS Academic Test Report Form, received within two years, with an overall band of 5.0 with no individual skill band below 4.5, are exempt from taking the AEP. For score requirements on other internationally-recognized tests, such as TOEFL, contact the Registrar’s Office.

Note: 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 11).

Medical Assessment
1. Completed medical assessment by a physician to include past and present health history.
2. Pre-physical fitness activity check.

Immunization Requirements
1. Proof of current immunity to the following diseases:
   • Measles, Mumps, Rubella
   • Varicella
   • Hepatitis A, B (include all dates)
2. Proof of tetanus/diphtheria booster (required every 10 years)
3. Hepatitis C and HIV screening
4. TB screening and BCG history-Mantoux 2-step skin testing if status unknown
5. Chest x-ray if indicated by Mantoux skin test
6. Yearly seasonal flu vaccination strongly recommended

Note: Students will be denied access to clinical placements without medical verification of complete immunization/screening requirements.

Further Studies
Graduates of the Pharmacy Technician program may have the opportunity to transfer course credits to other academic institutions.

A current list of post-secondary institutions offering admission and transfer credit to CNA-Q graduates who meet the entrance requirements is available from the Registrar’s Office or the Career Counselling and Resource Centre.

Language Proficiency Requirements
1. Students entering the Pharmacy Technician program must meet English language proficiency requirements by obtaining one of the following:
   a) An overall score of 65 or greater on the Oxford Online Placement Test (OOPT) or a passing score from another approved internationally recognized English language test, as validated by the Registrar’s Office
   b) A valid IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, listening below 4.5.
   c) Successful completion of FL1090, a language development course.

2. Students graduating from the Pharmacy Technician program must meet English language exit requirements by presenting a valid IELTS Academic Test Report Form with an overall band of 6.0 with no individual band score below 5.5.
## Pharmacy Technician

**Level 1 (Year 1)**

<table>
<thead>
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<th>COURSE NUMBER</th>
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Pharmacy Technician

Level 2  (Year 2)

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After successful completion of the above listed courses, the student will be eligible to graduate with a Pharmacy Technician Diploma.
Respiratory Therapy (Three Year Diploma)

Program
Respiratory Therapists are healthcare professionals who contribute to the diagnosis and treatment of lung disorders. Most respiratory therapists work in hospitals in neonatal units, operating rooms, intensive care units, general wards, pulmonary function labs and emergency departments. Respiratory therapists may also work in community settings such as homecare, asthma clinics, research, and medical equipment sales and service. Respiratory therapists need good judgement, excellent interpersonal skills and the ability to maintain their professionalism during critical medical situations.

The first phase of the Respiratory Therapy program is theoretical and combines academic and foundational courses with discipline-specific subject material. The second phase incorporates a clinical internship and is designed to immerse the student in all practical aspects of respiratory therapy and orientate the student to the working conditions of the respiratory therapist. During this portion of the program, students will apply, under supervision, the theories and principles learned during previous coursework and simulated settings.

Accreditation
The Respiratory Therapy program at CNA-Q is accredited by the Council on Accreditation for Respiratory Therapy Education (CoARTE).

Successful completion of the Respiratory Therapy program will enable graduates to access the CBRC (Canadian Board of Respiratory Care) credentialing exam. Successful completion of the CBRC exam provides practitioners with the professional designation (RRT). The Respiratory Therapy program also meets the current scope of practice for Respiratory Therapists in Qatar, as outlined by the Ministry of Public Health.

Objectives
Upon successful completion of the Respiratory Therapy program, students will be able to:
1. Demonstrate the knowledge, skills and abilities outlined in the National Alliance of Respiratory Therapy Regulatory Bodies (NARTRB) National Competency Profile (NCP) with timeliness, accuracy, and proficiency.
2. Practice and promote the principles of quality management and the efficient utilization of resources.
3. Use all equipment related to procedures in the NCP accurately.
4. Demonstrate a high level of professional conduct at all times in the performance of duty.
5. Demonstrate an adequate understanding of the Registered Respiratory Therapist role and function with responsibility and empathy as a member of the healthcare team.

Career Opportunities
Most Respiratory Therapists work within a hospital based setting, where they perform a variety of functions, such as providing life support for patients who cannot breathe on their own, assisting in high-risk births, assisting anesthesiologists in the operating room and conducting tests to measure lung function. In addition to the hospital setting, job opportunities exist within the community, in asthma clinics, sleep disorder labs, research centres, homecare clinics and educational institutions.

Entrance Requirements
1. High school completion with the following:

<table>
<thead>
<tr>
<th>Subject</th>
<th>Average</th>
<th>Minimum</th>
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<tr>
<td>English Language (Grade 12 level)</td>
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<tr>
<td>Mathematics (Grade 12 level)</td>
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<tr>
<td>Biology and Chemistry (Grade 12 level)</td>
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</table>

*Qatari national applicants who do not meet the Science requirement may be admitted to the academic preparatory curriculum, which is designed to provide upgrading in the basic skills required for successful completion of allied health programs.

2. The required score on the Academic English Placement (AEP) and Academic Math Placement (AMP). Students who present a valid IELTS Academic Test Report Form, received within two years, with an overall band 5.0 with no individual skill band below 4.5, are exempt from taking the AEP. For score requirements on other internationally-recognized tests, such as TOEFL, contact the Registrar’s Office.

Note: 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 11).
Respiratory Therapy

Medical Assessment
1. Completed medical assessment by a physician to include past and present health history.
2. Pre-physical fitness activity check.

Immunization Requirements
1. Proof of current immunity to the following diseases:
   - Measles, Mumps, Rubella
   - Varicella
   - Hepatitis A, B (include all dates)
2. Proof of tetanus/diphtheria booster (required every 10 years)
3. Hepatitis C and HIV screening
4. TB screening and BCG history-Mantoux 2-step skin testing if status unknown
5. Chest x-ray if indicated by Mantoux skin test
6. Yearly seasonal flu vaccination strongly recommended

Note: Students will be denied access to clinical placements without medical verification of complete immunization/screening requirements.

Further Studies
Graduates of the Respiratory Therapy diploma program may have the opportunity to transfer course credits to other academic institutions.

A current list of post-secondary institutions offering admission and transfer credit to CNA-Q graduates who meet the entrance requirements is available from the Registrar’s Office or the Career Counselling and Resource Centre.

Language Proficiency Requirements
1. Students entering the Respiratory Therapy program must meet English language proficiency requirements by obtaining one of the following:
   a) An overall score of 65 or greater on the Oxford Online Placement Test (OOPT) or a passing score from another approved internationally recognized English language test, as validated by the Registrar’s Office
   b) A valid IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, listening) below 4.5.
   c) Successful completion of FL1090, a language development course.
2. Students graduating from the Respiratory Therapy program must meet English language exit requirements by presenting a valid IELTS Academic Test Report Form with an overall band of 6.0 with no individual band score below 5.5.

Tuition per Academic Year
20,000 QR
Please refer to page 34 of the Academic Calendar for further information on tuition and fees.

Book Fees
Approximate cost 5,500 QR for program duration.

Additional Costs
Students are required to use a smartphone or tablet (Android or Apple) for competency tracking in labs and clinical courses. Any costs associated with this device are the student’s responsibility. Additionally, on successful completion of the RT program, students who would like to write the Canadian Board of Respiratory Care (CBRC) credentialing exam will be required to pay a fee of 815 CAD and an additional Test Centre fee of 144 CAD. Fees are subject to change.
# Respiratory Therapy

## Level 1 (Year 1)

<table>
<thead>
<tr>
<th>COURSE NUMBER</th>
<th>COURSE TITLE</th>
<th>HOURS/WEEK</th>
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## Respiratory Therapy

**Level 2 (Year 2)**

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<td>Cardiopulmonary Resuscitation</td>
<td>3</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>RT2250</td>
<td>Clinical Application IV</td>
<td>2</td>
<td>0</td>
<td>6</td>
</tr>
</tbody>
</table>

**Level 3 (Year 3)**

<table>
<thead>
<tr>
<th>COURSE NUMBER</th>
<th>COURSE TITLE</th>
<th>HOURS/WEEK</th>
</tr>
</thead>
<tbody>
<tr>
<td>RT3000</td>
<td>Practicum I</td>
<td>15 weeks</td>
</tr>
<tr>
<td>RT3010</td>
<td>Practicum II</td>
<td>15 weeks</td>
</tr>
<tr>
<td>RT3020</td>
<td>Practicum III</td>
<td>7 weeks</td>
</tr>
</tbody>
</table>

After successful completion of the above listed courses, the student will be eligible to graduate with a Respiratory Therapy Diploma.

The clinical phase is conducted at sites of Hamad Medical Corporation (HMC), Aspetar Orthopedic and Sports Medicine Hospital and Sidra Medicine.

Students will follow a rotation schedule designed to provide broad clinical exposure. Night, evening and/or weekend shifts could be included. Students must wear a uniform during clinical experiences.
School of Information Technology

Graduates of the Information Systems diploma programs will play an integral role in the continued growth of the information technology industry in Qatar.

Information Technology programs are designed to meet internationally-recognized standards. The courses in these programs have been carefully selected and developed to assure learning outcomes address technical and academic skills, as well as employability and soft skills specific to the information technology industry.

Accreditation

The two year and three year Information Systems diploma programs are accredited by the Canadian Information Processing Association (CIPS). http://www.cips.ca/ComputerTechnologyDiplomaPrograms.

Program Options

**Two Year Diploma**
- Information Systems – Software
- Information Systems – Hardware

**Three Year Diploma**
- Information Systems – Web Developer
- Information Systems – Network and Systems Administration

* Total program length varies depending on language proficiency, academic preparatory courses required for entry, and academic performance throughout the program of study.
Information Systems – Software (IS-S) (Two Year Diploma)

Program
The Information Systems - Software program provides students with the knowledge and skills to excel in an information-based society. The program places emphasis on training individuals in systems analysis and design, industry-leading programming languages, and detailed database programming and management. When combined with work experience, this skill set prepares students for an exciting career in information systems.

Objectives
Upon successful completion of the Information Systems – Software program, the student will be able to:
1. Play a key role in the design, creation and maintenance of software applications.
2. Interpret and effectively apply industry procedures and policies.
3. Develop and strengthen related knowledge and skills in subjects that complement and support technical training.
4. Demonstrate positive attitudes and behaviours which will enable them to become successful IT professionals.

Career Opportunities
Graduates may be employed in a variety of entry-level programming and software development, Internet applications development, database development and database administrator positions. Many businesses, including schools, private business, the oil and gas sector and many entrepreneurial organizations, need graduates from the Information Systems – Software program. Opportunities for self-employment also exist.

Entrance Requirements
1. High school graduation certificate with the following:
   - Average Minimum 60%
   - English Language (Grade 12 level) Minimum 60%
   - Academic Mathematics (Grade 12 level) Minimum 60%
   - Three additional courses at the Grade 12 level

2. The required score on the Academic English Placement (AEP) and Academic Math Placement (AMP). Students who present a valid IELTS Academic Test Report Form, received within two years, with an overall band 5.0 with no individual band score (reading, writing, speaking, listening) below 4.5. Successful completion of FL1090, a language development course.

Further Studies
Graduates of the Information Systems – Software program may have the opportunity to transfer credits to other academic institutions.

A current list of post-secondary institutions offering admission and transfer credit to CNA-Q graduates who meet the entrance requirements is available from the Registrar’s Office or the Career Counselling and Resource Centre.

Language Proficiency Requirements:
Students entering the Information Systems – Software (IS-S) program must meet English language proficiency requirements by obtaining one of the following:
1. An overall score of 65 or greater on the Oxford Online Placement Test (OOPT) or a passing score from another approved internationally recognized English language test, as validated by the Registrar’s Office.
2. A valid IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, listening) below 4.5. Successful completion of FL1090, a language development course.

Note: 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 11).
### Information Systems – Software (IS-S)

#### Level 1 (Year 1)

<table>
<thead>
<tr>
<th>COURSE NUMBER</th>
<th>COURSE TITLE</th>
<th>HOURS/WEEK</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>CR</td>
</tr>
<tr>
<td>CM1400</td>
<td>Technical Report Writing I</td>
<td>3</td>
</tr>
<tr>
<td>SD1570</td>
<td>Effective Learning</td>
<td>4</td>
</tr>
<tr>
<td>EP1131</td>
<td>Business for Information Systems</td>
<td>3</td>
</tr>
<tr>
<td>MA1900</td>
<td>Problem Solving for Information Technology</td>
<td>4</td>
</tr>
<tr>
<td>CP1360</td>
<td>Programming for Computer Systems and Networking</td>
<td>4</td>
</tr>
<tr>
<td>MC1820</td>
<td>Computer Applications</td>
<td>3</td>
</tr>
<tr>
<td>CM1401</td>
<td>Technical Report Writing II</td>
<td>3</td>
</tr>
<tr>
<td>CP1880</td>
<td>Computer Systems Architecture</td>
<td>4</td>
</tr>
<tr>
<td>CP1810</td>
<td>Fundamental Programming Constructs</td>
<td>5</td>
</tr>
<tr>
<td>CP1932</td>
<td>Systems Analysis</td>
<td>5</td>
</tr>
<tr>
<td>MA1910</td>
<td>Introduction to Numerical Problem Solving</td>
<td>4</td>
</tr>
<tr>
<td>CR1260</td>
<td>Client Service for the IT Industry</td>
<td>2</td>
</tr>
<tr>
<td>CM2200</td>
<td>Oral Communications</td>
<td>2</td>
</tr>
<tr>
<td>EP1141</td>
<td>Business Operations in Information Systems</td>
<td>3</td>
</tr>
<tr>
<td>MM1950</td>
<td>Workplace Professionalism</td>
<td>3</td>
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</table>
### Information Systems – Software (IS-S)

**Level 2 (Year 2)**

<table>
<thead>
<tr>
<th>COURSE NUMBER</th>
<th>COURSE TITLE</th>
<th>HOURS/WEEK</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>CR1501</td>
<td>Website Development</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>CP1953</td>
<td>Object Oriented Systems Analysis with UML</td>
<td>4</td>
<td>3</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>CP3230</td>
<td>Object Oriented and Event-Driven Programming I</td>
<td>5</td>
<td>3</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>CMZ300</td>
<td>Report Writing</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>PR2155</td>
<td>Project Management</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>CP3231</td>
<td>Object Oriented and Event-Driven Programming II</td>
<td>5</td>
<td>3</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>CP3450</td>
<td>Database Design and Implementation</td>
<td>4</td>
<td>3</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>CP3300</td>
<td>Data Structures</td>
<td>4</td>
<td>3</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>CP2870</td>
<td>Website and Database Project using Microsoft Technology</td>
<td>4</td>
<td>3</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>WTI170</td>
<td>Work Term</td>
<td>Pass/Fail</td>
<td>8 weeks (280-300 Hours)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

After successful completion of the above listed courses, the student will be eligible to graduate with an Information Systems – Software (IS-S) Diploma. Students may continue to complete a third year to achieve Information Systems – Web Developer Diploma.
Information Systems – Web Developer (IS-WD) (Three Year Diploma)

Program
The Information Systems – Web Developer Diploma program provides students with the knowledge and skills needed for a career in Web development. The program begins with an emphasis on systems analysis and design, programming languages and database management. When combined with work experience, this skill set prepares students for a career in information systems. The final stage of the program teaches students to design, implement and maintain advanced Web applications. Students gain an in-depth knowledge of Web server management, Web security tools and techniques and Web application development environments. This skill set, when consolidated through the completion of a capstone project, prepares students for an exciting career in a Web development environment.

Objectives
Upon successful completion of the Information Systems – Web Developer program, the student will be able to:
1. Analyze, design, implement and maintain secure Web sites and Web applications based on user requirements.
2. Develop, maintain and deploy database applications in an N-tier environment.
3. Interpret and effectively apply industry policies and procedures.
4. Utilize social and interpersonal skills to function as an effective team member in a Web development environment.
5. Communicate effectively with clients.

Career Opportunities
Given the current growth of the Internet, the widespread use of computers in the workplace and the advancement of information systems technologies, Information Systems – Web Developer graduates may find employment with information based businesses in both the public and private sectors. Many businesses, schools, and entrepreneurial organizations, as well as the oil and gas sector, need graduates from the Information Systems – Web Developer program. Opportunities for self-employment also exist.

Entrance Requirements
1. High school graduation certificate with the following:

<table>
<thead>
<tr>
<th>Average</th>
<th>Minimum</th>
</tr>
</thead>
<tbody>
<tr>
<td>English Language (Grade 12 level)</td>
<td>Minimum 60%</td>
</tr>
<tr>
<td>Academic Mathematics (Grade 12 level)</td>
<td>Minimum 60%</td>
</tr>
<tr>
<td>Three additional courses at the Grade 12 level</td>
<td></td>
</tr>
</tbody>
</table>

2. The required score on the Academic English Placement (AEP) and Academic Math Placement (AMP). Students who present a valid IELTS Academic Test Report Form, received within two years, with an overall band 5.0 with no individual skill band below 4.5, are exempt from taking the AEP. For score requirements on other internationally-recognized tests, such as TOEFL, contact the Registrar’s Office.

Further Studies
Graduates of the Information Systems – Web Developer (IS-WD) program may have the opportunity to transfer credits to other academic institutions.

Language Proficiency Requirements:
Students entering the Information Systems – Web Developer (IS-WD) program must meet English language proficiency requirements by obtaining one of the following:
1. An overall score of 65 or greater on the Oxford Online Placement Test (OOPT) or a passing score from another approved internationally recognized English language test, as validated by the Registrar’s Office. Present a valid Academic IELTS exam with an overall band of 5.0 with no individual band score (reading, writing, speaking, and listening) below 4.5.
2. A valid IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, listening) below 4.5.
3. Successful completion of FL1090, a language development course.

Note: 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 1).
# Information Systems – Web Developer (IS-WD)

## Level 1 (Year 1)

<table>
<thead>
<tr>
<th>COURSE NUMBER</th>
<th>COURSE TITLE</th>
<th>HOURS/WEEK</th>
</tr>
</thead>
<tbody>
<tr>
<td>CM1400</td>
<td>Technical Report Writing I</td>
<td>CR 3</td>
</tr>
<tr>
<td>SD1570</td>
<td>Effective Learning</td>
<td>LEC 3</td>
</tr>
<tr>
<td>EP1131</td>
<td>Business for Information Systems</td>
<td>LAB 0</td>
</tr>
<tr>
<td>MA1900</td>
<td>Problem Solving for Information Technology</td>
<td>CR 4</td>
</tr>
<tr>
<td>CP1360</td>
<td>Programming for Computer Systems and Networking</td>
<td>LEC 4</td>
</tr>
<tr>
<td>MC1820</td>
<td>Computer Applications</td>
<td>LAB 1</td>
</tr>
<tr>
<td>CM1401</td>
<td>Technical Report Writing II</td>
<td>CR 3</td>
</tr>
<tr>
<td>CP1880</td>
<td>Computer Systems Architecture</td>
<td>LEC 4</td>
</tr>
<tr>
<td>CP1810</td>
<td>Fundamental Programming Constructs</td>
<td>LAB 1</td>
</tr>
<tr>
<td>CP1932</td>
<td>Systems Analysis</td>
<td>CR 5</td>
</tr>
<tr>
<td>MA1910</td>
<td>Introduction to Numerical Problem Solving</td>
<td>LEC 4</td>
</tr>
<tr>
<td>CR1260</td>
<td>Client Service for the IT Industry</td>
<td>LAB 2</td>
</tr>
<tr>
<td>CM2200</td>
<td>Oral Communications</td>
<td>CR 2</td>
</tr>
<tr>
<td>EP1141</td>
<td>Business Operations in Information Systems</td>
<td>LEC 3</td>
</tr>
<tr>
<td>MM1950</td>
<td>Workplace Professionalism</td>
<td>LAB 0</td>
</tr>
</tbody>
</table>
### Information Systems – Web Developer (IS-WD)

#### Level 2 (Year 2)

<table>
<thead>
<tr>
<th>COURSE NUMBER</th>
<th>COURSE TITLE</th>
<th>HOURS/WEEK</th>
</tr>
</thead>
<tbody>
<tr>
<td>CR1501</td>
<td>Website Development</td>
<td>3 2 2</td>
</tr>
<tr>
<td>CP1953</td>
<td>Object Oriented Systems Analysis with UML</td>
<td>4 3 3</td>
</tr>
<tr>
<td>CP3230</td>
<td>Object Oriented and Event-Driven Programming I</td>
<td>5 3 5</td>
</tr>
<tr>
<td>CM2300</td>
<td>Report Writing</td>
<td>2 2 0</td>
</tr>
<tr>
<td>PR2155</td>
<td>Project Management</td>
<td>4 3 2</td>
</tr>
<tr>
<td>CP3231</td>
<td>Object Oriented and Event - Driven Programming II</td>
<td>5 3 5</td>
</tr>
<tr>
<td>CP3450</td>
<td>Database Design and Implementation</td>
<td>4 3 3</td>
</tr>
<tr>
<td>CP3300</td>
<td>Data Structures</td>
<td>4 3 3</td>
</tr>
<tr>
<td>CP2870</td>
<td>Website and Database Project using Microsoft Technology</td>
<td>4 3 3</td>
</tr>
<tr>
<td>WT1170</td>
<td>Work Term</td>
<td>Pass/Fail 8 weeks (280-300 Hours)</td>
</tr>
</tbody>
</table>

After successful completion of the above listed courses, the student will be eligible to graduate with an Information Systems – Software (IS-S) Diploma.

#### Level 3 (Year 3)

<table>
<thead>
<tr>
<th>COURSE NUMBER</th>
<th>COURSE TITLE</th>
<th>HOURS/WEEK</th>
</tr>
</thead>
<tbody>
<tr>
<td>CP3320</td>
<td>Web Application Development I</td>
<td>5 3 5</td>
</tr>
<tr>
<td>CP3630</td>
<td>Web Server Management</td>
<td>3 2 3</td>
</tr>
<tr>
<td>CP4120</td>
<td>N-Tier Systems and Architecture</td>
<td>4 3 3</td>
</tr>
<tr>
<td>CP3170</td>
<td>Multimedia for the Web</td>
<td>4 3 3</td>
</tr>
<tr>
<td>CP3700</td>
<td>Web Application Architecture and Design</td>
<td>4 3 2</td>
</tr>
<tr>
<td>CP3351</td>
<td>Web Application Development II</td>
<td>5 3 5</td>
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<tr>
<td>CP4480</td>
<td>Emerging Trends in Web Development</td>
<td>3 2 2</td>
</tr>
<tr>
<td>CP3271</td>
<td>Web Security</td>
<td>3 2 2</td>
</tr>
<tr>
<td>CP3360</td>
<td>Web Application Development with ASP.NET</td>
<td>4 3 4</td>
</tr>
<tr>
<td>PR3520</td>
<td>Web Developer Capstone</td>
<td>5 3 7</td>
</tr>
</tbody>
</table>

After successful completion of the above listed courses, the student will be eligible to graduate with an Information Systems – Web Developer (IS-WD) Diploma.
Information Systems – Hardware (IS-H) (Two Year Diploma)

Program
The Information Systems – Hardware program provides students with the knowledge and skills to excel in an information-based society. The program places emphasis on training individuals to design, install and maintain personal and corporate computers and LAN/WAN computer networks and systems. It provides a strong knowledge base of local and wide area networking, Internet/Intranet connectivity and network administration, which allows students to function effectively with new industry-leading technologies. When combined with work experience, this skill set prepares students for an exciting career in information systems.

Objectives
The goal of the Information Systems – Hardware program is to develop a graduate with the ability to:
1. Apply knowledge and skills required for the design and implementation of information systems hardware infrastructure.
2. Interpret and effectively apply industry procedures and policies to information systems hardware duties.
3. Demonstrate skills in subjects that complement and support their technical training.
4. Demonstrate positive attitudes and behaviours that will enable them to become successful in the industry.

Career Opportunities
Given the current growth of the Internet, the widespread use of computers in the workplace, and the advancement of information systems technologies and mobile computing, Information Systems – Hardware graduates, may find employment with information-based businesses in both the private and public sectors. Opportunities for self-employment also exist.

Entrance Requirements
1. High school graduation certificate with the following:

<table>
<thead>
<tr>
<th>Average</th>
<th>Minimum 60%</th>
</tr>
</thead>
<tbody>
<tr>
<td>English Language</td>
<td>Academic Mathematics</td>
</tr>
<tr>
<td>(Grade 12 level)</td>
<td>(Grade 12 level)</td>
</tr>
<tr>
<td>Minimum 60%</td>
<td>Minimum 60%</td>
</tr>
</tbody>
</table>

Three additional courses at the Grade 12 level

2. The required score on the Academic English Placement (AEP) and Academic Math Placement (AMP). Students who present a valid IELTS Academic Test Report Form, received within two years, with an overall band 5.0 with no individual band score below 4.5, are exempt from taking the AEP. For score requirements on other internationally-recognized tests, such as TOEFL, contact the Registrar’s Office.

Further Studies
Graduates of the Information Systems – Hardware program may have the opportunity to transfer credits to other academic institutions.

A current list of post-secondary institutions offering admission and transfer credit to CNA-Q graduates who meet the entrance requirements is available from the Registrar’s Office or the Career Counselling and Resource Centre.

Language Proficiency Requirements:
Students entering the Information Systems – Hardware (IS-H) program must meet English language proficiency requirements by obtaining one of the following:
1. An overall score of 65 or greater on the Oxford Online Placement Test (OOPT) or a passing score from another approved internationally recognized English language test, as validated by the Registrar’s Office. Present a valid Academic IELTS exam with an overall band of 5.0 with no individual band score (reading, writing, speaking, and listening) below 4.5.
2. A valid IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, listening) below 4.5.
3. Successful completion of FL1090, a language development course.

Note: 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 11).
# Information Systems – Hardware (IS-H)

## Level 1 (Year 1)

<table>
<thead>
<tr>
<th>COURSE NUMBER</th>
<th>COURSE TITLE</th>
<th>HOURS/WEEK</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>CR</td>
</tr>
<tr>
<td>CM1400</td>
<td>Technical Report Writing I</td>
<td>3</td>
</tr>
<tr>
<td>SD1570</td>
<td>Effective Learning</td>
<td>4</td>
</tr>
<tr>
<td>EP1131</td>
<td>Business for Information Systems</td>
<td>3</td>
</tr>
<tr>
<td>CP1990</td>
<td>Computer Hardware</td>
<td>4</td>
</tr>
<tr>
<td>MA1900</td>
<td>Problem Solving for Information Technology</td>
<td>4</td>
</tr>
<tr>
<td>MC1820</td>
<td>Computer Applications</td>
<td>3</td>
</tr>
<tr>
<td>CM1401</td>
<td>Technical Report Writing II</td>
<td>3</td>
</tr>
<tr>
<td>CR1101</td>
<td>Network Foundations</td>
<td>4</td>
</tr>
<tr>
<td>CR2350</td>
<td>Intro to Systems Analysis</td>
<td>4</td>
</tr>
<tr>
<td>CP1360</td>
<td>Programming for Computer Systems and Networking</td>
<td>4</td>
</tr>
<tr>
<td>CR2510</td>
<td>Linux Server Administration I</td>
<td>3</td>
</tr>
<tr>
<td>CR1260</td>
<td>Client Service for the IT Industry</td>
<td>2</td>
</tr>
<tr>
<td>CM2200</td>
<td>Oral Communications</td>
<td>2</td>
</tr>
<tr>
<td>CR1501</td>
<td>Website Development</td>
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</table>
### Information Systems – Hardware (IS-H)

#### Level 2 (Year 2)

<table>
<thead>
<tr>
<th>COURSE NUMBER</th>
<th>COURSE TITLE</th>
<th>HOURS/WEEK</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>CR</td>
</tr>
<tr>
<td>CR2700</td>
<td>Network Operating System Administration</td>
<td>4</td>
</tr>
<tr>
<td>CR2470</td>
<td>Wireless Networks</td>
<td>4</td>
</tr>
<tr>
<td>CP2921</td>
<td>Hardware and Software Troubleshooting</td>
<td>5</td>
</tr>
<tr>
<td>PR2155</td>
<td>Project Management</td>
<td>4</td>
</tr>
<tr>
<td>CM2300</td>
<td>Report Writing</td>
<td>2</td>
</tr>
<tr>
<td>MM1950</td>
<td>Workplace Professionalism</td>
<td>3</td>
</tr>
<tr>
<td>CR2210</td>
<td>Enterprise Mail Systems</td>
<td>5</td>
</tr>
<tr>
<td>CR2440</td>
<td>Network Implementation</td>
<td>5</td>
</tr>
<tr>
<td>CR1270</td>
<td>Hardware Security</td>
<td>4</td>
</tr>
<tr>
<td>CR2950</td>
<td>Emerging Trends in IT Infrastructure</td>
<td>3</td>
</tr>
<tr>
<td>WT1160</td>
<td>Work Term</td>
<td>Pass/Fail</td>
</tr>
</tbody>
</table>

After successful completion of the above listed courses, the student will be eligible to graduate with an Information Systems – Hardware (IS-H) Diploma. Students may complete a third year to achieve an Information Systems - Network & Systems Administration Diploma.
Information Systems – Network and Systems Administration (IS-NaSA) (Three Year Diploma)

Program
The Information Systems – Network and Systems Administration program provides students with the knowledge and skills needed for a career in deployment and management of major IT infrastructure installations.

The program begins with an emphasis on computer hardware, troubleshooting and basic networking concepts. The third year of the program prepares the students to design, deploy and maintain advanced IT infrastructure projects. Students gain in-depth knowledge of LAN/WAN administration, server room management, infrastructure security tools and techniques and enterprise computing environments. A combination of technical courses and work experience prepares the student for an exciting career in network and systems administration, as consolidated in a capstone project.

Objectives
The goal of the Information Systems – Network and Systems Administration program is to develop a graduate with the ability to:
1. Design, deploy and manage information systems infrastructure.
2. Interpret and effectively apply industry policies and procedures.
3. Function as an effective member of a team.
4. Provide computer technical assistance, support and advice to customers and other users.
5. Support local-area networks (LAN), wide-area networks (WAN), network segments and Internet and intranet systems.
6. Plan, coordinate and implement the organization’s information security policy.
7. Deploy and manage a help desk environment.
8. Maintain a server room environment.

Career Opportunities
Given the current growth of the Internet, the widespread use of computers in the workplace and the advancement of information systems technologies and mobile computing, Information Systems – Network and Systems Administration graduates may find employment with information-based businesses in both the public and private sectors. Opportunities for self-employment also exist.

Entrance Requirements
1. High school graduation certificate with the following:
   - English Language (Grade 12 level) Minimum 60%
   - Academic Mathematics (Grade 12 level) Minimum 60%
   - Three additional courses at the Grade 12 level

2. The required score on the Academic English Placement (AEP) and Academic Math Placement (AMP). Students who present a valid IELTS Academic Test Report Form, received within two years, with an overall band 5.0 with no individual band score (reading, writing, speaking, listening) below 4.5, are exempt from taking the AEP. For score requirements on other internationally-recognized tests, such as TOEFL, contact the Registrar’s Office.

Note: 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 11).

Further Studies
Graduates of the Information Systems – Network and Systems Administration program may have the opportunity to transfer credits to other academic institutions.

A current list of post-secondary institutions offering admission and transfer credit to CNA-Q graduates who meet the entrance requirements is available from the Registrar’s Office or the Career Counselling and Resource Centre.

Language Proficiency Requirements:
Students entering the Information Systems – Network and Systems Administration (IS-NaSA) program must meet English language proficiency requirements by obtaining one of the following:
1. An overall score of 65 or greater on the Oxford Online Placement Test (OOPT) or a passing score from another approved internationally recognized English language test, as validated by the Registrar’s Office.
2. A valid IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, listening) below 4.5.
3. Successful completion of FL1090, a language development course.

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2. A valid IELTS Academic Test Report Form with an overall band of 5.0 with no individual band score (reading, writing, speaking, listening) below 4.5.
3. Successful completion of FL1090, a language development course.
## Information Systems – Network and Systems Administration (IS-NaSA)

### Level 1 (Year 1)

<table>
<thead>
<tr>
<th>COURSE NUMBER</th>
<th>COURSE TITLE</th>
<th>HOURS/WEEK</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>CR</td>
</tr>
<tr>
<td>CM1400</td>
<td>Technical Report Writing I</td>
<td>3</td>
</tr>
<tr>
<td>SD1570</td>
<td>Effective Learning</td>
<td>4</td>
</tr>
<tr>
<td>EP1131</td>
<td>Business for Information Systems</td>
<td>3</td>
</tr>
<tr>
<td>CP1990</td>
<td>Computer Hardware</td>
<td>4</td>
</tr>
<tr>
<td>MA1900</td>
<td>Problem Solving for Information Technology</td>
<td>4</td>
</tr>
<tr>
<td>MC1820</td>
<td>Computer Applications</td>
<td>3</td>
</tr>
<tr>
<td>CM1401</td>
<td>Technical Report Writing II</td>
<td>3</td>
</tr>
<tr>
<td>CR1101</td>
<td>Network Foundations</td>
<td>4</td>
</tr>
<tr>
<td>CR2350</td>
<td>Intro to Systems Analysis</td>
<td>4</td>
</tr>
<tr>
<td>CP1360</td>
<td>Programming for Computer Systems and Networking</td>
<td>4</td>
</tr>
<tr>
<td>CR2510</td>
<td>Linux Server Administration I</td>
<td>3</td>
</tr>
<tr>
<td>CR1260</td>
<td>Client Service for the IT Industry</td>
<td>2</td>
</tr>
<tr>
<td>CM2200</td>
<td>Oral Communications</td>
<td>2</td>
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<tr>
<td>CR1501</td>
<td>Website Development</td>
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Information Systems – Network and Systems Administration (IS-NaSA)

Level 2 (Year 2)

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</thead>
<tbody>
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<td></td>
<td></td>
<td>CR</td>
</tr>
<tr>
<td>CR2700</td>
<td>Network Operating System Administration</td>
<td>4</td>
</tr>
<tr>
<td>CR2470</td>
<td>Wireless Networks</td>
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</tr>
<tr>
<td>CP2921</td>
<td>Hardware and Software Troubleshooting</td>
<td>5</td>
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<tr>
<td>PR2155</td>
<td>Project Management</td>
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<tr>
<td>CM2300</td>
<td>Report Writing</td>
<td>2</td>
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<tr>
<td>MM1950</td>
<td>Workplace Professionalism</td>
<td>3</td>
</tr>
<tr>
<td>CR2210</td>
<td>Enterprise Mail Systems</td>
<td>5</td>
</tr>
<tr>
<td>CR2440</td>
<td>Network Implementation</td>
<td>5</td>
</tr>
<tr>
<td>CR1270</td>
<td>Hardware Security</td>
<td>4</td>
</tr>
<tr>
<td>CR2950</td>
<td>Emerging Trends in IT Infrastructure</td>
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</tr>
<tr>
<td>WT1160</td>
<td>Work Term</td>
<td>Pass/Fail</td>
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After successful completion of the above listed courses, the student will be eligible to graduate with an Information Systems – Hardware (IS-H) Diploma.
## Information Systems – Network and Systems Administration (IS-NaSA)

### Level 3 (Year 3)

<table>
<thead>
<tr>
<th>COURSE NUMBER</th>
<th>COURSE TITLE</th>
<th>HOURS/WEek</th>
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<tbody>
<tr>
<td></td>
<td></td>
<td>CR</td>
</tr>
<tr>
<td>CR3100</td>
<td>Advanced Networking I</td>
<td>4</td>
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<tr>
<td>CR3230</td>
<td>Enterprise Technology I</td>
<td>4</td>
</tr>
<tr>
<td>CR3320</td>
<td>Advanced IT Hardware</td>
<td>3</td>
</tr>
<tr>
<td>CR3420</td>
<td>Infrastructure Security</td>
<td>4</td>
</tr>
<tr>
<td>CR3450</td>
<td>Scripting</td>
<td>2</td>
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<tr>
<td>CR3101</td>
<td>Advanced Networking II</td>
<td>4</td>
</tr>
<tr>
<td>CR3231</td>
<td>Enterprise Technology II</td>
<td>4</td>
</tr>
<tr>
<td>CP4490</td>
<td>Emerging Trends in Network and Systems Administration</td>
<td>3</td>
</tr>
<tr>
<td>CR3160</td>
<td>IT Service Management</td>
<td>4</td>
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<tr>
<td>Elective</td>
<td>(minimum 3 credits)</td>
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<tr>
<td>PR3530</td>
<td>Network and Systems Administration Capstone</td>
<td>6</td>
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</tbody>
</table>

After successful completion of the above listed courses, the student will be eligible to graduate with an Information Systems – Network and Systems Administration (IS-NaSA) Diploma.
Course Descriptions

AC1100 BOOKKEEPING I
Bookkeeping I is a study of the fundamental principles and mechanics of bookkeeping, including the recording, classifying and summarizing of financial data for a service business. The course also includes the control of cash and petty cash, banking procedures and completing the accounting cycle. This course emphasizes the national accounting standards (private enterprise Generally Accepted Accounting Principles – GAAP).

AC1260 FINANCIAL ACCOUNTING I
This course introduces the student to accounting concepts, including: the basics of the double-entry accounting system including adjusting entries; financial statement preparation; accounting for payroll; accounting for a merchandising company; and the basics of internal control of cash. This course emphasizes the national accounting standards (private enterprise GAAP).

AC2100 BOOKKEEPING II
Prerequisites: AC1100
Bookkeeping II involves the application of accounts receivable and accounts payable and the study and application of the generally accepted accounting principles within merchandising firms. The course involves using special journals, end-of-the-year adjustments for depreciation, accruals, bad debts, closing entries, financial statements and payroll. This course emphasizes the national accounting standards (private enterprise GAAP).

AC2220 INTERMEDIATE FINANCIAL ACCOUNTING I
Prerequisites: AC2260, MC1242
This course builds on the knowledge obtained in Financial Accounting I and II. Its focus is on the asset side of the balance sheet, providing an in-depth study of current assets, property, plant and equipment and intangible assets. The recognition and measurement of revenues and expenses are also covered.

AC2230 COMPUTERIZED ACCOUNTING I
Prerequisites: AC1260 or AC2100
This course introduces the student to the elements of integrated computerized financial accounting software (such as Simply Accounting by Sage or SAP). The student will explore integrated software systems, general ledger, payables, receivables, payroll and inventory. The student will have the opportunity to apply the skills through various applications.

AC2231 COMPUTERIZED ACCOUNTING II
Prerequisites: AC2230
This course completes the study of computerized accounting systems started in AC2230 Computerized Accounting I. The student will learn how to use computerized accounting software to: perform bank reconciliation, enter foreign currency transactions and perform project allocations, budgeting, departmental accounting, timing and billing. Furthermore, the student will learn to use spreadsheets for analyzing, planning and decision making for intermediate accounting and managerial accounting content through the use of comprehensive case studies and simulations.

AC2250 MANAGERIAL ACCOUNTING I
Prerequisites: AC2260, MC1242
This course provides the student with knowledge in accounting techniques required by management for planning and control, decision making, performance evaluation and preparation of internal reports.

AC2260 FINANCIAL ACCOUNTING II
Prerequisites: AC1260
This course introduces the student to the principles and procedures needed to account for long-term assets (including capital assets, intangible assets and investments), liabilities and equities and to the concepts of financial reporting and decision making for both partnerships and corporations. In this course the student will explore property, plant, equipment and intangibles; current and long-term liabilities; partnership accounting; corporate organization, transactions and reporting; bonds as liabilities and investments; equity investments; statement of cash flows; and analyzing financial statements. This course emphasizes the national accounting standards (private enterprise GAAP).

AC2340 PRINCIPLES OF AUDITING
Prerequisites: AC3220
This course provides an introduction to auditing for accounting students who do not have significant auditing or accounting experience. The course is a practical guide to both auditing theory and practice.

AC2360 PRINCIPLES OF INTERNAL AUDITING
Prerequisites: AC2220
Co-Requisites: AC3220
This course provides an introduction to auditing for accounting students who do not have significant auditing or accounting experience. The course is a practical guide to both auditing theory and practice. The course will introduce students to the practice of internal audit and the auditor's decision-making process.

AC2370 PRINCIPLES OF TAXATION
Prerequisites: AC2260, FN1140
This course provides students with an introduction to taxation. It focuses on the theory behind taxation rather than the practical application so that students gain an understanding of how and why taxes exist. By taking this course, the students will recognize the major tax issues inherent in business and financial transactions. The main focus will be on corporate taxation and corporate tax planning, especially in an international environment. Additional topics such as individual taxation, Value-Added Taxes (VAT) and custom duties will be covered in a depth relative to their presence in the local tax environment.
Course Descriptions

AC2540 OIL AND GAS PRODUCTION ACCOUNTING
Prerequisites: AC2260
This course provides students with an overview of the development of the oil and gas industry, from inception to modern practices and from the reservoir to refining and the role which the production accountant plays in accounting for oil and gas. This will enable students to understand and communicate effectively with professionals in the oil and gas industry and to understand and apply the accounting concepts.

AC2600 MANAGERIAL ACCOUNTING FOR HUMAN RESOURCE MANAGERS
Prerequisites: AC2260
This course introduces the student to the accounting techniques needed by management for planning and control, decision making, performance evaluation and preparation of internal reports. The student will explore basic concepts of managerial accounting; departmental, project and program cost allocation; budgeting and control; control through standard costs; flexible budgets and overhead analysis; control of decentralized operations; and pricing of products and services. The student will have the opportunity to apply their skills through practical learning.

AC3220 INTERMEDIATE FINANCIAL ACCOUNTING II
Prerequisites: AC2220
This course is a continuation of the study of the principles and procedures covered in the previous semester of Intermediate Financial Accounting. The contents present an in-depth study of the liabilities and owner’s equity side of the Statement of Financial Position; there is also an in-depth study of the Statement of Cash Flows.

AC3250 MANAGERIAL ACCOUNTING II
Prerequisites: AC2250
This course builds on the knowledge gained in Managerial Accounting I by having the student apply their previous knowledge of cost behaviour to specialized areas of cost and management accounting including budgeting, standard costing, relevant cost analysis, pricing of products and services and capital budgeting.

AC3251 MANAGERIAL ACCOUNTING III
Prerequisites: AC3250
Managerial accounting involves the internal generation, communication and interpretation of information for both operational and strategic decision-making purposes. This course is designed to provide the student with knowledge in accounting techniques required by management for planning and control, decision making, performance evaluation and preparation of internal reports. Increased focus on how modern cost management and cost performance measurement techniques can be used in the strategic function of business. Critical thinking and a strategic approach to cost accounting are now given greater prominence alongside the technical coverage.

AE1260 POWER ELECTRONICS
This course introduces the student to solid state electronics for industrial power supplies and on/off control of high current devices.

AE2340 ANALOG ELECTRONICS I
Prerequisites: ET1131
This course includes the description, operation and application of simple electronic components with particular emphasis on semiconductor theory. Analysis techniques involving diode equivalent circuits will be introduced and expanded to bipolar transistor DC biasing and amplifier systems.

AE2370 ANALOG ELECTRONICS II
Prerequisites: AE2340
This course provides a study of analog applications of advanced transistor circuits and operational amplifiers, with emphasis on circuit analysis, applications, circuit simulation and troubleshooting. Also included is a study of IC power supply linear and switching regulators, as well as thyristors and representative power control circuits.

BK1100 BANKING OPERATIONS I
This course familiarizes students with the main principles and guidelines that characterize the banking industry and then provide them with a basic understanding of the operations and transactions conducted in a bank setting.

BL1010 BIOLOGY FOR PRE-HEALTH SCIENCES
This course introduces the student to the principles of human biology. The major topics include the cell, genetics and human systems.

BL1011 BIOLOGY FOR PRE-HEALTH SCIENCES
Prerequisites: BL1010
This course introduces the student to the principles of human biology. The major topics include systems of the human body.

BL1131 MICROBIOLOGY
This microbiology course introduces students to the classification of microorganisms, bacterial control mechanisms. The lab component will address the preparation and analysis of various tests to identify and enumerate microbes. Students will also learn about the proliferation of microorganisms in the environment and their role as infectious agents.

BL1180 ANATOMY AND PHYSIOLOGY
This course enables students to acquire a comprehensive knowledge of gross anatomy and physiology of the major systems of the human body. In addition, students will be instructed on the general principles of pathophysiology to facilitate understanding of the body’s reaction to trauma and illness.
Course Descriptions

BL1200 BIOLOGY
Prerequisites: CH1011 or equivalent
This is an introductory biology course designed to develop scientific literacy, and prepare students for entry into Health Sciences programs. The course focuses on the fundamental concepts of biology, and provides an introduction to the study of human systems with particular emphasis on the skeletal and nervous systems.

BL1210 BIOLOGY II
Prerequisites: BL1200
BL1210 is a continuation of BL1200. Its emphasis is on the anatomy and physiology of the following human systems: integumentary, the sensory organs, endocrine, lymphatic, urinary, reproductive, digestive, respiratory and cardiovascular systems.

BL1500 BIOLOGY
This is an introductory biology course, with emphasis being placed on the following: a study of the cell, its structure and function; a comparison between animal and plant cells; a brief study of selected organisms of the Protista kingdom and a comparison between eukaryotes and prokaryotes; a study of DNA and RNA and protein synthesis; an introductory study of gene regulation in prokaryotes and eukaryotes; the principles of heredity; an introductory study of biotechnology; a study of tissues; an introduction to anatomical and medical terminology; and a study of the skeletal system.

BL1501 BIOLOGY
Prerequisites: BL1500
This is a course in human anatomy and physiology, with emphasis being placed on the following systems: cardiovascular, lymphatic, respiratory, endocrine, nervous and sensory organs and related medical terminology.

BL2100 BIOLOGY
Prerequisites: BL1501
This is a continuation of the second semester anatomy and physiology course with emphasis on the following systems: digestive, urinary and reproductive and related medical terminology.

BL2410 RT MICROBIOLOGY
Prerequisites: Successful completion of Semester 1 (Qatar)
An introductory course covering the basic aspects of microbiology, with emphasis on the role of microorganisms in disease and methods of control utilized in respiratory care.

CE1210 BASIC COMMUNICATIONS NETWORKS I
This course introduces students to the concept of networking using a top-down approach. Throughout this course students will examine the role and operation of networks including applications, protocols, devices and media. Students will also be introduced to wireless networks. This course provides the learner with significant practical experience in networking. Upon completion of this course, the learner should have a reasonable understanding of topics such as how Local Area Networks function, the role of IP addressing and how data is reliably transported between hosts across the Internet. Students will be expected to construct a simple network and apply appropriate IP addresses and to configure connectivity between a wireless LAN client and a wireless access point.

CE1220 BASIC NETWORKS
This course introduces students to the concept of networking using a top-down approach. Throughout this course students will examine the role and operation of networks including applications, protocols, devices, and media. Students will also be introduced to wireless networks. This course provides the student with significant practical experience in networking. Students will be expected to construct a simple network and apply appropriate IP addresses and to configure connectivity between a wireless LAN client and a wireless access point.

CE1230 - TROUBLESHOOTING COMM SYSTEMS
Prerequisites: CE2220, AE2340
Troubleshooting is as much an art as a science, however the application of sound analysis methodology greatly improves troubleshooting productivity. Fixed procedures are important in dealing with complex processes. Procedures, flowcharts, and checklists are all methods for attacking problems in more or less standard ways. At the end of this course, the student will be able to:
1. Create a meaningful procedure which encapsulates general failure analysis techniques
2. Analyze a communications system and propose corrective action for major failure modes

CE2220 ANALOG COMMUNICATIONS
Prerequisites: MA1101
Co-Requisites: AE2320 or AC2340
This is an intermediate-level electronics course designed to provide students with an introduction to the signals and processes of analog communications.

CE2310 - TELECOM NETWORKS OVERVIEW
Prerequisites: AE2340
Co-Requisites: CE3381
This course is designed to provide a detailed understanding of the design and technologies used by telecommunication service providers to deliver voice and data services. Emphasis is placed on the currently deployed switching, transmission and signalling systems technologies. Specific topics include the architecture of the Public Switched Telephone Network (PSTN) and the use of this network construct to provide data services. Technology emphasis is on Local Loop, Digital Switch Network including the ITU-T E.164 international public telecommunication numbering plan, Integrated Services Digital Network (ISDN), Time Division Multiplexing (TDM), Frame Relay (FR), Asynchronous Transfer Mode (ATM), and Synchronous Optical Networking (SONET). The roadmap to evolve these facilities in support of mobile and Internet Protocol services will be explained.
Course Descriptions

CE2720 RF TRANSMISSION AND ANTENNAS
Prerequisites: MA1101, ET1131
This course provides a comprehensive study of the basic principles of electromagnetic wave propagation as they are applied to transmission lines, waveguides and antennas, with applications in wired and wireless communications systems.

CE3120 IP NETWORK SECURITY
Prerequisites: CE3220
This course emphasizes the practical application of skills needed to design, implement, and support network security. Students develop an in-depth, theoretical understanding of network security principles as well as the tools and configurations available. Hands-on labs help students develop critical thinking and complex problem-solving skills. Simulation-based learning activities promote the exploration of network security concepts and allow students to experiment with network behavior and ask “what if” questions. Innovative assessments provide immediate feedback to support the evaluation of knowledge and acquired skills.

CE3150 - MICROWAVE AND RF SYSTEMS
Prerequisites: CE2220, CE2720
This is an advanced electronic communications course. It provides a solid background for understanding and analyzing the modern communications systems.

CE3220 - WANS AND SP OPERATIONS
Prerequisites: CE3381
This course provides the learner with an understanding of Wide Area Networks (WANs) and Service Provider (SP) Operations. In this course learners will complete their studies of Internet Protocol (IP) networking and examine the relationship between IP traffic and the carrier networks that transport data. Learners will gain practical experience with SP Operations such as network management and provisioning WAN services.

CE3371 SWITCHING AND ROUTING
Prerequisites: CE1210 or CE1220
This course continues the student’s education in IP-based communications. In this course the learner will explore concepts in LAN design, the operation and configuration of LAN switches, virtual Local Area Networks (VLANs), IP routing, and LAN security.

CE3381 ADVANCED ROUTING AND SWITCHING
Prerequisites: CE3371
This course continues the student’s education in Internet Protocol (IP)-based communications with the concept of growing an IP network. In this course the student will be introduced to LAN redundancy, link aggregation, wireless LANs, and advanced routing concepts.

CE3430 NETWORK CABLING
Prerequisites: CE1210
This course will provide the learner with the necessary skills to design and implement high performance cabling systems. The performance level of the system determines the type of cabling and hardware to be used, the rules to be followed and the type of testing and documentation required to certify performance and troubleshoot the installation. This course focuses on the physical layer of the OSI Network Model and includes the electrical and mechanical aspects of interfacing to the transmission medium and the impact on performance they may have. This includes analysis of copper cabling, fibre optics, connectors and interconnection hardware, electrical code requirements for installation, performance certification, and documentation best practices.

CE3640 UNIFIED COMMUNICATIONS (VoIP)
Prerequisites: CE2310, CE3220
This course provides students with an understanding of unified communications topics such as Voice over Internet Protocol (VoIP). Topics include unified communications components and technologies, PSTN architecture, VoIP, protocols and signalling and unified communications deployment. Upon completion of this course, students may choose to pursue professional certification such as CCNA Voice.

CF1120 MATERIALS AND PROCESSES
Prerequisites: CF1100 or CF1160
The purpose of this course is to familiarize the student with production and fabrication processes and practices used in the industrial environments. A continuation of CF1100-Materials and Processes, this course will give an overview of non-metal materials used in engineering processes and an understanding of surface treatments, coatings and corrosion. Manufacturing processes include metal removal, joining processes and casting processes.

CF1160 MATERIALS PRACTICES
Prerequisites: CH1120
This introductory course characterises industrial materials, with an emphasis on metals. Students will have opportunity to handle samples of different materials and to conduct tests which highlight material characteristics. The emphasis in this course is to ensure students understand why specific materials are considered for industrial application.

CF2240 MECHANICS OF SOLIDS
Prerequisites: FM2160, CF1100 or CF1120 (in Qatar)
This is a course in the mechanics of solids. Of principal concern is the deformation of materials under applied loads and the associated stress distributions. Emphasis will be placed on elementary strength of materials theory with the associated approximations. This course provides a basis for machine element design and structural analysis.

CF3200 MATERIALS AND CORROSION
Prerequisites: CH1121
This course will introduce learners to the physical and mechanical properties of materials commonly used in the chemical processing industries. It will examine the factors that promote the corrosion of these materials when used in industrial processes. Learners will also examine a variety of means of controlling and monitoring corrosion and corrosion processes in chemical industries.
Course Descriptions

CH1010 PREPARATORY CHEMISTRY I
Co-Prerequisites: MA1025
Preparatory Chemistry I is a laboratory course designed to develop knowledge and understanding of the fundamental concepts of chemistry. Topics include models of the atom, the periodic table, naming of compounds, balancing chemical equations and mole calculations.

CH1011 PREPARATORY CHEMISTRY II
Prerequisites: CH1010
This course further develops the fundamental concepts of chemistry, with emphasis on the reactions that can occur from the start of drilling through to enhanced recovery and work overs in the oil and gas sector.

CH1070 APPLIED PETROLEUM CHEMISTRY
Prerequisites: CH1120
This course further develops the fundamental concepts of chemistry, which will form the basis for further studies in science and technology.

CH1120 CHEMISTRY
Prerequisites: CH1120
This course further develops the fundamental concepts of chemistry, with emphasis on those relevant to chemical processing students.

CH1200 CHEMISTRY
Prerequisites: CH1200
This is a continuation of CH1200. Major topics include: the gas laws, oxidation-reduction, electrochemistry, chemical nomenclature, chemical kinetics, nuclear chemistry and chemical equilibrium. The quantitative aspects of chemistry are stressed.

CH1201 CHEMISTRY
Prerequisites: CH1200
This is a continuation of CH1200. Major topics include: the gas laws, oxidation-reduction, electrochemistry, chemical nomenclature, chemical kinetics, nuclear chemistry and chemical equilibrium. The quantitative aspects of chemistry are stressed.

CH1210 CHEMISTRY II
Prerequisites: CH1200
This course is designed as a continuation of CH1200. Major topics include: the gas laws, chemical kinetics, equilibrium, acid-base chemistry and as well as introductions to organic, descriptive chemistry.

CH2200 CHEMISTRY
Prerequisites: CH1201
This is a continuation of the second semester course. Major topics include: the gas laws, chemical kinetics, equilibrium, acid-base chemistry and as well as introductions to organic, descriptive chemistry.

CH2380 ORGANIC CHEMISTRY II
Prerequisites: CH2371
This course extends fundamental principles of organic chemistry covered in Organic Chemistry I, focusing on organic compounds common to the petrochemical industry. The student will study the chemistry of several major classes of organic compounds including organic halides, amines, aldehydes, ketones, carboxylic acids, esters, amides, acid halides and acid anhydrides.

CH2410 INDUSTRIAL CHEMISTRY
Prerequisites: CH1120, CH2371
This course introduces students to local chemical industries. The course will focus on the chemical processes used to produce or refine the products local industries export to the world. Field trips to local companies may be included as part of the course. Students will complete a detailed case study of one local company.

CH2420 APPLIED HYDROCARBON CHEMISTRY
Prerequisites: CH1121
This organic chemistry course is designed to give chemical processing students an overview of the fundamental chemical concepts of organic products and derivatives which are prominent in the hydrocarbon processing industry.

CH2430 INDUSTRIAL PROCESS OVERVIEW
Prerequisites: CH2430 or CH1200
This course introduces students to chemical industries on a global level while also focusing more specifically on local industries. An overview of natural gas and petroleum processing will be provided, followed by coverage of polymers and petrochemicals, fertilizers, steel, aluminum and material balances.

CH2770 ENVIRONMENTAL CHEMISTRY
Prerequisites: CH1120 or CH1200
This is an introductory course in Environmental Chemistry. Major topics are the study of basic environmental chemistry, water chemistry, atmospheric chemistry as well as waste and waste management and its relationship to the environment. The laboratory component focuses on field and sampling techniques.

CH3100 CHEMISTRY FOR PROCESS ANALYZERS
Prerequisites: CH1120 or CH1200
This course provides students with knowledge and understanding of the fundamental chemical concepts that will form the basis for further studies of process analyzers.

CI1140 INTRODUCTION TO ELECTRICAL AND INSTRUMENTATION TECHNOLOGY
Prerequisites: CH1120 or CH1200
This is a hands-on course that enables students to read existing electrical and instrumentation drawings so they can identify the physical components within the College. This course provides an overview of electrical distribution utilizing the one-line and connection diagrams for the College’s distribution system and for a motor control center. For electrical control the As Built drawings for the pilot plant will be used. For the instrumentation section of the course participants will use the P&IDs, PFDs and loop drawings for the various processes in the College to identify the physical locations of the various components in the process.
Course Descriptions

CI1180 BASIC INSTRUMENTATION
Prerequisites: ET1135
This course provides a comprehensive treatment of sensors and methods of measuring automated process variables. The student will be introduced to the underlying concepts and operation of industrial measurement devices and control systems. Piping and instrument Diagrams (P&IDs) are covered along with pressure, level, flow and temperature measurements.

CI1310 ELECTRICAL/ELECTRONIC FABRICATION TECHNIQUES
Prerequisites: ET1131
This is a practical electrical/electronics course for students entering the primary electrical/electronics technical intersession. This course enables the student to obtain practical knowledge in soldering, wiring, fabrication and proper use of test equipment as related to accepted procedures found in industry.

CI1350 BASIC PROCESS AUTOMATION
In this course the participants will run existing process to determine the types of the devices used to measure level, flow and other parameters within a plant and how the final control elements interact with the automation control system.

CI2100 PRESSURE AND LEVEL MEASUREMENT AND CONTROL
Prerequisites: CI1350
This is the second core instrumentation course designed to reinforce the basic instrumentation concepts previously covered. The various types of transmitters used to measure pressure and level will be covered in detail. The control section of the course will show how the transmitters are used in a control loop.

CI2120 FINAL CONTROL ELEMENTS AND INSTRUMENT AIR SYSTEMS
Prerequisites: CI1350
This course focuses on the various types of valves and damper operators as well as the auxiliary devices used to position and supply power to the actuator. The final section of the course covers how instrument air is produced for an industrial plant.

CI2230 FLOW AND TEMPERATURE MEASUREMENT AND CONTROL
Prerequisites: CI2100
This course develops further understanding of types of control strategies and introduces students to the principles and operation of flow and temperature control systems, with an introduction to cascade and feed forward control systems.

CI2300 ADVANCED CONTROL STRATEGIES
Prerequisites: CI2230
This course covers advanced proportional-integral-derivative (PID) control strategies with an emphasis on boiler control.

CI3110 SAFETY SHUTDOWN AND MACHINE MONITORING SYSTEMS
Prerequisites: CI2300
This course covers basic shutdown systems on boilers and then covers the safety shutdown systems found in the oil and gas industry. The course also introduces software that can be used for process and optimization.

CI3160 INTRODUCTION TO PROCESS ANALYSIS
Prerequisites: CH3100
This course introduces the student to process analysis. Methods of calibration and applications of statistical methods (mean, standard deviation, control charts, t-tests and linear regression analysis) will be applied to measurements. Electrochemical principles will be applied to the study of conductivity, oxidation reduction potential (ORP), pH and other electrochemical analyzers. The course also introduces students to the use of statistics in monitoring quality control in industrial processes. The course reviews electrochemical principles as they apply to corrosion and corrosion control in industry. The student will learn how control of industrial processes by electrochemical methods is accomplished.

CI3200 STATISTICAL PROCESS CONTROL
Prerequisites: MA1101
This course introduces learners to statistics concepts necessary for working in the chemical processing industry. Quality and statistical process control, probability and normal distribution, and control charts are examined to enable learners to grasp how processes are controlled and improved in the field. Inferential statistics, as applied to chemical processing, is also studied.

CI3230 ADVANCED PROCESS CONTROL APPLICATIONS
Prerequisites: CI2300
The purpose of this course is to provide students with the advanced knowledge of process control applications that will allow them to maximize process unit productivity, while minimizing operation costs.

CI3310 PROCESS OPTIMIZATION AND ASSET MANAGEMENT
Prerequisites: CI3230
This course uses software tools to evaluate process loop characteristics and determine the best strategies for optimizing the control loop and determining interactions within the process that negatively impact control strategies. Asset management tools can improve maintenance and calibration documentation and provide a preventive maintenance tool for troubleshooting process equipment.

CI3320 FOUNDATION FIELDBUS
Prerequisites: DP2360
This course provides the student with an understanding of Foundation Fieldbus technology and how to apply this technology in the plant.

CI3330 PROCESS ANALYZERS
Prerequisites: CI3160
This course provides basic instrumentation techniques for chemical analysis in the chemical process industries, including analytical equipment in a process laboratory setting using on-line equipment. Techniques covered include gas and liquid chromatography and mass spectrometry.
Course Descriptions

CL2000 CHEMICAL REACTION ENGINEERING
Prerequisites: CH1121, PO2200, PO2420
This course introduces students to chemical reaction kinetics and chemical reactors which are fundamental to many chemical processes. A variety of chemical reactors will be examined and there will be an in-depth study of batch and continuously stirred tank reactors. Simulation and laboratory work will be used to teach students the fundamentals of safe and correct start-up, shut-down, control and troubleshooting of reactors.

CM1100 WRITING ESSENTIALS
Writing Fundamentals is an introductory course designed to review writing fundamentals including grammar, punctuation, spelling and usage. Students will apply principles of writing in sentence and paragraph construction.

CM1190 TECHNICAL READING
This course focuses on reading to learn via technical. The readings will be geared to interpreting and analyzing technical information and data. It develops reading skills with emphasis on vocabulary development, contextual clues, and through the building of strategies to use to find meaningful information within technical documents.

CM1240 BUSINESS COMMUNICATIONS I
Business Communications I introduces students to the writing requirements of business environments. The course provides ample in-class opportunities to review writing fundamentals and improve writing skills using common business applications.

CM1241 BUSINESS COMMUNICATIONS II
Prerequisites: CM1240
Business Communications II furthers students’ knowledge and competence in preparing business documents for the workplace. The course is intended to provide opportunities to improve writing skills using various business applications.

CM1250 COMMUNICATION IN THE WORKPLACE
This course provides students with essential workplace communication skills. Topics covered include the communication process, effective writing, business correspondence, informal reports, oral presentations and job search techniques.

CM1260 COMMUNICATIONS IN HEALTH CARE
This course enables 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 health care professionals, clients and families.

CM1270 COMMUNICATIONS IN HEALTH CARE
This course enables the student 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 health care professionals, clients and families.

CM1400 TECHNICAL REPORT WRITING I
This course teaches technology students the fundamentals of technical reporting. Emphasis is on strategies of technical reporting, research techniques and organizational skills.

CM1401 TECHNICAL REPORT WRITING II
Prerequisites: CM1400
This course helps students formulate criteria for structuring informal and semi-formal reports. Various report formats will be examined with emphasis on statistical data analysis, documentation and illustration methods. Oral reporting techniques will be enhanced through problem-solving reports and the technical sales presentation.

CM2180 TECHNICAL REPORTING I
Prerequisites: CM1260
This course is designed to teach students the fundamentals of technical reporting in both oral and written forms. Emphasis is on types of reports based on purpose, appropriate formats, strategies of technical reporting, maintaining work records, and the writing and editing process. The knowledge gained lead to effective workplace communication.

CM2181 TECHNICAL REPORTING II
Prerequisites: CM2180
This course is designed to help students structure a semi-formal report, using solid research methods for a problem-based topic. Emphasis will be on secondary research: finding sources, summarizing source material, evaluation of material, and maintaining work records/research portfolios. Students will also acquire the skills of analyzing and editing written work and adapting a report for oral presentation.

CM2200 ORAL COMMUNICATIONS
In this course, students will develop interpersonal, oral communication, and presentation skills in a team-based environment.

CM2300 REPORT WRITING
This course stresses skill development in planning, researching and documenting, preparing graphic aids, proofreading and editing and completing formal reports.

CM2800 ORAL WRITTEN COMMUNICATION SKILLS
Prerequisites: CM1401, CM2181
This course provides students with instruction in the areas of writing technical reports and the delivery of oral presentations. Emphasis will be placed on the processes involved in effective writing and effective presentations as they pertain to specific technologies. Students will learn relevant skills for researching, organizing, writing and presenting technical information.
Course Descriptions

**CP1360 PROGRAMMING FOR COMPUTER SYSTEMS AND NETWORKING**
This course is designed to give the student the logic involved in the computing process and the ability to develop algorithms to describe the solution to a given problem, with implementation using a scripting language. This course uses object-oriented technologies to aid the student in developing solutions to computer support related problems. The intent of this course is for the student to become familiar with object-oriented techniques and programming logic and to practice that logic using a scripting language.

**CP1810 FUNDAMENTAL PROGRAMMING CONSTRUCTS**
Prerequisites: CP1360, MA1900
This course will introduce the student to skills and concepts that are essential to good programming practice and problem solving. The course will focus on programming structures and concepts which are common to conventional programming languages (such as C) and object-oriented languages (Java, C++, Python, etc.). Topics will include, but not be limited to: Basic syntax and semantics of programming languages, variables, primitive types, sequential, decision and iterative programming structures, simple I/O, functions and subroutines, structured decomposition, strings and arrays. Ideally, this course could be taught using a scripting language.

**CP1880 COMPUTER SYSTEMS ARCHITECTURE**
This is an introductory course in computer architecture focusing on the high level components and interconnections in a computer system. The major topics to be covered are: CPU organization, primary memory, secondary memory, I/O components and networking. The focus of the course will be the effect of the components on the development of software.

**CP1932 SYSTEMS ANALYSIS**
Co-Requisites: CP1810
This course is intended to introduce students to the concepts of systems analysis using both the traditional and object-oriented methodology. Its emphasis is on the methods and products of each phase of the SDLC rather than on a formalized methodology. Discussion of structured and Object-Oriented methods is interwoven. All phases of the life cycle are dealt with, with the emphasis on an object-oriented approach using UML. This course covers the topics: Data Models, the Relational Database Model, E-R Modeling and Relational and Foreign Key concepts.

**CP1953 OBJECT ORIENTED SYSTEMS ANALYSIS WITH UML**
Prerequisites: CP1932, CP1810
This course is a continuation of the Introduction to Systems Design course with the introduction of more extensive object-oriented concepts. The focus of this is to provide the student with a practical, hands-on skill set of the latest object-oriented design method using Unified Modeling Language (UML) and the Unified Process, with an introduction to Normalization of Database Tables and Advanced Data Modelling. The course is laboratory oriented allowing the student to develop real designs for use with Object Oriented and traditional programming languages.

**CP1990 COMPUTER HARDWARE**
This course is designed to expose the students to the basic components of a computer system. It will teach the student how to evaluate, install, configure and specify all basic computer components such as CPU, Memory, Hard and Floppy Drives. It will also cover such topics as Operating Systems, CPU theory and expansion slots, disk caching, memory management and printers.

**CP2310 ELECTRONIC SPREADSHEET APPLICATIONS**
This course will introduce students to the concepts and applications of electronic spreadsheets. Students will create, format and print enhanced worksheets and graphs and will incorporate functions and macros into their spreadsheets. They will also use database features to manipulate data.

**CP2410 MICRO DATABASE APPLICATIONS**
This course introduces the student to the concepts and applications of database. Students will create, modify and update a database as well as database forms and reports for use in a business environment. They will also perform database functions and use database commands.

**CP2640 DESKTOP PUBLISHING**
Prerequisites: DM1200 or MC1240
Using desktop publishing software, students will prepare newsletters, flyers and other publications which require professional design elements such as columns, boxes, tables, various font faces and styles, rules and graphic pictures. Using web design software, students will create and modify a multiple page website for use in a business environment.

**CP2870 WEBSITE AND DATABASE PROJECT USING MICROSOFT TECHNOLOGY**
Prerequisites: PR2155, CP1932, CR1501
Co-Requisites: CP3231, CP3300
This course will introduce the intermediate-level programmer to an ASP.NET language, developing business applications that rely on the browser as user interface and SQL Server database interaction and connectivity. It will culminate in a sizeable project involving a professional and user-friendly front-end and an SQL Server database back-end.

**CP2921 HARDWARE AND SOFTWARE TROUBLESHOOTING**
Prerequisites: CR1101, CP1990
This course is designed to further expose the students to the basic components of a computer system. It will teach the students how to construct/configure and troubleshoot PC hardware and software. Instructors will distribute assignments using a helpdesk system in order to acquaint the student with ticketing, documenting and prioritizing multiple hardware/software issues.
Course Descriptions

CP3170 MULTIMEDIA FOR THE WEB
Co-Requisites: CP3320
This course introduces students to the basic concepts and techniques used in multimedia systems, media formats, communication of multimedia and the publication of multimedia-filled websites. This course encourages students to be creative and original when developing their work. At the end of the course, students will have a professional portfolio of multimedia and a client website.

CP3230 OBJECT ORIENTED AND EVENT-DRIVEN PROGRAMMING I
Prerequisites: CP1810
Co-Requisites: CP1953
This course is designed to teach the student the fundamentals of Object based and Object Oriented programming in an Object Oriented language such as Java, C# or Visual Basic. Students will be shown how to write event-driven Object based programs using the GUI widget libraries of the language. The students will be shown how to write object oriented programs using inheritance and polymorphism that conform to the open-closed principle of software engineering. Topics include, but are not limited to, Object based programming, Object-oriented design, classes, composition, inheritance and polymorphism.

CP3231 OBJECT ORIENTED AND EVENT-DRIVEN PROGRAMMING II
Prerequisites: CP3230
Co-Requisites: CP2870
This course is designed to teach the student intermediate-level concepts of Object based and Object oriented programming in an Object oriented language. The students will write Object oriented programs using inheritance and polymorphism that conform to the open-closed principle of software engineering. Topics include, but are not limited to, exception handling, file input/output, advanced graphical user interface concepts, interfaces, polymorphism, database connectivity and collections.

CP3271 WEB SECURITY
Prerequisites: CP3630
This course introduces students to network and website security considerations to deploy secure websites including security policy, secure remote access, common web vulnerabilities, exploit counter-measures and creating and testing secure web sites.

CP3300 DATA STRUCTURES
Prerequisites: CP3230
Co-Requisites: CP3231
This course is designed to expose the student to the basic methods of structuring data in programs. The basic theory of the data structures will be presented as well as algorithms which can be used to create static and dynamic implementations. Common applications of each data structure will be discussed. The standard collections will be discussed relating the collection classes back to the fundamental data structures. Topics include, but are not limited to: searching and sorting, lists, stacks, queues, trees and collections.

CP3320 WEB APPLICATION DEVELOPMENT I
Prerequisites: CP3300, CP2870
Co-Requisites: CP4120
This course introduces students to Model-View-Controller (MVC) website development. Students will be able to create interactive and dynamic MVC websites. At the end of the course, students will be able to design and implement simple three-tier web MVC websites.

CP3351 WEB APPLICATION DEVELOPMENT II
Prerequisites: CP3320
This course introduces students to multi-tier web application development. The focus is on developing web applications with distinct presentation, application and storage tiers through project-based course work. The course will build upon user interface and database development concepts learned in previous courses and how to add business logic to the application tier for large scale application development.

CP3360 WEB APPLICATION DEVELOPMENT WITH ASP.NET
Prerequisites: CP3320
Co-Requisites: CP3351
This course introduces students to multi-tier web application development using ASP.NET. The focus is on developing web applications with distinct presentation, application and storage tiers through project-based course work. The course will build upon user interface and database development concepts learned in previous courses and how to add business logic to the application tier for large scale application development.

CP3450 DATABASE DESIGN AND IMPLEMENTATION
Prerequisites: CP1953
This course introduces students to methods used in the logical and physical design of a database. As well, the students will be introduced to SQL as a language for manipulating a database. The PL/SQL language will be used to create a programming project. Also tools like iSQLPlus, SQL Developer, etc. will be examined so the student is familiar with many programming interfaces. The student will first install several different levels of databases on different operating systems. Finally, the students will be exposed to the techniques used to manipulate a database from a program.

CP3630 WEB SERVER MANAGEMENT
This course uses a hands-on approach to web server management using Microsoft Internet Information Server and Apache Web Server. Topics covered include installation procedures, configuration of virtual hosts and redirects, web server hardening and E-Commerce security considerations and web server administration.
Course Descriptions

CP3700 WEB APPLICATION ARCHITECTURE AND DESIGN
Prerequisites: CP3320
This course is an advanced study of the architecture of web applications and common design issues. Students will gain an understanding of the different components that make up a web application with a multi-tier flavour, the purpose of each component and how the components interact. This course introduces students to theory and rationale behind 1 to n-tier infrastructure, common design patterns and frameworks. As well, the students will be introduced to a Rapid Application Development Tool and will be exposed to the architecture and design of leading edge web applications. Finally, students will design their own web application given a case study and will need to justify their design decisions in the form of a final report and UML diagrams.

CP4120 N-TIER SYSTEMS AND ARCHITECTURE
Prerequisites: CP3450, CP3300
Co-Prerequisites: CP3320
This is a course in theory and application of n-tier concepts using current, industry-leading software.
This course enables the student to develop efficient n-tier systems. Students learn about n-tier theory and put it to practice using current industry-leading products to create and link the front-end (client) and back-end application and database (server) components of an n-tier system. Students learn about design issues and deal with them in practice and examine current product offerings.

CP4480 EMERGING TRENDS IN WEB DEVELOPMENT
Prerequisites: Depends on the topic(s) selected.
This course covers trends in software development that arise from the natural evolution of the field. Topics are selected with the aim of exposing the student to the new and/or evolving techniques and/or technologies used in web development.

CP4490 EMERGING TRENDS IN NETWORK AND SYSTEMS ADMINISTRATION
Prerequisites: Depends on the topic(s) selected.
This course covers trends in network and systems administration that arise from the natural evolution of the field. Topics are selected with the aim of exposing the student to the new and evolving techniques and/or technologies used in network and systems administration.

CR1101 NETWORK FOUNDATIONS
This course will introduce students to the layers of the Open Systems Interconnection Model and enable them to describe the features and functions of network devices. The course will introduce students to a basic understanding of network protocols and most networking standards as well as the different types of networking topologies.

CR1260 CLIENT SERVICE FOR THE IT INDUSTRY
This course focuses on the role of an information technology employee in providing quality technical client service in any given situation. Students will develop the skills they need to interact effectively with clients, either face-to-face, on the telephone, in writing or on the web. Some of the topics covered will be quality client service; communicating with clients; handling difficult clients; solving and preventing problems; working as a team; and managing stress and burnout.

CR1270 HARDWARE SECURITY
Prerequisites: CR2700
This course introduces information security concepts including common threats and effective counter-measures. Topics include: privacy laws and regulations, security operations, physical security, access control, the basics of cryptography, contingency planning and designing and testing information systems security. In the lab students will be exposed to the techniques and tools that can be used to protect personal computers from attacks.

CR1501 WEBSITE DEVELOPMENT
Prerequisites: MC1820
After completing this course the student will be trained in the essential concepts of creating a dynamic web application. The student will demonstrate the use of the JavaScript programming language and JavaScript Libraries to develop an interactive website. An overview of the MySQL database will also allow the student to gain experience in connecting to an outside data source.

CR2210 ENTERPRISE MAIL SYSTEMS
Prerequisites: CR2700
The focus of this course is on the planning, installation, configuration and support of enterprise mail systems. This would include mail systems/server overview, site planning, server installation, server management/configuration, servers in a multiple-site environment, troubleshooting, server security and communication and forms.

CR2350 INTRO TO SYSTEMS ANALYSIS
This course presents an overview of the Systems Development Life cycle with a particular focus on needs analysis and requirements modeling. Considerable emphasis is placed on the use and limitation of various modeling techniques used in the development of information system requirements. A discussion of the importance of impact assessment, cost estimation and schedule estimation is also included.

CR2440 NETWORK IMPLEMENTATION
Prerequisites: CR2700
Network implementation is the interconnecting of various types of networks with different types of devices. The purpose of this course is to explain and, where applicable, demonstrate the devices, protocols and technologies associated with connecting networks both LANs and WANs.
Course Descriptions

CR2470 WIRELESS NETWORKS
Prerequisites: CP1990, CR1101
The purpose of this course is to provide a broad survey of wireless communications including in-depth coverage of: Technologies and topologies used in wireless networks, IEEE 802.11 wireless standards, data services in wireless networks, installation, configuration and management of wireless access points, adapters, bridges and antennae, configuring security in wireless networks, site survey techniques for optimum coverage, wireless internet and WAP and broadband wireless networks.

CR2510 LINUX SERVER ADMINISTRATION I
This course is the first of two courses that deals with the use and administration of a Linux based system. In this course the student will learn design and architecture of a Linux operating system as well as how to use many of the commonly used Linux tools from the command line. Furthermore, the student will learn how to plan, install and configure a Linux system and how to perform normal system administration tasks.

CR2700 NETWORK OPERATING SYSTEM ADMINISTRATION
Prerequisites: CR1101
This course provides the students with the knowledge and skills to install, configure, optimize, troubleshoot and support a network server with day-to-day administration. This would include topics such as network planning, server hardware, directory services and dns, security, server installation, server configuration, storage, users and groups, distributed file system, printing, remote access and virtual private networks, managing interconnectivity and terminal services, server optimization, network monitoring and troubleshooting.

CR2950 EMERGING TRENDS IN IT INFRASTRUCTURE
Prerequisites: CP1925, CR3455, CR2241, CP1332, CR2901, CR2511
This course covers new trends in IT infrastructure that arise from the natural evolution of the field. Topics are selected with the aim of exposing the student to the new and/or evolving techniques and/or technologies used in the design and maintenance of the IT infrastructure.

CR3100 ADVANCED NETWORKING I
Prerequisites: CR2440
Students are given an advanced hands-on look at the TCP/IP architecture. This course will examine popular open-source and commercial applications. Upon completion of this course, students will have a problem determination methodology that can be used for future network problem scenarios. This course will have numerous hands-on labs illustrating typical network problems on popular platforms. Specifics of these labs should be customized by the instructor.

CR3101 ADVANCED NETWORKING II
Prerequisites: CR3100
This course further develops students’ knowledge of Internet working. Routing topics such as distant vectors routing protocols and linked state routing protocols will be discussed in detail and hands-on exercises will be provided. Further concepts on switching such as spanning tree protocols, virtual LANs and VLAN trunking protocols will also be explored in detail. Some important topics on WAN technologies will also be included.

CR3160 IT SERVICE MANAGEMENT
Prerequisites: CR1260
This course teaches the student how to create shell scripts. This course will teach the student how to use regular expressions, file manipulation with sed, grep and awk and how to implement scripts using Linux and Windows.

CR3230 ENTERPRISE TECHNOLOGY I
Prerequisites: CR2700
This course provides the students with the knowledge and skills to install, configure and manage the core services of a corporate server, including TCP/IP configuration, routing, name service configuration and user, computer and group strategy deployment.

CR3320 ADVANCED IT HARDWARE
Prerequisites: CP2921
The focus of this course is configuring, managing and repairing the specialized hardware devices required in multi-server environments, structured wiring and laptop environments and with business equipment (printers, scanners, photocopiers and projectors). This will be a very hands-on approach using a wide variety of hardware to complete learning objectives.

CR3420 INFRASTRUCTURE SECURITY
Prerequisites: CR1270
This course details the tools and techniques needed to secure corporate IT infrastructure, including network-based and host-based security tools and measures. Topics covered include firewalls, virtual private networking, the security audit process, disaster recovery and business continuity planning, intrusion protection systems and cryptography.

CR3450 SCRIPTING
Prerequisites: CR2510, CP2921, CP1360
This course teaches the student how to create shell scripts. This course will teach the student how to use regular expressions, file manipulation with sed, grep and awk and how to implement scripts using Linux and Windows.

CS3000 ENGINEERING LEADERSHIP
This course introduces essential leadership concepts to students in engineering fields. Leadership theories and models are presented to students to establish a foundation of knowledge that will guide future practice. Role-play, case study and real life examples are employed to support students in acquiring team and group goal development, shift management, conflict resolution and effective communication skills.
DE1000 PRINCIPLES OF DIABETES EDUCATION
This course is designed to provide students with an overview of the principles of diabetes education, including the role of the diabetes educator within the larger health care team. Students will be introduced to different approaches to teaching and learning, as well as models of behaviour change. Emphasis will be on best practices in planning, implementing, and evaluating diabetes education. The course will also cover professional responsibilities, such as research and health promotion.

DE1010 UNDERSTANDING AND MANAGING DIABETES I
This course is designed to provide students with an introduction to diabetes and the key components of diabetes management. The course will cover basic features of diabetes, including what happens in the body when diabetes develops, the different types of diabetes, risk factors, and prevention strategies. Additional topics include pathophysiology, blood glucose lowering agents, and insulin therapy. Emphasis will be on self-management and ways to support patients through promoting and reinforcing the importance of a healthy lifestyle. Students will also discuss best practices for managing diabetes during Ramadan and Hajj.

DE2010 DIABETES IN SPECIAL POPULATIONS
Prerequisites: DE1000
This course is designed to provide an overview of diabetes in special populations. Emphasis will be on diabetes in children and adolescents, gestational diabetes, pregnancy and pre-existing diabetes, diabetes in the elderly, and perioperative management. Students will evaluate different teaching strategies for the identified special populations and will demonstrate understanding of best practices through group work, role play, and case studies.

DE2020 UNDERSTANDING AND MANAGING DIABETES II
Prerequisites: DE1010
This course is designed to provide students with an introduction to health complications associated with diabetes. Major topics include short-term complications, including hypoglycaemia, diabetic ketoacidosis (DKA), and hyperosmolar hyperglycaemic state (HSS). Students will also discuss long-term complications, namely diabetic retinopathy, diabetic nephropathy, diabetic neuropathy, macrovascular disease, sleep disorders, oral health, and sexual health. New alternative and advanced therapies in diabetes will also be covered.

DE2030 DIABETES EDUCATOR PRACTICUM
Prerequisites: DE1000, DE1010, DE2010, DE2020
This practicum is designed to prepare students to be effective diabetic educators. It is designed to enable learners to apply the principles of diabetic education in a workplace environment. Students will be placed with a health related agency in either the public or private sector. Performance will be monitored under close supervision and required competencies will be evaluated by both the employer and the practicum instructor. As part of their duties, students will be required to participate in, plan, and evaluate diabetic education activities. Students will have the opportunity to record, document, and reflect on learning experiences through the completion of a log book or professional journal. Students will be expected to job shadow a health professional in their daily practice.

DH1100 GENERAL PATHOPHYSIOLOGY
Prerequisites: BL1210
This course is an introduction to human pathophysiology, initially exploring the foundational concepts of disease, with reference to pathophysiology relative to dental hygiene. Emphasis is also placed on pathogenesis and disease processes using specific diseases as examples.

DH1120 HEAD AND NECK ANATOMY
Prerequisites: BL1210
Students are introduced to anatomical and physiological features of the head and neck region, including oral and periodontal anatomy. The course focus is on the healthy/normal continuum that provides the foundation for clinical dental hygiene practice as well as for further study.

DH1140 DENTAL ANATOMY
Prerequisites: BL1210
In this course, crown and root anatomy, morphology and occlusion will be studied in detail. Students will identify features of crown and root morphology that relate to the identification and differentiation of teeth in addition to occlusal relationships and how these may affect the provision of dental hygiene care.

DH1200 PRINCIPLES AND ISSUES I
Prerequisites: Successful Completion of all Year 1 Dental Hygiene courses.
This course introduces the profession of dental hygiene. Current concepts of practice are examined with emphasis on roles, professional communication, deportment, responsibility, accountability and behavioral foundations for health promotion. Legal and ethical aspects of practice are also introduced.
Course Descriptions

DH1201 PRINCIPLES AND ISSUES II
Prerequisites: DH1200, Successful Completion of all Year 1 Dental Hygiene courses.
This course builds on concepts introduced in Principles and Issues I. Dental hygiene care, as a research-based, wellness-oriented practice is further examined. Research principles and basic statistics are introduced as a basis for analysis of professional literature. The process of dental hygiene care is presented as wellness-oriented, research-based and devoted to supporting and empowering the client. Students learn to access and critically read professional publications with a focus on understanding the process of care, teaching self-care and managing fearful and anxious clients.

DH1250 CLINICAL THEORY I
Prerequisites: DH1100, DH1120, DH1140
Co-Prerequisites: DH1260
This course reinforces foundational dental hygiene theory. Communication, team membership, delivery of care, assessments, implementation, self-evaluation and evaluation theoretical knowledge developed in this course will be reviewed and enhanced to a greater level in each subsequent Clinical Theory course and practiced in a clinical setting within the Clinical Practice courses.

DH1251 CLINICAL THEORY II
Prerequisites: DH1250, DH1260, Successful Completion of all Year 1 Dental Hygiene courses.
Co-Prerequisites: DH1261, DH1440
This course builds on Clinical Theory I and presents more advanced aspects of preparation and client assessment. It also introduces and develops the planning, implementation and evaluation of dental hygiene care. Development of skills in problem-solving, communication, teaching/learning, communication, self-evaluation and professionalism are included.

DH1260 CLINICAL PRACTICE I
Prerequisites: DH1100 DH1120, DH1140, First Aid/CPR certification (maintained throughout the course)
Co-Prerequisites: DH1250
This course reinforces foundational dental hygiene skills and procedures in a supervised clinical setting. Practice is integrated and applied to mannequins and peers using tools and operatories within the CNA-Q Dental Clinic. Throughout all clinical procedures students will be evaluated on the following performance indicators: transfer of theoretical knowledge to the practice setting, articulation of rationale, development of efficient sequences and techniques, identification of structures and anatomical landmarks, adherence to principles of infection control, adaptation of delivery of care for clients with compromised mobility and other special needs, appropriate use of resources to facilitate efficiency and accuracy, problem-solving with modification to treatment where necessary, management of discomfort when performing procedures and accurate, legible documentation. Skills developed in this course will be reviewed and enhanced to a greater level of expertise in each subsequent Clinical Practice course.

DH1261 CLINICAL PRACTICE II
Prerequisites: Successful Completion of all Year I Dental Hygiene courses, DH1250, DH1260, First Aid/CPR certification (maintained throughout the course).
Co-Prerequisites: DH1251, DH1440
This course builds on Clinical Practice I with a focus on applying clinical theory and psychomotor skills to clinical practice with clients in the CNAQ Dental Clinic. Students are mentored as they navigate the increased complexity of dental hygiene practice in applying assessment, planning diagnosis, implementation, evaluation, professionalism, health and safety to client care. Throughout all clinical procedures students will be evaluated on the following performance indicators: transfer of theoretical knowledge to the practice setting, 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, problem-solving with modification to treatment where necessary, management of discomfort when performing procedures and accurate, legible documentation. Within each competency area, students are expected to apply knowledge, skills and attitudes gained in Clinical Theory I and Clinical Practice I courses. Similarly, skills developed in this course will be reviewed and enhanced to a greater level of expertise in each subsequent Clinical Practice course.

DH1300 GENERAL DENTISTRY
INTRODUCTION
Prerequisites: BL1210
Basic concepts and principles of dental materials used in the prevention and treatment of dental diseases are studied in this course. The interaction between dental materials and the surrounding oral tissues that impact instrumentation are included. Students will learn to discuss the tools and materials available to treat and prevent specific dental problems.

DH1310 PERIODONTOLOGY I
Prerequisites: Successful Completion of all first year Dental Hygiene courses.
This course explores fundamental concepts related to periodontal diseases, focusing on the etiology, risk factors, pathophysiology, clinical characteristics and therapy for plaque-induced gingival diseases and chronic periodontitis.

DH1311 PERIODONTOLOGY II
Prerequisites: DH1310
This course builds on and applies the learning from Periodontology I. Topics discussed in this course include: microbial and immunological aspects of periodontal disease, risk factors, diagnostic indicators, healing after therapy, prognosis and referral, occlusal influences, gingival diseases, common periodontal conditions and an introduction to chemotherapeutics.
Course Descriptions

DH1400 MICROBIOLOGY FOR DENTAL HYGIENE
This course introduces dental hygiene students to microbiology. Topics include an introduction to microscopy, prokaryotic cell structure and function, bacterial nutrition, microbial metabolism, control of microbial growth, oral microflora and animal viruses.

DH1420 NUTRITION
Prerequisites: Successful Completion of all Year 1 Dental Hygiene courses.
In this course, students learn about dietary recommendations and the role of nutrition in general and oral health. Students will apply nutrition concepts in the analysis of their own diet. Concepts will later be applied in the clinical setting for clients whose dietary choices compromise their oral health.

DH1440 RADIOLOGY
Prerequisites: Successful Completion of all Year 1 Dental Hygiene courses.
Basic principles of radiation physics, generation, biology and the uses of x-ray are introduced in this course. Students will also learn the theory behind the basic techniques of radiography for application in clinical dental hygiene, including safety measures. Students will 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.

DH1450 ORAL EMBRYOLOGY AND HISTOLOGY
Prerequisites: BL1210
Students will identify the sequence of embryological development and the principles of oral histology of the soft and hard tissues in oral and associated structures. 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.

DH2100 ORAL PATHOLOGY I
Prerequisites: Successful Completion of all Year 1 Dental Hygiene courses, DH1400, DH1450.
The role of the dental hygienist in recognizing oral pathology is examined as part of comprehensive dental hygiene care. In this course, processes and terminology for recognizing and accurately recording oral lesions are discussed and applied. Dental caries, general characteristics of common soft tissue lesions and other tooth abnormalities are presented. This course emphasizes the significance, recognition and accurate description of the clinical appearance of intra oral mucosal lesions. The process of differential diagnosis of oral pathology is also considered.

DH2101 ORAL PATHOLOGY II
Prerequisites: DH2100
This course provides advanced study of oral pathology, including intra oral mucosal lesions, characteristics of submucosal oral pathologies and common lesions of the face. Students will be prompted to recall foundational knowledge from Oral Pathology I. Emphasis is placed on the identification and description of oral pathologies.

DH2150 COMMUNITY ORAL HEALTH I
Prerequisites: Successful Completion of all Year 1 Dental Hygiene courses.
In this course students will study the health/disease continuum from the viewpoint of various community groups. Included are issues dealing with community dental health, oral health delivery modes, current concepts of health education, health promotion and partnerships with community groups.

DH2151 COMMUNITY ORAL HEALTH II
Prerequisites: DH2150, Successful completion of Year 1 and Year 2 Dental Hygiene courses.
This course is a continuation of Community Oral Health I. Emphasis is placed on the promotion of oral health, as well as community dental health programming. Didactic information will be applied in the community through field experiences.

DH2200 PRINCIPLES AND ISSUES III
Prerequisites: Successful completion of Year 1 and Year 2 Dental Hygiene courses, DH1201
In this course, students focus on career aspects of dental hygiene. Students will study dental hygiene practice settings, educational opportunities, organizational, financial and marketing initiatives, economics and promotional guidelines of the regulatory authority. Students will also focus on 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. Registration, scope of practice, quality assurance and political processes are examined.

DH2250 CLINICAL THEORY III
Prerequisites: Successful completion of Year 1 Dental Hygiene courses, DH1251, DH1261
Co-Requisites: DH2260
This course is a continuation of Clinical Theory I and II. All phases of the dental hygiene process and theories are further developed as students gain more experience with unhealthy and abnormal oral conditions.

DH2251 CLINICAL THEORY IV
Prerequisites: Successful completion of Year 1 and Year 2 Dental Hygiene courses, DH2250, DH2260
Co-Requisites: DH2261
This course is a continuation of Clinical Theory I, II and III. Students will continue to study and apply theories of client assessment, planning, implementation and evaluation through case study and case presentations. The theories of dental imaging and local anesthetic are introduced.

DH2260 CLINICAL PRACTICE III
Prerequisites: Successful Completion of all Year 1 Dental Hygiene course, DH1251, DH1261, First Aid/CPR certification (maintained throughout the course)
Co-Requisites: DH2250
This course is a continuation of Clinical Practice I and II. All phases of the dental hygiene process are further developed as students gain more experience with
**Course Descriptions**

unhealthy and abnormal oral conditions. Students practice related skills on mannequins/peers prior to providing care for clients in a closely supervised clinical setting. Throughout all clinical procedures students will be evaluated on the following performance indicators: transfer of theoretical knowledge to the practice setting, 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, problem-solving with modification to treatment where necessary, management of discomfort when performing procedures and accurate, legible documentation. Within each competency area, students are expected to apply knowledge, skills and attitudes gained in previous Clinical Theory and Clinical Practice courses. Skills developed in this course will be reviewed and enhanced to a greater level of expertise in each subsequent Clinical Practice course.

**DH2261 CLINICAL PRACTICE IV**

*Prerequisites: Successful completion of all Year 1 Dental Hygiene courses, DH2250, DH2260, First Aid/CPR certification (maintained throughout the course) Co-Requisites: DH2251*

This course is a continuation of Clinical Practice I, II and III. Students will continue to study and apply aspects of dental hygiene assessment, planning, implementation and evaluation on selected clients and through case study. Dental imaging and local anesthetic theories are applied. Students will also be introduced to the fundamentals of case presentation. Throughout all clinical procedures students will be evaluated on the following performance indicators: transfer of theoretical knowledge to the practice setting, 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, problem-solving with modification to treatment where necessary, management of discomfort when performing procedures and accurate, legible documentation. Within each competency area, students are expected to apply knowledge, skills and attitudes gained in previous Clinical Theory and Clinical Practice courses. Skills developed in this course will be reviewed and enhanced to a greater level of expertise in each subsequent Clinical Practice course.

**DH2310 PERIODONTOLOGY III**

*Prerequisites: DH1311*

This course builds on concepts and skills covered in Periodontology I and II and focuses mainly on other types of periodontal diseases beyond that of plaque-induced gingivitis and chronic periodontitis. Advanced diagnostic techniques and therapeutic interventions and the role of surgical therapy, are discussed.

**DH2460 PHARMACOLOGY**

*Prerequisites: Successful completion of all first and second year Dental Hygiene courses. Principles of pharmacology and drug therapy are presented in this course. The specific drugs and techniques of pain control used in dentistry are discussed, with elaboration on additional drugs used in dentistry. Coverage of other families of drugs that impact the delivery of dental treatment also takes place in this course.*

**DH3150 COMMUNITY ORAL HEALTH III**

*Prerequisites: DH2151, Successful completion of Year 1 and Year 2 Dental Hygiene courses. This course builds upon the community health concepts introduced in Community Oral Health II. Course coverage primarily focuses on the role of the dental hygienist in planning programs, marketing oral health and as an agent for change. Current community dental health research is also reviewed.*

**DH3250 CLINICAL THEORY V**

*Prerequisites: Successful completion of Year 1 and Year 2 Dental Hygiene courses, DH2251, DH2261 Co-Requisites: DH3260*

This course is a continuation of the previous Clinical Theory series. Assessment, dental hygiene health care planning, implementa- tion, evaluation and clinical environment considerations are discussed. Individualized comprehensive care of clients with special needs will be emphasized.

**DH3251 CLINICAL THEORY VI**

*Prerequisites: DH3250, DH3260, Successful completion of Year 1 and Year 2 Dental Hygiene courses Co-Requisites: DH3261*

Knowledge and theories learned in all dental hygiene courses are integrated into comprehensive clinical dental hygiene care. This course builds on the previous Clinical Theory courses in guiding students through the transition into the hospital and public/private dental practice settings.

**DH3260 CLINICAL PRACTICE V**

*Prerequisites: Successful completion of Year 1 and Year 2 Dental Hygiene courses, DH2251, DH2261, First Aid/CPR certification (maintained throughout the course) Co-Requisites: DH3250*

This course is a continuation of the previous Clinical Practice series. Students will gain comprehensive clinical skills required for periodontal care within the scope of dental hygiene practice and integrate them with previously acquired knowledge and skills. Individualized comprehensive care of clients with special needs will be emphasized. Throughout all clinical procedures students will be evaluated on the following performance indicators: transfer of theoretical knowledge to the practice setting, articulation of rationale, development of efficient sequences and techniques, identification of structures and anatomical landmarks, adherence to principles of infection control, adaptation of delivery of care for clients with compromised mobility and other special needs, appropriate use of resources to facilitate efficiency and accuracy, problem-solving with modification to treatment where necessary, management of discomfort when performing procedures and accurate, legible documentation. Within each competency area, students are expected to apply knowledge, skills and attitudes gained in previous Clinical Theory and Clinical Practice courses. Skills developed in this course will be reviewed and enhanced to a greater level of expertise in Clinical Practice VI.
Course Descriptions

DH3261 CLINICAL PRACTICE VI
Prerequisites: Successful completion of Year 1 and Year 2 Dental Hygiene courses, DH3250, DH3260, First Aid/CPR certification (maintained throughout the course)
Co-Requisites: DH3251
In this course, knowledge and skills learned in all dental hygiene courses are integrated into comprehensive clinical dental hygiene care. Students will work in a dental clinical setting to apply the full scope of dental hygiene care. This course builds on the previous Clinical Practice courses in guiding students through the transition to hospital and dental practice. Throughout all clinical procedures students will be evaluated on the following performance indicators: transfer of theoretical knowledge to the practice setting, articulation of rationale, development of efficient sequences and techniques, identification of structures and anatomical landmarks, adherence to principles of infection control, adaptation of delivery of care for clients with compromised mobility and other special needs, appropriate use of resources to facilitate efficiency and accuracy, problem-solving with modification to treatment where necessary, management of discomfort when performing procedures and accurate, legible documentation. Within each competency area, students are expected to apply knowledge, skills and attitudes gained in previous Clinical Theory and Clinical Practice courses.

DM1200 DOCUMENT PRODUCTION I
This course includes keyboarding, file management and basic document formatting. Keyboarding speed on unseen straight copy material is developed to 25 to 40 net words. The following documents are produced using Microsoft Word processing software: notices, announcements, signage, basic correspondence, basic tables and basic reports.

DM1210 DOCUMENT PRODUCTION II
Prerequisites: DM1200
This course further develops proficiency in document production using intermediate word processing applications. Students will also apply skills in the production of intermediate business correspondence, tables, forms and reports and reinforce their skills in file management.

DM1300 TRANSCRIPTION I
Prerequisites: DM1200, CM1100
This course introduces skills in machine transcription and/or using transcription software and reinforces grammar and punctuation skills. Emphasis is placed on applying proofreading and language skills: grammar, punctuation and spelling. Decision-making skills are introduced through the transcription of basic business documents.

DM1301 TRANSCRIPTION II
Prerequisites: DM1300, DM1210
This course is designed to further develop skills in machine transcription and/or using transcription software. Emphasis is placed on accuracy and speed as well as grammar, punctuation and spelling competency. Documents will be transcribed from various business environments. Decision-making skills are improved in the transcription of complex unarranged material.

DM2200 DOCUMENT PRODUCTION III
Prerequisites: DM1210
This course combines keyboarding development, document production and word processing to improve proficiency in document production. Keyboarding speed on unseen straight copy material is developed to a minimum of 35 net words per minute for five minutes. Students will reinforce their skills in the production of advanced business correspondence, tables, reports and specialized business documents. Students will also use Microsoft PowerPoint software to prepare presentations.

DM2420 DOCUMENT PRODUCTION IV
Prerequisites: DM2200, CP2310, CP2410
This course combines keyboarding development and document formatting using a project/simulation approach. Students will be expected to develop and use critical thinking and decision-making skills and to process and produce documents at an advanced level using Microsoft Office. Students will also perform tasks that require the integration of various software packages; i.e. word processing, database, spreadsheets, presentations, electronic mail and calendar.

DM22100 TRANSCRIPTION
Prerequisites: DM1200, CM1100
This course introduces skills in machine transcription and reinforces grammar and punctuation skills. Emphasis is placed on accuracy and speed as well as grammar, punctuation and spelling. Decision-making skills are introduced through the transcription of basic business documents.

Note: Students must achieve a typing speed of 30 net words per minute for five minutes in order to pass KB1150.

DM12100 TRANSCRIPTION
Prerequisites: DM1200, CM1100
This course introduces skills in machine transcription and reinforces grammar and punctuation skills. Emphasis is placed on accuracy and speed as well as grammar, punctuation and spelling. Decision-making skills are introduced through the transcription of basic business documents.

Note: Students must achieve a typing speed of 40 net words per minute for five minutes in order to pass KB1150.

DP1120 DIGITAL MICROPROCESSORS
Prerequisites: DP1130, AE2340
This course introduces the student to the microprocessor programming techniques using assemblers and debuggers and provides training in computer interfacing techniques.

DP1130 DIGITAL ELECTRONICS
Prerequisites: ET1101 or ET1130
This course introduces students to the field of digital electronics. They will be taught design and diagnosis techniques applicable to digital electronics.

DP2230 MICROCONTROLLERS
Prerequisites: DP1120
Co-Requisites: CT2300
This course provides the student with knowledge of the hardware associated with a microprocessor system and the interfacing requirements for communication with the environment.

DP2360 FUNCTION BLOCK PROGRAMMING
Prerequisites: DP2520 or XD2500
Function block programming has become the programming language used for most process automation systems. It is currently used in DCSs, stand-alone controllers, PLCs and is now being used in field level devices. This course will cover how to develop function block programs and link them to a Human-Machine Interface (HMI). The control strategies being taught in this course will start with basic PID control and progress to more complex control strategies with additional variables being displayed on the HMI.

DP2460 DIGITAL SIGNAL PROCESSING
Prerequisites: ET2150
This course is an introduction to digital signal processing (DSP) concepts and implementation. It starts by explaining the need for digital signal processing and DSP systems. The DSP system is explained...
from the input analog signal via the input transducer through all stages of the process including signal conditioning, anti-aliasing filter, analog-to-digital and digital-to-analog conversion, output smoothing filter and output transducers. Real life tele-communications examples will be used to illustrate the use and need for each part of the DSP system. The laboratory elements of this course will be conducted using MATLAB software giving the students the skills required to become proficient with DSP systems through examples and computational experience.

DP2520 PROGRAMMABLE LOGIC CONTROLLERS  
Prerequisites: MP2160, CE1200  
This course introduces students to general concepts, programming techniques and programming languages for both digital and analog inputs and outputs for both on off and proportional control. For this course the student will use both Physical Input and Output (I/O) devices and graphical interface I/O. The programming of the graphical interface will not be covered in this course.

DP3240 DCS (DISTRIBUTED CONTROL SYSTEMS) CONFIGURATION  
Prerequisites: DP2360  
This course will review the history of distributed control systems (DCSs) and provide a comparison of the current system to modern programmer logic controller (PLC)/human-machine interface (HMI) and supervisory control and data acquisition (SCADA) systems. It provides the participants with the knowledge to troubleshoot a DCS system as well as modify existing configurations, control strategies and operator interfaces.

DP3450 ADVANCED PROGRAMMABLE LOGIC CONTROLLERS  
Prerequisites: DP2520  
This is an advanced course in programmable logic controllers (PLCs) covering discrete control, analog control, program control statements, field bus communication and control, Human Machine Interface (HMI), motor control using variable frequency drives, mathematical functions, sequencers.

EC1110 MICROECONOMICS  
The course objectives are to develop an understanding of the economic institutions and environment under a market system of exchange and the response made to decisions arrived at by individuals, businesses and governments. Specifically, the course examines business organizations and why the attitudes of buyers and sellers determine the prices, quantities and distribution of the output of goods and services.

EC1210 MACROECONOMICS  
This course is designed to introduce students to the principles of macro-economics, including the physical and monetary aspects of international trade; money, banking and monetary policy; the gross national product, national expenditure components, business cycles and fiscal policy. The emphasis is on a problem solving approach and Canadian examples where this is possible.

EC1650 MONEY BANKING AND MONETARY POLICY  
The student is introduced to the role of money, banks and monetary systems including the central banks and money markets with a focus on the history and development of monetary systems, the functions, purpose and qualities of money, the functions, purpose and interactions of the central bank and other institutions in money markets.

EC1660 ECONOMICS FOR BANKERS  
The course aims to teach potential and current bankers to view their industry and the economy from an economist’s point of view. Students are introduced to the basic economic problem, the concepts of demand and supply, the gross national product components and economic growth, business cycles, inflation and aspects of international trade and finance.

EG1140 ELECTRONIC CIRCUIT SIMULATION  
Prerequisites: ET1130  
Students will learn the principles of computer-aided electronics circuit design and simulation. The practical component of the course will lead students through features of a schematic capture and simulation software application. Students will be able to use electronic components in a simulated environment and be able to measure and analyze electronic parameters with analog and digital instruments. This course should help students complete lab experiment requirements of analog and digital courses and aid in the design of the final Capstone Project.

EG1140 ELECTRONIC CIRCUIT SIMULATION  
Prerequisites: CE1210  
The course is designed to introduce the student to the role of money, banks and monetary systems. It is also designed with the understanding that the student has the engineering technology disciplines. From the simplest in-the-field sketch to the most advanced 3-D model, each may constitute a legal document.

EG1230 ELECTRICAL AND INSTRUMENTATION CAD  
Prerequisites: CI1140  
The course first introduces the AutoCAD drafting package. Once the foundation is established, the course migrates towards the more advanced features and emphasis is on the AutoCAD Electrical package. Examples are geared towards electrical engineering technology students.

EG1340 AUTOCAD ESSENTIALS  
Prerequisites: EG1110  
Computer Aided Drafting (CAD) software is a tool that enables you to produce engineering drawings more accurately and with greater efficiency. It also facilitates the ability to share files with other software programs. This course is designed in a pedagogical format by presenting the fundamental concepts at the beginning and moving toward the more advanced and specialized features of AutoCAD. It is also designed with the understanding that the student has the engineering graphics fundamentals necessary to apply the AutoCAD software. Applications and examples have an inclination towards many different technology disciplines.
Course Descriptions

**EG3100 3-D MODELLING/CAD**
Prerequisites: EG1110, EG1430
This is a course in advanced mechanical design and drawing techniques applied to 3D-modeling software. It specifies SolidWorks as the software but can be conducted with any parametric based applications. Students will learn basic part and assembly feature design skills typical in all mechanical designs and how to translate the design to drawings for proposals, manufacturers and quality control documents, application related to a topic covered in Semester 1 or Semester 2 that has been approved by an instructor. Since the in-depth study and report are to be prepared through independent study, the assigned hours represent only part of the time that students are expected to allocate to the course. Regular meetings with a faculty supervisor will be scheduled within the assigned hours and it is mandatory that students attend these meetings.

**EN1140 HAZARDS, SAFETY AND ETHICS**
This is a three part course that presents an introduction to engineering ethics, environmental awareness and hazardous area training. In part A, professional practice and ethics is covered to enable the learner to understand ethical and legal expectations within the industry and profession. Part B gives the student a brief introduction to environmental awareness as well as an overview of environmental concerns in the oil and gas industry including the effect of the industry on the environment and vice versa. 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. Part C is designed to give the student an understanding of the hazardous area classification and how systems are designed to confine an explosion inside an enclosure, isolate the ignition source or limit the energy flow into the hazardous area. Combined with this knowledge base the students will receive hands on training so they can install and maintain equipment for hazardous areas. This course is not designed to provide Hazardous Area Certification.

**EN1420 ENVIRONMENTAL SANITATION**
Prerequisites: HL1140
This course is designed to introduce students to many of the public health hazards inherent in communities and the mitigation strategies used in their control and elimination. Particular emphasis is given to risk assessment principles applied to water, wastewater, solid waste, pest control and housing management.

**EN1545 WATER QUALITY I**
Prerequisites: CH1210
This course introduces the student to the principles and processes behind the sources, treatment and distribution of potable and recreational water supplies. The student will review the quality issues, communicable disease and injury risks inherent in drinking and recreational water.

**EN1551 WATER QUALITY II**
Prerequisites: EN1545
This is a course which builds on Water Quality I and provides a working knowledge of water distribution and water treatment practices and focuses on the basic aspects of construction, operation and maintenance.

**EN2310 ENVIRONMENTAL HEALTH LAW**
Prerequisites: HL1140
This course introduces the student to local and regional environmental health legal systems and processes. Students will be taught the concepts of legal duties and responsibilities, legal powers and authorities and progressive enforcement of legislative requirements. Participants will practice (a) conducting legal inspections that turn into investigations and (b) resolving conflicts in an assertive and professional manner. The constitutional basis for regulating environmental health issues and the role of operational policies in government agencies are also covered.

**EN2480 ETHICS AND ENVIRON AWARENESS**
This course presents an overview of environmental concerns in the oil and gas industry including the effect of the industry on the environment and vice versa. Professional practice and ethics is 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.

**EP1110 INTRODUCTION TO BUSINESS**
This course will introduce students to business systems, forms of business ownership, production, marketing, finance, personnel and labour relations, international business and small business ownership. Students will describe and compare aspects of business, economics and finance, including the functional areas of a business.

**EP1131 BUSINESS FOR INFORMATION SYSTEMS**
This course will introduce students to an overview of business principles and practices relevant to the IT industry. Students will be introduced to the functional areas of business and the processes within each function. Emphasis will be placed upon awareness and literacy of each functional area as they apply to local and national markets.

**EP1141 BUSINESS OPERATIONS IN INFORMATION SYSTEMS**
Prerequisites: EP1131
This course will introduce students to the ways that organizations improve their business practices through the use of computer technology. The course emphasizes systems technologies, enterprise integration, business applications and critical analysis of organizational change through information systems.
Course Descriptions

EP1160 INTRODUCTION TO BUSINESS FUNCTIONS
This is an introductory course to identify and describe the basic line functions of business and introduce students to small business ownership and entrepreneurship. It will emphasize a basic knowledge of common business functions. Students will be introduced to the functional areas of business and the processes within each function. Emphasis will be placed upon awareness and literacy of each functional area. Students will also be introduced to the importance of the small business sector of the economy and the issues involved in owning your own business.

EP2150 ENTREPRENEURSHIP
This is an introductory course that analyzes aspects of entrepreneurship and the link between entrepreneurs and small business. It presents a fundamental approach to planning and operating a firm, incorporating basic steps in business management and explains how each step can best be accomplished.

EP2200 BUSINESS PLANNING
Prerequisites: EP2250
This is an advanced-level course in developing a comprehensive business plan. The student will identify a business idea, product or service, conduct an industry analysis and develop plans for operational and human resources, marketing and finance. The student will also conduct a risk assessment and present their plan to a panel of industry experts. The student will apply his/her knowledge from previous terms in a practical manner.

EP2250 SMALL BUSINESS DEVELOPMENT
Prerequisites: AC2260, CM2300, EC1110, MA1670
This is an advanced course in the use of primary and secondary research techniques and analysis. The student will explore secondary research analysis, competition and demand analysis, project site and area evaluation and estimates of operating results. The student will be required to produce and present a research report establishing the feasibility for an opportunity or a particular growth sector in the economy. Topics for this report will be based on personal selection or on a mentoring process with a potential or present business owner. This plan is developed based on two prior years of Business Management education and is intended in part to prepare the student to own or operate a small business.

ET1130 FUNDAMENTALS OF ELECTRICITY I
Co-Requirements: PH1140
This course focuses on basic DC and AC circuit analysis. The laboratory work is designed to develop skills in the construction of electrical circuits, use of electrical measuring instruments and reinforcement of theoretical concepts.

ET1131 FUNDAMENTALS OF ELECTRICITY II
Prerequisites: ET1130
This course continues the studies of Electricity begun in the previous semester with the Fundamentals of Electricity I course. Course subject matter focuses on the basics of AC theory and the application of this to solve circuits containing resistance, capacitance and inductance. An introduction to three phase AC circuits and Basic Power Factor Correction is also included.

ET1135 FUNDAMENTALS OF ELECTRICITY
This course introduces non-electrical technical personnel to the fundamentals and basic applications associated with electrical power. Course subject matter focuses on the basics of AC theory and the application of this to identify characteristics of circuits and equipment commonly found in industrial installations.

ET1160 ELECTRONIC CIRCUITS AND DEVICES
Prerequisites: ET1131
This course covers advanced topics in A.C. and D.C. circuit fundamentals including parallel resonance RC-RC DC time constants and transformers. The course also includes an introduction to Two-Port Networks and selected topics on electronic control elements.

ET1175 FABRICATION HAND TOOLS
Prerequisites: SE1036
This course is designed to introduce students to the safe use and selection of hand tools required in the fabrication of electrical installation. Working in mechanical and electrical workshops, the student will develop the skills needed to effectively use hand tools required in tasks such as sheet metal shaping and pipe/conduit configuration.

ET1181 POWER TOOLS
Prerequisites: SE1036
This course introduces the safe use and accurate selection of power tools required in electrical installations. In a workshop setting, the student will gain the necessary skills to accurately identify, use, and care for different types of drills, hacksaws and wrenches. Hands-on skills developed in this course will be reinforced and applied in all subsequent courses.

ET1190 BASIC DC THEORY
Prerequisites: SE1036
This course introduces electrical theory and the practical application of electrical measuring instruments. Students will learn basic principles of electrical circuits, how to use and manipulate formulas to analyze circuits, as well as safely perform routine electrical measurements.

ET1195 SINGLE-PHASE ELECTRICITY
Prerequisites: ET1190
This course introduces the principles and characteristics of single-phase alternating current. Students in this course will gain the knowledge to distinguish between DC and AC, and the skills to perform calculations related to single-phase electricity.

ET1200 THREE-PHASE ELECTRICITY
Prerequisites: ET1195
This course is designed to introduce the principles and characteristics of three-phase alternating current. Students will be required to demonstrate various three-phase connections and their related calculations, as well as to gain an understanding of the benefits of three-phase electricity over single-phase electricity.
Course Descriptions

ET1205 WORKPLACE ORIENTATION  
Prerequisites: Successful completion of all previously scheduled courses  
This four-week workplace orientation presents an opportunity for Technician Certificate (Electrical) students to become familiar with the plant environment within Qatar’s Energy and Industry sector. The student trainee will be required to demonstrate effective communication skills, exemplary work ethic, and a willingness to learn the administrative and operational workings of a plant. During the four-week orientation, trainees will be expected to demonstrate punctuality and full attendance, as well as exhibit the discipline required to be an effective member of a maintenance/production team.

ET1210 CONDUCTORS AND CABLES  
Prerequisites: ET1175, ET1181, ET1190  
This course introduces the characteristics, installation, and inspection of conductors and cables. Course coverage and activities have been designed to familiarize students with international tables and standards and provide them with the skills to safely handle conductors and cables.

ET1215 ELECTRICAL DRAWINGS  
Prerequisites: ET1190  
This course is designed to introduce students to various drawings used in the electrical industry. Students in this course will gain practical experience in using drawings to create and trace a circuit.

ET1221 POWER SUPPLY AND RECTIFIERS  
Prerequisites: ET1200, ET1215  
This course has been designed to introduce students to the components, characteristics, applications, and operation of power supplies and rectifiers. Students will study electronic components that will be encountered when using Uninterruptable Power Supply (UPS) and battery chargers.

ET1225 ELECTRICAL TRANSFORMERS  
Prerequisites: ET1175, ET1181, ET1200, ET1215  
This module introduces the components, characteristics, applications, and operation of electrical transformers.

ET1230 THREE-PHASE INDUCTION MOTORS  
Prerequisites: ET1175, ET1181, ET1200, ET1215  
This course introduces the components, characteristics, applications, and operation of three-phase induction motors. The student will gain practical experience in reading and recording information drawn from three-phase induction motors, as well as demonstrate how to prepare and perform common motor connections. Working with bearings, students will also disassemble, change and reassemble a three-phase induction motor.

ET1235 SINGLE-PHASE INDUCTION MOTORS  
Prerequisites: ET1230  
This course introduces the components, characteristics, applications, and operation of single-phase motors. Students will receive hands-on training in installing and operating single-phase motors using fuses and circuit breakers. Working with bearings, students will also disassemble, change and reassemble a single-phase motor.

ET1240 ALTERNATING CURRENT GENERATORS  
Prerequisites: ET1235  
This course introduces the components, characteristics, applications, and operation of AC generators. Applying safe operating procedures, students will gain the knowledge and skills to operate AC generators as stand-alone and in parallel.

ET1245 DIRECT CURRENT MOTORS  
Prerequisites: ET1235  
This course introduces the components, types, characteristics, applications, and operation of DC electrical motors. The student will learn how to interpret information pertaining to DC electrical motors found on drawing and motor nameplates, control the speed of a DC motor, as well as change its bearings.

ET1250 MOTORIZED VALVE ACTUATORS  
Prerequisites: ET1235  
This course introduces the components and characteristics of motorized valve actuators (MOV). Students will learn the basic operation and performance checks required when working with MOVs, such as opening, closing, and conducting basic preventive maintenance procedures.

ET1255 HAZARDOUS AREAS  
Prerequisites: ET1215  
This course introduces students to the various electrical equipment required for installation in hazardous areas of oil, gas, and petrochemical plants. Students will gain an understanding of hazardous area classification, obtain and complete permits, as well as receive hands-on skills to confirm if all electrical explosion proof equipment meets industry standards. Safe work practices while operating in hazardous areas will be emphasized.

ET1260 CIRCUIT BREAKERS AND FUSES  
This course provides an overview of the types, application, and selection of low and high voltage circuit breakers. The student will learn how to remove, install and administer multiple tests of circuit breakers from training switchboards, as well as identify the voltage and current ratings of fuses.

ET1266 RELAYS AND CONTACTORS  
Prerequisites: ET1225, ET1230  
This course introduces the operation, characteristics, and applications of various electrical relays and contactors. The student will become familiar with basic operating principles for electrical relays and contactors, as well as draw, install and operate them based on a circuit drawing.

ET1270 UPS AND INVERTERS  
Prerequisites: ET1260, ET1266  
This course introduces the operation, characteristics, and applications of uninterruptible power supplies and inverters. In a hands-on setting, students will learn how to connect and operate UPSs and inverters following safe procedures.
Course Descriptions

ET1275  WORKSITE PRACTICUM
Prerequisites: Successful completion of all previously scheduled courses
This worksite practicum represents an opportunity for Technician Certificate (Electrical) students to demonstrate competencies acquired on campus in pilot plants, workshops, and using simulators. Working in an industrial setting, program competencies will be undertaken by student trainees in conjunction with workplace maintenance/operations staff and assessors. Students will be expected to apply knowledge and skills gained in the preceding technical phases, while demonstrating high standards of behavior expected in an industrial environment.

This practicum follows the successful completion of all semester work in the Technician Certificate (Electrical) program. The practicum discipline-specific and takes place over a period of 24 weeks, within a regular work week of at least 30 hours, and is remunerated (paid) and evaluated. Learners will be assessed by their employer using an assessment scheme co-developed by the College and employer. Upon completion of the practicum, students will be expected to perform satisfactorily without assistance and/or supervision (Competence Level 3).

ET1305 VARIABLE SPEED DRIVES
Prerequisites: ET1230, ET1235
This course introduces the operation, characteristics, and applications of solid state DC and variable frequency drives. Students will develop skills to assist in the installation, operation and testing of these drives.

ET2150 ADVANCED CIRCUIT ANALYSIS
Prerequisites: MA2100, ET1151 or MP2140
In this course, students will 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. The learner will learn mathematical techniques and apply these to the concepts to analyze and solve differential equations. Topics include 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, the following topics will be covered in this course: Fourier expansion of periodic function, even and odd, Fourier analysis of waveforms and their application to electrical signals and impulse response.

ET1300 SWITCHGEARS
Prerequisites: ET1260, ET1266
This course introduces the classification and application of low, medium, and high voltage switchgears. Students will develop the skills to assist in the operation and testing of industrial standard low and medium voltage switchgears, using standard maintenance procedures (SMP).

EV1710 INDOOR AIR QUALITY
Prerequisites: CH1210, HL1140
This course is designed to introduce students to the principles and methods involved in the collection, analysis and interpretation of indoor air quality data and how to use it to investigate and eliminate air quality concerns.

EV1711 AMBIENT AIR QUALITY
Prerequisites: EV1710
This course is designed to introduce students to the principles and methods involved in the collection, analysis and interpretation of ambient air quality data and how to use it to investigate and eliminate air quality concerns. Meteorology and its impact on the dispersal of air pollutants will be examined. Specific technical knowledge and skills will be introduced in the management and abatement of gaseous waste streams arising from manufacturing industries.

EV1830 LAND AND SUSTAINABLE DEVELOPMENT
Prerequisites: HL1140, EY2120
This course introduces the student to land management principles and sustainable development practices and their significance to environmental health. It gives students an understanding of the steps taken in the field to assess the suitability of proposed land developments. The course also explores the impacts of population growth and anthropological activity on climate change, food security, urban sprawl and sustainable communities. By highlighting case studies in environmental impact assessment and site assessment, the student will gain an appreciation for the land management practices impacting sustainable development and environmental contamination.

EY2120 BASIC ECOLOGY
Prerequisites: BL1200
This course introduces students to the basic principles of ecology through lectures, laboratory investigations, and fieldwork. Students learn about the different ecosystems and climatic conditions on Earth and how organisms interact within these environments. Main subject areas such as adaptation and evolution, population dynamics, community structure, and conservation will be covered.

FH1380 HEALTH AND WELLNESS
This course is designed to teach students the basics of health and wellness development. Time will be spent on didactic lectures, in-class labs doing basic testing and other learning activities and in the gym exercising. Students will be expected to develop a healthy lifestyle plan that they will then implement.

FL1030 COMMON LANGUAGE PLATFORM: ENGLISH LITERACY
Prerequisites: FL1030 score on the placement test
This course is designed for students with Non User - No Proficiency in English (CEFR A0). It aims to improve English skills in listening, speaking, reading, writing, vocabulary, and grammar through an integrated and communicative approach. The course focuses on routine and familiar contexts of language use and incorporates topics related to home, school, lifestyle, and work. Student success strategies related to independent learning, academic study, and technology are embedded throughout the course. Upon completion, students will have attained English proficiency at the Initial User - Beginner level (working towards CEFR A1.1).
FL1040 COMMON LANGUAGE
PLATFORM: ENGLISH FOUNDATIONS I
Prerequisites: Successful completion of FL1030, or a FL1040-level score on the placement test
This course is designed for students with English proficiency at the Initial User – Beginner level (working towards CEFR A1.1). It aims to improve English skills in listening, speaking, reading, writing, vocabulary, and grammar through an integrated and communicative approach. The course focuses on routine and familiar contexts of language use, and incorporates topics related to home, school, lifestyle, and work. Student success strategies related to independent learning, academic study, and technology are embedded throughout the course. Upon completion, students will have attained English proficiency at the Basic User – Breakthrough level (CEFR A1.1).

FL1050 COMMON LANGUAGE
PLATFORM: ENGLISH FOUNDATIONS II
Prerequisites: Successful completion of FL1040, or a FL1050-level score on the placement test
This course is designed for students with English proficiency in the Basic User - Breakthrough level (CEFR A1.1). It aims to improve English skills in listening, speaking, reading, writing, vocabulary, and grammar through an integrated and communicative approach. The course focuses on routine and familiar general contexts of language use, and incorporates topics related to home, school, lifestyle, and work. Student success strategies related to independent learning, academic study, and technology are embedded in the course. Upon completion, students will have attained English proficiency at the upper Basic User –Waystage level (CEFR A2.2).

FL1070 ENGLISH FOR ACADEMIC PURPOSES: ACADEMIC ENGLISH I
Prerequisites: Successful completion of FL1060, or a FL1070-level score on the placement test
This course is designed for students with English proficiency in the upper Basic User –Waystage level (CEFR A2.2). It aims to improve English skills in listening, speaking, reading, writing, vocabulary, and grammar through an integrated and communicative approach. The course focuses on general and academic contexts of language use and incorporates topics related to information technology, business, engineering, and health science. Success strategies related to independent learning, academic study, and technology, and the eventual workplace are embedded in the course. Upon completion, students will have attained English proficiency at the upper Basic User –Waystage level (CEFR A2.2).

FL1080 ENGLISH FOR ACADEMIC PURPOSES: ACADEMIC ENGLISH II
Prerequisites: Successful completion of FL1070, or an FL1080-level score on the placement test
This course is designed for students with English proficiency at the Independent User – Threshold level (CEFR B1.1). It aims to improve English skills in listening, speaking, reading, writing, vocabulary, and grammar through an integrated and communicative approach. The course focuses on academic contexts of language use and incorporates topics related to information technology, business, engineering, and health science. Success strategies related to independent learning, academic study, and technology, and the eventual workplace are embedded in the course. Upon completion, students will have attained English proficiency at the lower Independent User Threshold level (CEFR B1.1).

FM2160 MECHANICS – STATICS AND DYNAMICS
Prerequisites: PH1100, MA1101
This is an introductory mechanics course designed to develop an understanding of Newton’s second law with applications to static structures as well as some simple dynamic phenomena. Emphasis is placed on the development of free-body diagrams in order to produce an understanding of the physical problem. Once this understanding is developed, calculations can be used to produce numerical solutions.

FM2400 HYDRAULICS AND PNEUMATICS
Prerequisites: PH1101
This is an intermediate course in the design of hydraulic and pneumatic power systems. Throughout the course, students will learn about the components of hydraulic and pneumatic systems and conduct tests that demonstrate the manner in which different components and circuits function. As a project, students will design a hydraulic system, source,
select and cost system components and prepare a schematic.

FM3230 MACHINE DESIGN
Prerequisites: CF2240
This course is an introduction to the design of mechanical machinery, focusing on the design for functionality and safety. Mechanical engineering utilizes basic laws of science for the development of machinery to benefit humanity. Through use of problem solving techniques and principles of mechanics and strengths of materials, students will solve problems that both develop their ability to design new machines as well as repair and modify existing equipment to meet new objectives.

FM3300 APPLIED FLUID MECHANICS
Prerequisites: MA1700, PH1101
This course introduces the laws and principles that govern incompressible fluid flow. To support theoretical studies, students will have opportunity to conduct tests that demonstrate the real behaviour of fluids while comparing findings to calculated values. The emphasis in this course is to ensure students understand the theoretical and practical mechanics that govern fluid flow.

FN1140 INTRODUCTION TO FINANCE
This course develops the concepts for the financial foundation of all upper level finance courses. The course is designed to provide an introductory level of finance concepts and the use in business decisions. In this course the student will explore the importance of finance in business. Topics include interest, debt amortization, annuities, bonds and sinking funds, stocks, foreign currency, and capital budgeting. Students will use a financial calculator or spreadsheet to make financial management decisions.

FN2110 BUSINESS FINANCE
Prerequisites: AC2260
This course is an intermediate course in the complexities of business financial management. The student will explore financial analysis and planning, working capital management, capital budgeting and long-term financing. The course will integrate both short-term and long-term financial considerations, as well as concepts from accounting, statistics and economics.

FN2111 BUSINESS FINANCE II
Prerequisites: FN2110
The purpose of this course is to extend knowledge and understanding of finance principles by focusing on various problems and decisions confronting the financial manager. Specific topics include sensitivity analysis; corporate planning models; financial statement analysis and forecasting; short and long-term financing; commercial banking; capital budgeting; dividends and dividend policy; options, swaps, futures, forwards and firm valuation; and mergers and acquisitions.

HD1200 EDUCATOR-PATIENT INTERACTIONS
This course is designed to provide students with an overview of the core components of educator-patient interactions. Students will be introduced to elements of communication, characteristics of effective communication, potential barriers to communication and ways to overcome these barriers. This course will also focus on different types of conflict, methods of conflict resolution and strategies for dealing with challenging behaviour. Students will also discuss trust building and the role of trust in the educator-patient relationship.

HD1240 INSTRUCTIONAL SKILLS
This course is designed to provide students with an overview of learning theories and various instructional methods and materials used in patient education settings. Students will be given the opportunity to practice the skills required to select and evaluate different methods and materials. Emphasis will be placed on developing learning objectives and students will complete the Instructional Skills Workshop (ISW). This will require developing and presenting three mini lessons using the BOPPSS model, which is a way of organizing a lesson plan in order to ensure that the session includes a bridge, objective, pre-test, participatory learning, post-test and summary.

HD1270 LEARNING NEEDS ASSESSMENTS
This course is designed to provide students with an overview of learning needs assessments used in patient education. Students will be introduced to the core components of learning needs assessments, as well as challenges to, and best practices for, gathering required information with particular emphasis on the use of interviews and surveys. The course will provide students with an overview of how patient characteristics impact the outcome of learning needs assessments and will focus on the application of learning needs assessment in various patient education settings. At the beginning of the course students will commence a learning needs assessment which will be evaluated as part of the final project.
COURSE DESCRIPTIONS

HD1300 CLINICAL SKILLS I
Co-Requisites: All other Semester 1 courses
This course is designed to provide a clinical introduction to Patient Education students. The desired outcome is the enhancement of the knowledge and skills concurrently being taught in the didactic and laboratory components of Semester 1. Under direct supervision of the clinical instructor, students will be given the opportunity to observe and/or demonstrate higher order skills in simulated and real health care settings when possible. With approval from the instructor, students may choose to focus on one specific health care issue for all course activities. Possible topics include but are not limited to diabetes, asthma, obesity, mental health issues and pain management. Emphasis will be placed on intensive field demonstrations and application of skills related to educator-patient interactions, instruction and learning needs assessments. Along with the application of health care ethics, these core skills indicate competence in performing patient education activities.

HD1301 CLINICAL SKILLS II
This course is a continuation of HD1300 – Clinical Skills
I. Under direct supervision of the clinical instructor, students will be given the opportunity to observe and/or demonstrate higher order skills in simulated and real health care settings when possible. With approval from the instructor, students may choose to focus on one specific health care issue for all course activities. Possible topics include but are not limited to diabetes, asthma, obesity, mental health issues and pain management. Emphasis will be placed on intensive field demonstrations and application of skills necessary for the student to become competent in performing patient education activities. Of particular interest are skills related to patient education plans, health campaigns and the delivery and evaluation of patient education. Students will be expected to expand their knowledge and comprehension of patient education procedures in keeping with didactic theory and laboratory skills previously or concurrently taught.

HD2100 HEALTH EDUCATION CAMPAIGNS
This course is designed to provide students with an overview of health education campaigns to promote healthy behaviors and encourage disease prevention. Topics include theories of health communication and ethics. Emphasis will be placed on the design, implementation and evaluation of national and international health education campaigns. Students will apply their knowledge and skills to the creation of a health education campaign based on current health education needs.

HD2200 PATIENT EDUCATION PLANS
Prerequisites: HD1100, HD1270
This course is designed to provide students with an overview of patient education plans. The course will focus on the role of learning needs assessments in developing patient education plans, the benefits of adopting a patient education plan and the main phases of most patient education plans. The role of traditional and technology-based resources in patient education will be examined and emphasis will be placed on evaluating these resources. Students will analyze a sample learning needs assessment to complete a patient education plan and resource portfolio.

HD2220 DELIVERING PATIENT EDUCATION
Prerequisites: HD1100, HD1270
This course is designed to introduce students to best practices and procedures related to delivering patient education. The course will focus on the role of patient education professionals in delivering patient education, engaging the patient in the learning process and empowering the patient to actively manage their own health care. Emphasis will be placed on the practical application of technology in the delivery of patient education. In addition, students will explore options for including other specialists, family and community resources in the patient education process.

HD2240 EVALUATING PATIENT EDUCATION
Prerequisites: HD1100, HD1270
This course is designed to introduce students to best practices and procedures related to evaluating patient education. Emphasis will be placed on different types of evaluation, the importance of evaluation, methods of evaluation and best practices for revising a patient education plan. Students will have the opportunity to work with sample patient education plans, learning materials and evaluation data to work through the revision process.

HD2260 RESEARCH IN PATIENT EDUCATION
This course enables students to select a topic related to patient education for further research. Through research efforts, student presentations, discussion groups, teamwork and collaboration, students will have the opportunity to expand their knowledge of a topic they have chosen in consultation with the instructor. Possible topics include but are not limited to diabetes, asthma, obesity, mental health issues and pain management. Emphasis will be placed on gathering, interpreting, evaluating and presenting research results. This course will provide an overview of APA documentation style and students will have the opportunity to apply this knowledge in their report writing.

HD2300 PATIENT EDUCATION PRACTICUM
Prerequisites: Successful completion of Semester 1 and Semester 2 courses
This practicum is designed to prepare students to be effective patient education professionals. It is designed to enable students to apply the fundamental principles of patient education in a workplace environment. Students will be placed with a health related agency in either the public or private sector. Performance will be monitored under close supervision and will be evaluated by both the employer and the practicum instructor. With approval from the employer and instructor, students may choose to concentrate on one specific health care issue for all practicum activities. Possible focus areas include but are not limited to diabetes, asthma, obesity, mental health issues and pain management. As part of their duties, students will be
required to participate in, plan and evaluate patient education activities. The structure and functions of the practicum location will be emphasized and students will have the opportunity to record, document and reflect on learning experiences through the completion of a log book or professional journal. Students will be expected to job shadow a designated health professional in their daily practice and will be required to meet with their practicum instructor for a minimum of one hour per week to debrief.

HG1680 ETHICS IN HEALTHCARE
This is an introductory course in healthcare ethics as applied to healthcare workplace issues. Through course content, lectures, selected readings and student discussion, ethical theories will be examined and applied to current issues that arise in healthcare.

HL1140 PRINCIPLES OF EHS
This course is designed to introduce students to the field of environmental health. Students are presented with both local and global environmental health issues. A historical background of the development of the environmental health field, up to and including recent risk assessment strategies for common environmental health issues, is provided. The role of environmental health officers with respect to each major topic of study in the course is emphasized.

HL1210 EPIDEMIOLOGY
Prerequisites: MA1670, HL1140
This course is designed to introduce students to the fundamental principles and practices of historical and modern-day epidemiology, starting with contributions to common germ theory principles made in the past. The course will identify the common practices undertaken by health officials to properly describe, interpret, analyze and communicate disease and injury findings to the populations at risk. Furthermore, this course will assist the student in identifying the steps to investigate illness in the community and to assess illness/injury in the population both descriptively and analytically. Emphasis is given to the disparity in the disease/injury status across different populations.

HL1301 COMMUNICABLE DISEASE CONTROL II
Prerequisites: HL1310, HL1210
This course is a continuation of Communicable Disease Control I. This course investigates the mitigative tactics used by Environmental Health Officers to prevent or control communicable disease outbreaks and other large scale biological events. The inspection protocols involved in hospital infection control, pandemic influenza preparedness and communicable disease outbreak investigations are also explored.

HL1310 COMMUNICABLE DISEASE CONTROL I
Prerequisites: BL1130
Following a review of the basic concepts involved in communicable disease control, this course systematically deals with the etiological agents of communicable disease. Emphasis when dealing with each individual disease is given with reference to current and historical case studies, reservoirs, modes of transmission, signs and symptoms and measures used by the Environmental Health Officer to control its spread. In the laboratory setting, students will investigate known and unknown cases of communicable disease. Students will also identify the unique morphological characteristics of common parasites during their lifecycles.

HL1410 EH INSPECTION AND INVESTIGATION
Prerequisites: HM1560, HM1561, EN2310
This course introduces the student to the routine inspection and investigation field work of the environmental health officer and those persuasive, negotiation and progressive enforcement skills employed in environmental health programs. Where possible, a considerable portion of this course will be spent in the field conducting actual inspections and investigations of food, drinking and recreational water, housing, communicable disease, air quality, occupational health and safety and land hazards.

HL1610 PUBLIC HEALTH ADMINISTRATION
Prerequisites: HL1140, HL1650
This course provides an overview of major administrative concepts for public health professionals. The structural and functional development of a public health system including its organization, resourcing and services delivery are examined. The role of the Environmental Health administrator within program and policy development and leadership is studied. Particular emphasis is given to building an awareness of management and leadership attributes of effective public health managers.

HL1650 HEALTH EDUCATION AND PROMOTION
Prerequisites: HL1310
This course will prepare the learner to identify and evaluate relevant public health messages at both the community and national levels. The student will be expected to 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. The student will gather data on a selected topic, utilize a relevant health promotion strategy to develop a local program, create effective presentations, utilize appropriate educational techniques and disseminate information to various audiences.

HL1720 EMERGENCY MANAGEMENT
Prerequisites: HL1140
This course is designed to introduce environmental health students to the procedures involved in managing an emergency. Particular emphasis is given to the environmental health officer’s roles and responsibilities in biological, chemical and natural disaster events.
Course Descriptions

HL1800 ENVIRONMENTAL HEALTH RESEARCH
Prerequisites: HL1210
This course continues the study of research and investigation in the environmental health profession. The design of both qualitative and quantitative research design methods will be examined. Using the skills developed in the classroom, students will design and complete a primary research report using survey methodology on a topic important to environmental health within the local context. Meaningful interpretation of results is one of the main focuses in this course.

HL1920 PUBLIC HEALTH PRACTICUM I
Prerequisites: Successful completion of all program-related courses prior to Public Health Practicum I (end of Semester 5)
This seven-week practicum is an essential component in the preparation of students for the public health field. It is designed to enable students to apply the fundamental principles of environmental health and safety in a workplace environment. Students are placed with a public health related agency in either the public or private sector. Performance is monitored under close supervision and is evaluated by both the employer and the practicum instructor. As part of their duties, students will be required to participate in public health program activities and delve into the administrative aspects of the workplace. The structure and functions of the practicum location will be emphasized and the student will have the opportunity to record, document and reflect on learning experiences through the completion of a daily log journal. The student will be expected to job shadow a designated public health professional in their field inspections/visits to various places of interest contributing to preventive health programming, planning and evaluation.

HL1921 PUBLIC HEALTH PRACTICUM II
Prerequisites: Successful completion of all program-related courses prior to Public Health Practicum II (end of Semester 8).
This seven-week practicum is an essential component in the preparation of students for the public health field. It is designed to enable students to apply the fundamental principles of environmental health and safety in a workplace environment. Students are placed with a public health related agency in either the public or private sector. Performance is monitored under close supervision and is evaluated by both the employer and the practicum instructor. As part of their duties, students will be required to perform public health evaluations in the field, write detailed professional field reports and evaluate the public health significance of any intervention(s). Furthermore, the student will utilize sound report writing skills to communicate their findings. The learner will be expected to independently conduct environmental and/or public health evaluations in the field as assigned by the employer or practicum instructor. Paper-based and electronically-generated field reports will be utilized.

HM1561 FOOD SAFETY
This course will examine aspects of food safety from a global perspective. An examination of the major types of food products will be included, with special emphasis on both the intrinsic and extrinsic factors responsible for food safety. Case studies and current literature will be examined to provide an up-to-date study of the pathogens that can be acquired through food and the food safety mitigation strategies used to control pathogens. The Hazard Analysis and Critical Control Point (HACCP) system is studied and used to demonstrate how food safety risks can be minimized in all areas of food handling from "field to fork." Lab sessions will familiarize students with various food safety intervention strategies and procedures and the types of testing equipment used to evaluate food safety practices in the field. In addition, the student will use the theory provided in the course to identify the physical, chemical and microbiological parameters which lead to foodborne illness. Field trips will provide examples of the food safety strategies utilized in areas of production or food service to protect public health. Students must successfully complete all aspects of the course to receive Foodsafe Certification (Food Safe Level 1 and Food Safe Level 2).

HN1230 HUMAN RESOURCE MANAGEMENT I
This is an introductory course in the fundamental principles and practices of strategic human resource management today. The student will explore the law and human resource management, human resource planning, job analysis and job design, recruitment, selection, socialization and orientation, training, development and career planning. Theoretical learning will be reinforced with case studies and current article reviews.

HN1240 HUMAN RESOURCE MANAGEMENT II
Prerequisites: HN1230
This is an introductory course in the fundamental principles and practices of strategic human resource management. The student will explore performance management, direct compensation, indirect compensation (employee benefits and services), communication and employee relations, workplace safety and occupational health, industrial relations framework, workforce diversity and international human resource management and human resource metrics. Theoretical learning will be reinforced with case studies and current article reviews.

HN2130 RECRUITMENT AND SELECTION
Prerequisites: HN1240
This course will examine in some depth the current process, issues and practices involved in the recruitment and selection function. The learner will explore the staffing function, legal compliance, information sources for staffing, reliability and validity of performance predictors, recruitment, selection, staffing evaluation and emerging trends in staffing. Students will have the opportunity to apply various staffing techniques and practices using case studies and application assignments.
HN2140 ATTENDANCE AND DISABILITY MANAGEMENT  
**Prerequisites: HN1240**  
This course will examine in some depth the current processes, issues and practices involved in attendance and disability management. The learner will explore the various laws and regulations affecting the practice of attendance and disability management, attendance management systems/procedures, disability management programs, best practices in disability management, legal and ethical issues in disability management, disability management in a unionized environment and attendance management and disability management policy/plan development. Students will have the opportunity to research various attendance management and disability management practices and procedures.

HN2150 TRAINING AND DEVELOPMENT  
**Prerequisites: HN1240**  
This course will examine in some depth the current processes, issues and practices involved in the training and development function. The learner will explore needs analysis, training design, methods and evaluation, development methods and evaluation and emerging trends in the field. Students will have the opportunity to apply various training and development techniques and practices using case studies and application assignments.

HN2200 STRATEGIC COMPENSATION AND BENEFITS  
**Prerequisites: HN1240**  
This course will explain, in some depth, the key issues, processes and techniques involved in planning, designing and administering a compensation and benefits strategy. The student will explore internal alignment; external competitiveness; performance management; administration/budgeting; role of government and pay discrimination; and employee benefits. Students will have the opportunity to apply various compensation practices and techniques with case studies and application assignments.

HN2210 HUMAN RESOURCE PLANNING  
**Prerequisites: HN1240**  
This course will examine, in some depth, the fundamental issues, principles and practices of strategic human resource planning. The student will explore human resource strategies and plans; environment influences/issues; staffing strategies; forecasting techniques; managing performance and employee expectations; and managing and measuring the human resource function. Theoretical learning will be reinforced with application assignments.

HN2230 EMPLOYEE RELATIONS  
**Prerequisites: HN1240**  
This course is designed to provide students with an introduction to employee relations, the area of human resource management which is concerned with maintaining positive and healthy relationships in the workplace. Emphasis is placed on the key dimensions of employee relations, including employee communication, counseling, discipline and employee rights and involvement.

HN2310 ALTERNATE DISPUTE RESOLUTION  
**Prerequisites: HN1240, CM2200, LW1240**  
The purpose of this course is to give human resource management students a working knowledge of conflict resolution outside of a collective agreement environment and avoiding the use of the legal system. Students will understand the nature of conflict and be able to diagnose a conflict so that an appropriate alternate dispute resolution mechanism can be selected. Students will become familiar with the various resolution mechanisms that are available to resolve a dispute, the advantages and disadvantages of each and how to apply the criteria needed to choose one and follow through with it.

HN3110 CURRENT TOPICS IN HUMAN RESOURCE MANAGEMENT AND INDUSTRIAL RELATIONS  
**Prerequisites: HN1100, HN1400, HN2100, HN2130, HN2140, HN2200**  
**Co-Requisites: HN2110, HN2210**  
This student-led seminar-based course will examine issues, topics and trends in the area of human resource management and industrial relations that are of recent and current concern to human resource professionals today. Students will research, develop and present a seminar/paper on selected issues/topics/trends from among the following areas explored in this course: the field-practice of human resource management; the field-practice of industrial relations; recruitment and selection; occupational health and safety; employment and labor law; collective agreement administration; attendance and disability management; compensation and benefits; human resource planning; and dispute resolution. In addition students will have the opportunity to research and critique a current journal article.

IN1110 HAND TOOLS  
This course introduces students to common hand tools used in the workplace so they can select, and safely utilize appropriate hand tools to perform a task. Students will gain experience working with cutting, marking, assembly, and portable power tools.

IN1116 POWER TOOLS  
This course introduces students to common power tools used in industrial plant operation and maintenance so they can select, and safely utilize appropriate power tools to perform a task.

IN1121 PROCESS CONTROL FUNDAMENTALS  
**Prerequisites: SE1036**  
This course is designed to provide students with an understanding of process control fundamentals. Topics in this course include operating principles and components of an industrial control system; hazardous areas classification; industrial plant permit systems; and the importance of controlling the four fundamental process variables (pressure, level, flow, and temperature).
Course Descriptions

IN1125 INSTRUMENTATION DRAWINGS
Prerequisites: SE1036
This course introduces students to a variety of drawings commonly used for instrument maintenance in an industrial plant. Students will be 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.

IN1130 INSTRUMENT AIR SUPPLY SYSTEM
Prerequisites: IN1116
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.

IN1135 PNEUMATIC COMPONENTS/VALVES
Prerequisites: IN1121, IN1125, IN1130
This course is designed to introduce students to pneumatic system components/valves. Students will be provided with the necessary knowledge and hands-on skills to identify, test, and calibrate pneumatic components.

IN1140 ELECTRICAL CIRCUITS
Prerequisites: IN1116
This course is designed to introduce students to the basic operating principles of an electric circuit. Topics covered in this course include electrical circuit components, measurement of electrical parameters on AC and DC circuits, and the application of electrical laws and principles in measurement control loops, alarm systems, and protection systems.

IN1145 ELECTRONIC CIRCUITS
Prerequisites: IN1140
This course introduces the basic operating principles and applications of electronic circuits. Students will develop the skills required to construct a basic DC power supply and safely install UPS and chargers.

IN1150 WORKPLACE ORIENTATION
Prerequisites: Successful completion of all previously scheduled courses
This four-week workplace orientation presents an opportunity for Technician Certificate (Instrumentation) students to become familiar with the plant environment within Qatar’s Energy and Industry sector. The student trainee will be required to demonstrate effective communication skills, an exemplary work ethic, and a willingness to learn the administrative and operational workings of a plant. During the four-week orientation, trainees will be expected to demonstrate punctuality and full attendance, as well as exhibit the discipline required to be an effective member of a maintenance/production team.

IN1155 DIGITAL LOGIC CIRCUITS
Prerequisites: IN1140
This course introduces students to the various electrical/instrument discrete devices, symbols, and knowledge required for the interpretation of logic diagrams. Tasks and projects in this course include the construction and testing of simple logic circuits.

IN1160 MICROPROCESSOR CONTROLLERS
Prerequisites: IN1140
This course is designed to give students an introduction to microprocessor-based instruments and the configuration of these devices using a handheld interface (communicator). Students will be required to install, test, and configure transmitters, controllers, positioners, and foundation fieldbus instruments.

IN1161 ONLINE ANALYTICAL INSTRUMENTS
Prerequisites: IN1110, IN1116, IN1140, IN1145, IN1155, IN1160
This course is designed to provide students with an introduction to online analytical instruments (OAI) used in the petroleum industry. Topics include: identifying the various types of online analyzers, detailed analysis of conductivity monitoring systems, and pH monitoring systems.

IN1162 FIRE & GAS ALARM SYSTEMS
Prerequisites: IN1110, IN1116, IN1140, IN1145, IN1155, IN1160
This course is designed to give students an introduction to safety protection systems used in the workplace. Students will be provided with the knowledge and skills required to identify components of a fire and gas system and follow a standard operating procedure to monitor basic protection systems.

IN1165 PRESSURE CONTROL LOOP
Prerequisites: IN1135, IN1160
This course is designed to provide students with the necessary knowledge and skills to measure, control and troubleshoot pressure control loops using scales, sensors, transmitters, and controllers.

IN1170 LEVEL CONTROL LOOP
Prerequisites: IN1135, IN1160
This course is designed to provide students with the necessary knowledge and skills to measure, control and troubleshoot level control loops using scales, sensors, transmitters, and controllers.

IN1175 FLOW CONTROL LOOP
Prerequisites: IN1135, IN1160
This course is designed to provide students with the necessary knowledge and skills to measure, control and troubleshoot flow control loops using scales, sensors, transmitters, and controllers.

IN1180 TEMPERATURE CONTROL LOOP
Prerequisites: IN1135, IN1160
This course is designed to provide students with the necessary knowledge and skills to measure, control and troubleshoot temperature control loops using scales, sensors, transmitters, and controllers.

IN1185 ADVANCED CONTROL LOOPS
Prerequisites: IN1165, IN1170, IN1175, IN1180
This course is designed to give students an understanding of advanced control loops. Students will be introduced to process control strategies, techniques, and technologies implemented within industrial process control, such as split range, ratio, cascade, and feed-forward control.
Course Descriptions

IN1190 ADVANCED CONTROLS
Prerequisites: IN1165, IN1170, IN1175, IN1180
This course introduces the basic components, operation, configuration, and maintenance of typical DCS, PLC, and SCADA systems used in an industrial plant.

IN1195 WORKSITE PRACTICUM
Prerequisites: Successful completion of all previously scheduled courses
This worksite practicum represents an opportunity for Technician Certificate (Instrumentation) students to demonstrate competencies acquired on campus in pilot plants, workshops, and using simulators. Working in an industrial setting, program competencies will be undertaken by student trainees in conjunction with workplace maintenance/operations staff and assessors. Students will be expected to apply knowledge and skills gained in the preceding technical phases, while demonstrating high standards of behavior expected in an industrial environment. This practicum follows the successful completion of all semester work in the Technician Certificate (Instrumentation) program. The practicum is discipline-specific and takes place over a period of 24 weeks, within a regular work week of at least 30 hours, and is remunerated (paid) and evaluated. Learners will be assessed by their employer using an assessment scheme co-developed by the College and employer.
Upon completion of the practicum, students will be expected to perform satisfactorily without assistance and/or supervision (Competence Level 3).

IN1200 CONTROL VALVES AND POSITIONERS
Prerequisites: IN1190, IN1185
This course is designed to provide students with an understanding of control valves and positioners, as well as the basic skills required to disassemble, reassemble and stroke values.

IN1205 ROTATING MECHINERY VIBRATION
Prerequisites: IN1190, IN1185
This course is designed to provide students with an understanding of vibration in rotating machinery, and the basic skills required to detect vibration, and use and maintain monitoring systems.

KB1150 KEYBOARDING I
Prerequisites: KB1150
This course develops keyboarding speed and accuracy. Keyboarding speed on straight copy material is developed to 30 net words per minute for five (5) minutes.
Note: Students must achieve a typing speed of 30 net words per minute in order to pass KB1150.

KB1151 KEYBOARDING IL
Prerequisites: KB1150
This course continues to develop keyboarding speed and accuracy. Keyboarding speed is developed to a minimum of 40 net words per minute for five (5) minutes.
Note: Students must achieve a typing speed of 40 net words per minute in order to pass KB1150.

LS1000 IELTS PREPARATION
This course is designed to help alleviate specific weaknesses in students’ mathematical skills and thereby increase their chances for success in further courses. It is the second of two preparatory courses designed to provide the fundamentals of mathematics.

MA1026 PREPARATORY MATHEMATICS II
Prerequisites: MA1025
This is a course in preparatory mathematics designed to help alleviate specific weaknesses in students’ mathematical skills and thereby increase their chances for success in further courses. It is the second of two preparatory courses designed to provide the fundamentals of mathematics.

MA1028 -PREPARATORY BUSINESS MATH
Prerequisites: College Academic Math Placement Test Result
This preparatory mathematics course is designed to help address specific weaknesses in learners’ mathematical skills to increase their chances of success in subsequent business program courses. This course covers topics in foundational mathematics, and introduces students to mathematical concepts with business applications. This course will increase the learners’ competence in the solutions of practical, financial, and mathematical problems encountered in the business community.

MA1101 MATHEMATICS
Prerequisites: Successful completion of either Mathematics MA1700, MA1100, H S Advanced Mathematics 3200, or a minimum grade of 70% in HS Academic Mathematics 3201.
This is a course design to prepare students for the study of calculus as well as to introduce and give them a facility with the concepts of differentiation necessary for a better understanding of a variety of technology courses.

MA1530 STATISTICS
This course is designed to introduce the student to the basic principles of statistics with the use of Microsoft Excel.
**Course Descriptions**

**MA1670 STATISTICS**  
This course introduces students to the basic principles of probability and statistics and the decisions that can be made using statistics. In this course the student will explore descriptive statistics, elementary probability, discrete and continuous probability distributions, sampling distributions, hypothesis testing, chi-square distribution, analysis of variance, linear regression and correlation and multiple linear regression.  
The student will have the opportunity to apply and interpret the results of a variety of statistical techniques from both descriptive and inferential statistics; to apply the fundamental concepts in statistics including sampling, experimentation, variability, distribution, association, causation, estimation, confidence, hypothesis testing and significance; to critically review and analyze statistical arguments found in the popular press and in scholarly journals; and to appreciate the relevance and importance of statistics.

**MA1700 MATHEMATICS**  
This is a course in pre-calculus mathematics designed to help strengthen students’ mathematical skills, and thereby increase their chances for success in other technical courses.

**MA1730 MATHEMATICS FOR PHARMACY TECHNICIANS**  
Prerequisites: MA1700  
This is a course in Mathematics designed to support the mathematical needs related to the pharmacy profession. This course will develop specific skills related to conversions, dosage, marketing, and other calculations required by the pharmacy technician in day-to-day work.

**MA1900 PROBLEM SOLVING FOR INFORMATION TECHNOLOGY**  
The course is intended to illustrate how to develop logic for computer programs. To aid in the development of the student’s use of problem solving techniques necessary for Information Technology, a practical mathematical background is provided in this course as it applies to business data processing. A review of basic algebra and computer-related mathematical topics is covered.

**MA1910 INTRODUCTION TO NUMERICAL PROBLEM SOLVING**  
Prerequisites: MA1900  
The student will develop a range of expertise and skills in Computer Science which include creating visual depictions of problems, understanding algorithms, and using a variety of software applications. The decision making topics include optimization, transportation schedules, assignment problems, statistics and probability.

**MA2100 MATHEMATICS**  
Prerequisites: MA1101  
In this course students will extend their study of topics in differential calculus and will also be introduced to integral calculus. Topics covered will assist students to better understand concepts encountered in other courses.

**MA2101 MATHEMATICS**  
Prerequisites: MA2100  
This is an advanced calculus course designed to meet specific requirements of the electrical/electronic engineering programs.

**MA3700 PRODUCTION AND OPERATIONS MANAGEMENT**  
Prerequisites: FN1140, MA1670, MC1242  
This course is designed to provide the student with an understanding of the process involved in production management and operations management. Operations management involves design, planning, control and improvement of the activities or processes that transform a firm’s inputs into final products. In this course, the student will study the building blocks of operations management. The student will study the importance of interaction and coordination of business areas to meet organizational goals. Various mathematical and computerized models are introduced and their application to the decision making process is emphasized.

**MC1240 COMPUTER APPLICATIONS I**  
Prerequisites: MC1240  
The course is designed to expose students to software packages that can be used to create spreadsheets.

**MC1242 COMPUTER APPLICATIONS II**  
Prerequisites: MC1240  
The course is designed to expose students to software packages that can be used to create spreadsheets.

**MC1250 COMPUTER APPLICATIONS I**  
This course introduces students to: business e-mail etiquette, format and software; intermediate word processing techniques; and intermediate presentation software techniques. Students will develop skills through practical application.

**MC1820 COMPUTER APPLICATIONS**  
The course is designed to expose the student to soft ware packages that can be used to create technical drawings, spreadsheets, database and web sites.

**ME1126 HAND TOOLS**  
This course will introduce students to common hand tools used in the workplace so they can select, and safely utilize, appropriate hand tools to perform a task. Students will gain experience working with basic measuring, marking, cutting, assembly, and portable power tools. As such, this course provides the basis for the mechanical maintenance of plant equipment, and is the foundation for subsequent mechanical courses.

**ME1127 BASIC STATIC EQUIPMENT**  
Prerequisites: ME1155  
This course is designed to provide students with an introduction to basic static equipment used by mechanic technicians in the oil and gas industry. Students will learn the knowledge and skills required to identify boilers, furnaces, process tanks, and containers used during the production of oil and gas.
ME1128 TURBO EXPANDERS  
**Prerequisites:** ME1155  
This course is designed to provide students an introduction to turbo expanders used within the oil and gas industry. Students will learn the knowledge and skills required to identify turbo-expanders, major components and auxiliary systems.

ME1129 BASIC MACHINE TOOLS  
**Prerequisites:** SE1036  
This course will introduce students to common machine tools used in the workplace so they can select and safely utilize appropriate machine tools to perform given tasks. Students will gain the necessary knowledge and skills to perform basic maintenance checks on machine tools to keep them in a safe, operating condition. This course provides the basis for the mechanical maintenance of plant equipment, and is the foundation for subsequent mechanical courses.

ME1130 LIMITS, FITS, AND TOLERANCES  
This course is designed to provide students with an introduction to limits, fits, and tolerances so they can apply these principles in the maintenance of plant equipment. Students will be required to use the international table of limits and fits, as well as make interpretations of limits and fits represented on technical drawings.

ME1136 PRECISION MEASURING TOOLS  
This course will introduce students to precision measuring tools used in the workplace so they can select, and safely utilize, appropriate precision measuring tools to perform a task. 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.

ME1141 ADVANCED MACHINE TOOLS  
**Prerequisites:** SE1036  
This course will introduce students to common machine tools used in the workplace so they can select, and safely utilize, appropriate machine tools to perform a task. Students will also be provided with the necessary knowledge and skills to perform basic maintenance checks on machine tools to keep them in a safe, operating condition. As such, this course provides the basis for the mechanical maintenance of plant equipment, and is the foundation for subsequent mechanical courses.

ME1145 ENGINEERING MATERIALS  
**Prerequisites:** SE1036, ME1126  
This course is designed to provide students with an introduction to the identification of materials for specific applications. Students will develop the knowledge and skills necessary to perform heat treatment techniques as well as permanent/temporary joining methods.

ME1150 THREADING TECHNIQUES  
**Prerequisites:** SE1036, ME1126  
**Co-Requisites:** SE1135  
This course provides students with an introduction to threading techniques. Students will develop the necessary skills to identify thread types, select and apply the appropriate locking device for a specific threading activity, and cut thread on pipe using a thread-cutting machine.

ME1155 TECHNICAL DRAWINGS  
**Prerequisites:** SE1036  
**Co-Requisites:** ME1126  
This course introduces basic technical drawings and projections in accordance with British Standard (BS) 8888. The student will be expected to demonstrate an understanding of technical drawings, as well as develop and interpret freehand sketches and basic engineering drawings.

ME1156 HYDRAULIC SYSTEMS  
**Prerequisites:** ME1126, ME1136, ME1155  
This course is designed to give students an introduction to hydraulic systems used in the oil and gas industry. Students will develop the knowledge and skills required to maintain hydraulic systems and major components. In addition, students will also construct and operate circuits for a hydraulic system.

ME1160 WORKPLACE ORIENTATION  
**Prerequisites:** Successful completion of all previously scheduled courses  
This four-week workplace orientation presents an opportunity for Technician Certificate (Mechanical) students to become familiar with the plant environment within Qatar’s Energy and Industry sector. The student trainee will be required to demonstrate effective communication skills, an exemplary work ethic, and a willingness to learn the administrative and operational workings of a plant. During the four-week orientation, trainees will be expected to demonstrate punctuality and full attendance, as well as exhibit the discipline required to be an effective member of a maintenance/production team.

ME1165 FLANGES, GASKETS, & FITTINGS  
**Prerequisites:** ME1126, ME1136, ME1155  
This course will provide students with the requisite knowledge and skills to safely thread, install, and maintain pipes, tubes, flanges, and blinds. The selection, removal, and assembly of gaskets and fittings will also be covered in this course.

ME1170 VALVE MAINTENANCE  
**Prerequisites:** ME1126, ME1136, ME1155  
This course is designed to provide students with the theoretical knowledge and practical skills required to maintain valves and their components. Topics include valve classifications, valve applications, maintenance procedures, hydro-testing, and safety valve calibration.

ME1175 HEAT EXCHANGER MAINTENANCE  
**Prerequisites:** ME1126, ME1136, ME1155  
This course is designed to provide students with the theoretical knowledge and practical skills required to maintain heat exchangers and their components. Principles of heat transfer, heat exchanger classification, and maintenance procedures for shell-and-tube heat exchangers are covered in this course.
Course Descriptions

ME1180 FILTER & STRAINER MAINTENANCE
Prerequisites: ME1126, ME1136, ME1155
In this course, students will develop the necessary skills to install and maintain filters/strainers in the workplace. The operating principles and applications of filters/strainers will be covered, in addition to hands-on skill development with filter/strainer installation and maintenance.

ME1185 COUPLING MAINTENANCE
Prerequisites: ME1126, ME1136, ME1155
This course provides students with the necessary theoretical knowledge and practical skills to maintain mechanical power transmission systems. Students will be expected to inspect, maintain, remove, repair, and install couplings, clutches, pulleys and belts as well as perform shaft/belt alignment.

ME1190 SEAL MAINTENANCE
Prerequisites: ME1126, ME1136, ME1155
In this course, students will develop the necessary skills to maintain mechanical seals in the workplace. Students will be expected to inspect, remove, repair, and install mechanical seals and gland packing. As such, this course provides the foundation for subsequent courses on pump, compressor, and internal combustion engine maintenance.

ME1195 BEARINGS MAINT. & LUBRICATION
Prerequisites: ME1126, ME1136, ME1155
This course is designed to provide students with the knowledge and skills necessary to maintain bearings in the workplace. Hands-on tasks to develop the student’s skill-set in working with bearing types, bearing applications, maintenance procedures, lubricants, and lubrication systems have been integrated in this course.

ME1211 PUMP MAINTENANCE
Prerequisites: ME1126, ME1136, ME1155, ME1185, ME1190, ME1195
This course provides students with the necessary theoretical knowledge and practical skills to maintain mechanical pumps in the workplace. Students will be expected to dismantle, inspect, repair, and assemble positive and non-positive displacement (centrifugal) pumps.

ME1215 COMPRESSOR MAINTENANCE
Prerequisites: ME1126, ME1136, ME1155, ME1185, ME1190, ME1195
This course provides students with the necessary theoretical knowledge and practical skills to maintain compressors in the workplace. Students will be expected to dismantle, inspect, repair, and reassemble centrifugal, reciprocating, and screw compressors. An introduction to air treatment systems will also be covered in this course.

ME1220 IC ENGINE MAINTENANCE
Prerequisites: ME1126, ME1136, ME1155, ME1185, ME1190, ME1195
This course provides students with an introduction to Internal Combustion (IC) Engines and their auxiliary systems. Students in this course will gain practical experience in performing basic maintenance procedures on an IC engine.

ME1225 MAINTENANCE PROCEDURES
Prerequisites: Successful completion of all previously scheduled courses
This course emphasizes the importance of following standard operating procedures in performing plant maintenance. Students will be expected to follow maintenance work management systems and demonstrate safe practices during all maintenance activities.

ME1230 WORKSITE PRACTICUM
This worksite practicum represents an opportunity for Technician Certificate (Mechanical) students to demonstrate competencies acquired on campus in pilot plants, workshops, and using simulators. Working in an industrial setting, program competencies will be undertaken by student trainees in conjunction with workplace maintenance/operations staff and assessors. Students will be expected to apply knowledge and skills gained in the preceding technical phases, while demonstrating high standards of behavior expected in an industrial environment.

This practicum follows the successful completion of all semester work in the Technician Certificate (Mechanical) program. The practicum is discipline-specific and takes place over a period of 24 weeks, within a regular work week of at least 30 hours, and is remunerated (paid) and evaluated. Learners will be assessed by their employer using an assessment scheme co-developed by the College and employer. Upon completion of the practicum, students will be expected to perform satisfactorily without assistance and/or supervision (Competence Level 3).

ME1300 AUXILIARY SYSTEMS OF GAS TURBINES
Prerequisites: ME1126, ME1136, ME1155
This course provides students with an introduction to gas turbines and their auxiliary systems. Students will develop the necessary skills to assist in performing basic auxiliary system maintenance.

ME1305 CONDITION MONITORING SYSTEMS
Prerequisites: ME1225
This course introduces the fundamentals of condition monitoring systems applied to industrial equipment to monitor machine reliability. Students will develop skills in collecting vibration data.

MH1110 MECHANICAL SYSTEMS
This course is designed to assist students in becoming fully familiar with the principles of design, operation and maintenance of small high-pressure boilers such as those found in fish plants, heating plants, office buildings and H.V.A.C.

MH2010 ROTATING EQUIPMENT
Prerequisites: MH1110, PF1180
This course is designed to introduce students to the principles, operation and general maintenance requirements of selected petroleum processing equipment. The student will become acquainted with the purpose, operation and maintenance required to operate the common equipment systems and components used in a process plant.

MH2320 POWER PLANT COMPONENTS
Prerequisites: equivalent
This course is designed to develop the basic skills needed to operate and maintain steam generation systems.
Course Descriptions

MH4410 REFRIGERATION SYSTEMS
Prerequisites: MH2320
This is a course designed to develop the practical and theoretical skills needed to operate and maintain a refrigeration plant system to a third class power engineer's level.

MH4500 PRIME MOVERS
Prerequisites: MH1110 or PO1110
This course is designed to develop the basic skills needed to operate and monitor process plant prime movers.

MM1950 WORKPLACE PROFESSIONALISM
Students will gain the skills and knowledge necessary to effectively work in a team environment.

MN1260 ANALYZING BUSINESS CASES
This is a discussion-led, case-based course drawing on real business problems from companies in the Gulf and the rest of the world. This course is designed to help business students develop their skills in reasoning, analysis and the use of logical arguments for practical application in the workplace. Students who successfully complete this course will have a better understanding of how to work in teams, critically assess a problem and make recommendations based on sound business frameworks.

MN1340 INTRODUCTION TO LOGISTICS AND SUPPLY CHAIN MANAGEMENT
This course is designed to introduce the key concepts and core requirements needed for a business to organize an integrated approach to the planning, acquisition and distribution required to facilitate the efficient flow of materials and services into finished products.

MN1520 SUPERVISORY LEADERSHIP
This course will prepare the student with skills to work in leadership and supervisory positions in a variety of workplace settings. Emphasis is placed on the unique challenges facing the supervisor as the first level of management in most organizations. Concepts and theories will be explored through case studies, projects and in-class exercises designed to simulate the daily challenges facing supervisors and leaders.

MN2600 STRATEGIC MANAGEMENT
Prerequisites: Completion of all First and Second Year Business Administration courses.
This advanced course will enable students to be exposed to the inter-relationship of the functional areas of business. The focus will be on strategy development for business management, enabling students to apply organizational, financial, human resource and marketing decisions to business applications. The student will explore the role of strategic management, external environment analysis, internal resources analysis, functional areas strategies, competitive strategies, corporate strategies and strategic management in other organizations.

MN3100 BUSINESS ETHICS
Prerequisites: AC2260, HN1240, MR2100, PS2340
This course will examine the importance of an effective performance management system in helping organizations define and achieve long-term and short-term goals vital to its overall success. It will reinforce the concept that performance management is an ongoing process of planning, facilitating, assessing and improving individual and organizational performance. The student will explore the value of performance management and its context, performance management process and strategic planning, setting performance standards, effective performance appraisal systems, performance management and employee development plans, performance coaching and team performance. Students will have the opportunity to apply various performance management practices and techniques using case studies and application assignments.

MP1200 ELECTRICAL MOTORS
Prerequisites: ET1131
This course covers the characteristics and application of AC and DC motors. The course begins with a review of electro-mechanical fundamentals and progresses on to the major types of DC and AC motors commonly found in industry.

MP2160 ELECTROMECHANICAL MOTOR CONTROLS
Prerequisites: MP1200
This course introduces the student to motor control concepts and electro-mechanical control devices. The students become familiar with control diagrams, techniques and methods. It provides the students with knowledge and background to support the more advanced control concepts presented in later courses.

MP2220 TRANSMISSION AND DISTRIBUTION SYSTEMS
Prerequisites: ET1131
This course introduces students to transmission and distribution (T&D) systems focusing on lines, cables and switchgear. The TERCO PST will be used extensively to allow students to experience T&D system operations.

MP2230 POWER SYSTEM HARMONICS
Prerequisites: MA2100
This is an introductory course in power system harmonics covering sources, problems, Fourier analysis and solutions. The laboratory component will further develop and strengthen the understanding and skills related to harmonic and Fourier analysis.
MP2260 SOLID STATE MOTOR CONTROLS
Prerequisites: AE1260, MP2160
This course introduces the student to solid state electronics in motor controls. It includes coverage of power electronic devices, solid state relays and protection devices and drive electronics.

MP2370 POWER SYSTEM TRANSFORMERS
Prerequisites: MP1200, MA1101
This course focuses on the transformer, especially the electrical and construction characteristics of units commonly found in a typical electrical power system.

MP3120 HV SYSTEMS PROTECTION AND COORDINATION
Prerequisites: FE3120
This course introduces the protection schemes typically applied to high voltage generators, transformers and circuits. The primary relay functions are investigated, as are the characteristics of system abnormalities that can trigger a response from the protection system.

MP3330 TRANSMISSION AND DISTRIBUTION SYSTEMS OPERATIONAL ANALYSIS
Prerequisites: MP3120
This course covers the basic analysis techniques used to study power flow on radial transmission line circuits as well as between buses on a grid. Students are also introduced to the basic analytical techniques used when studying electrical faults on HV systems as well as to load flow and short circuit software programs.

MR1100 MARKETING I
This is an introductory course in the fundamental principles and practices of marketing. The student will explore strategic planning and marketing management, the Internet in marketing, marketing research information, consumer markets and behaviour, business markets and behaviour, market segmentation and targeting and international marketing. Students will have the opportunity to apply case studies and research various marketing concepts, techniques and processes.

MR1120 – RELATIONSHIP BANKING
This course offers insights into the fundamentals of selling bank products and the building of lasting and profitable relationships between customers and financial institutions. It provides an overview of relationship selling within the context of the financial services industry. Students will increase their knowledge and understanding of financial services customers and will learn to prepare successful sales presentations for financial customers. The course will also assist students in increasing their effectiveness in successful prospecting and proper servicing of client.

MR1280 CUSTOMER SERVICE
This course focuses on the role of the employee in providing quality customer service. Students will develop the necessary skills and abilities to effectively listen and interpret customers’ issues about a product, resolve customers’ problems and determine customers’ wants and needs. Students will be able to use the skills and knowledge gained in this course to effectively provide a consistently high level of service to the customer.

MR1500 CONSUMER BEHAVIOUR
Prerequisites: MR2100
This course introduces students to the concepts, theories and techniques of consumer behaviour. The student will explore the fundamentals of consumer behaviour in order to gain an understanding of the motivation behind purchase decisions. By understanding the consumer’s behaviour, students are able to make more market-focused strategic decisions. Students will have the opportunity to apply their knowledge through the use of case analysis and assignments.

MR1600 PROFESSIONAL SELLING
Prerequisites: CM1241, MR2100, CM2200
This is an introductory course in the fundamental principles and practices of professional selling. The course is designed to teach the student about competencies in prospecting, identifying client needs and dealing with objections while building client relationships. The student will take part in videotaped selling exercises to review and master their selling techniques. Students will have the opportunity to apply various techniques and practices through case analysis and the use of a sales simulation.

MR2100 MARKETING II
Prerequisites: MR1100
This is an introductory course in the fundamental principles and practices of marketing. The student will explore product development and life cycle, price, distribution and supply chain management, retailing and wholesaling, promotion, advertising and personal selling. Students will have the opportunity to apply various marketing techniques and practices using case studies and application assignments.

MR2200 RETAILING
Prerequisites: MR2100
This course is designed as an introduction to the concepts, theories and techniques of retailing. The student will explore the concepts of buyer behaviour, strategic retail management, retail design, presentation and pricing. Students will have the opportunity to apply various retail techniques and practices using case studies and application assignments and will develop communication skills through class discussions and group activities.

MR2300 BUSINESS RESEARCH
Prerequisites: MR2100
Co-Requisites: MA1670
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 survey project. It will familiarize the student with the ways that marketing information can be obtained and/or produced and how it is used to provide insight into markets, customers, products and business strategies for business decision making purposes. Students will have the opportunity to apply various research techniques and practices using case studies and application assignments culminating in the preparation and presentation of a research report.
Course Descriptions

MR2350 E-BUSINESS
Prerequisites: MR2100, MC1242
This course is designed to introduce students to the managerial and technical aspects of electronic business and commerce. Students will gain knowledge of the competitive electronic business field and will be equipped to help businesses assess possible opportunities through this rapidly evolving technology. They will be exposed to the concepts of customer relationship management, marketing communications, supply chain management, web analytics and taxation and ethical issues related to E-Business. Students will also have the opportunity to apply various E-Business techniques and practices using case studies and application based assignments.

MR2400 MARKETING COMMUNICATIONS
Prerequisites: MR2100, CM1241
This course will examine, in some depth, the current processes, issues and practices involved in marketing communications. The student will explore communications as it relates to print, television, radio and other media and will have the opportunity to apply their creativity in developing tools in these media for local uses wherever possible. Student will also examine how marketing communications affects the purchase and post purchase behavior of the consumer. Students will have the opportunity to apply various marketing communication techniques and practices using case studies, application assignments and a major project.

MR2401 SOCIAL MEDIA MARKETING
Prerequisites: MR2350, MR2400
This course is designed as a more advanced marketing course. The student will work with current examples and real world applications. The approach will be to break the content into four key sections: community, publishing, entertainment and commerce. This topic is such a moving target that students will constantly be scanning the horizon for the next thing that will appeal to different segments of the population. This course will also address Social Media Metrics and Measurement.

MR2402 MARKETING ANALYTICS
Prerequisites: Successful completion of all courses in Semesters one through five
This course is designed as a more advanced marketing course. Students develop a solid understanding of Marketing Return on Investment (ROI) and how to evaluate the effectiveness of organizations traditional, digital and social media investments by deploying industry benchmark tools and measurement techniques. The student at the end of this course should fully understand that an organization must measure what matters and that they are making what matters measurable. This course is designed to give the student hands on training, skills that will make them extremely industry ready or positioned to pursue their own entrepreneurial venture.

MR2403 DIGITAL MARKETING
Prerequisites: MR2100
This course is designed as the first in a trilogy of online marketing courses. The student will be presented with an overview of the digital marketing landscape. Employing a digital marketing strategy is critical for every enterprise in today’s business environment. This course will provide the student with a thorough understanding of various digital tools used in developing a comprehensive digital marketing strategy for an organization. The student will use real-life examples and case studies as he/she examines digital marketing strategies that are key to effectively communicating with today’s online consumer.

MR2450 SERVICES MARKETING
Prerequisites: MR2100
This course is designed to enable the student to apply the concepts of marketing relevant to the service sector. The student will 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 will have the opportunity to apply their knowledge of these marketing concepts and strategies using a case project, application assignments and presentations.

MR2620 SALES MANAGEMENT
Prerequisites: MR1600
This advanced course will provide the student with the opportunity to explore the practical components of the professional sales manager. The student will gain and deepen their knowledge in the areas of sales management, planning, forecasting and account relationship, as well as sales force organization, operations, staffing and training. Students will have the opportunity to demonstrate the application of concepts through field work assignments, case analysis, research and presentations.

MR2700 INTERNATIONAL MARKETING
Prerequisites: MR2100
This course is designed to enable the student to apply the concepts of marketing in an international context. The student will research and understand foreign markets and apply marketing concepts relevant to strategy development in foreign markets identified by exporting and transnational organizations. The student will have the opportunity to acquire knowledge of international environmental influences, preparation for international markets, and the international marketing mix and apply various international marketing techniques and practices using case studies and application assignments.

MR2800 BUSINESS-TO-BUSINESS MARKETING
Prerequisites: MR2100
This course will enable the student to apply the concepts of marketing in a business customer context, to research and evaluate business markets and to apply marketing concepts relevant to strategy development in manufacturing, trade, institutional and not-for-profit organizations. The student will use analysis of business buyer behaviour, segmentation and targeting, business marketing strategy, marketing communications and personal selling techniques to analyze case studies and complete application assignments.
Course Descriptions

MR3100 CURRENT TOPICS IN MARKETING
Prerequisites: MR1500, MR2300, MR2200, MR2350, MR2400, MR2450, MR2800
Co-Requisites: MR2620, MR2700
This course will examine issues, topics and trends in the area of marketing. Students will work in small groups to analyze the following areas explored in this course: the field of marketing, marketing communications, business to business marketing and international marketing. In addition students will have the opportunity to research and critique a current journal article.

MW2240 INDUSTRIAL MECHANICS
Prerequisites: MH1110
This course is designed to introduce students to the operation and maintenance of mechanical power transmissions. The student will disassemble and install components such as bearings and seals while doing visual inspections to determine the cause of component failures before reassembling the transmission. The student will also conduct proper maintenance for power transmission systems and their components.

MX1510 CLINICAL RADIOGRAPHY
Prerequisites: Successful completion of 5th Semester
This clinical course is designed to provide extensive clinical experience to diagnostic imaging students. Applied knowledge of anatomy and physiology, radiographic technique, pathology, radiation protection, patient care and safety; and quality assurance will be reinforced. Emphasis will be placed on intensive demonstrations and application of clinical skills in professional practice. Students will maintain documentation which demonstrates both the quality and quantity of clinical experience acquired, thus ensuring on-going maintenance of competencies developed.

MX1620 CLINICAL ORIENTATION
Prerequisites: Successful completion of semester three
Co-Requisites: All 4th semester courses
The clinical orientation of the student during the fourth and fifth semesters is designed to reinforce in a practical manner, the theoretical knowledge he/she is acquiring during the didactic segment of their training program. For several hours each week, under the direction and supervision of a clinical instructor, students participate in a variety of basic routine radiographic procedures that present in accordance with their level of training. Students are also afforded the opportunity to enhance their knowledge of various basic and specialized radiographic equipment used in today's modern diagnostic imaging departments. During their clinical orientation, students are also able to apply their understanding of the concepts used in providing quality patient care and radiation protection in a "real life" setting.

MX1621 CLINICAL ORIENTATION
Prerequisites: Successful completion of Semester 4
Co-Requisites: All 5th semester courses
The clinical orientation of the student during the fourth and fifth semesters is designed to reinforce in a practical manner, the theoretical knowledge he/she is acquiring during the didactic segment of their training program. For several hours each week, under the direction and supervision of a clinical instructor, students participate in a variety of basic routine radiographic procedures that present in accordance with their level of training. Students are also afforded the opportunity to enhance their knowledge of various basic and specialized radiographic equipment in today's modern diagnostic imaging departments. During their clinical orientation, students are also able to apply their understanding of the concepts used in providing quality patient care and radiation protection in a "real life" setting.

MX2102 RADIOGRAPHIC ANATOMY AND PATHOLOGY
Prerequisites: Successful completion of 3rd semester
Co-Requisites: MX2110, MX2410, MX2310, MX2200, MX1620
In this course students will gain a complete understanding of radiographic landmarks and anatomy to competently perform diagnostic imaging procedures. Students will learn to differentiate between structural tissue densities and pathological conditions as they appear on radiographic images. The content learned in this course includes surface landmarks, skeletal, appendicular and axial skeleton. The course will cover anatomical structures, functions, locations and any pathologies relevant to the aforementioned systems.

MX2103 RADIOGRAPHIC ANATOMY AND PATHOLOGY
Prerequisites: MX2102
Co-Requisites: MX2120, MX2500, MX2301, MX2201, MX1621
Successful completion of fourth semester
This course is a continuation of MX2102 where the student will become knowledgeable of the structure, function, location and radiographic appearance of structures in the skull, as well as the following anatomical systems: Cardiovascular, Digestive, Respiratory, Urinary, Reproductive, Nervous and Endocrine Systems. Identification of anatomical structures on the radiographic image as well as the ability to differentiate between normal and abnormal anatomical appearance in all three dimensions is required. The course will also cover pathologies relevant to the aforementioned systems.

MX2110 RADIOGRAPHIC TECHNIQUE
Prerequisites: BL2100
Co-Requisites: MX2102, MX2410, MX2310, MX2200, MX1620
This course is designed to introduce the student to the fundamental practices involved in the performance of radiographic imaging, radiographic positioning, radiographic procedures and the analysis of the resultant image. Instructional areas include: terminology, Image Receptor identification, patient/technologist relationship, examination procedures and protocols, image...
Course Descriptions

analysis and critique, radiation protection and technologist responsibility. Emphasis will be placed on routine, pediatric, geriatric, trauma, and specialized imaging of the appendicular and axial skeleton.

MX2120 RADIOGRAPHIC TECHNIQUE
Prerequisites: MX2110
Co-Requisites: MX2103, MX2301, MX2201, MX1621
Successful completion of fourth semester
This course will consist of instruction in routine pediatric, geriatric and trauma positioning required to radiographically demonstrate the skull facial bones, thoracic cavity as well as body organs and structures of the following systems: Respiratory, Digestive, Urinary, and Reproductive Systems. Discussion, demonstration and clinical application will include such areas as Foreign body localization, mobile, operating room, trauma radiography, Bone Mineral Densitometry, Interventional Radiology and Computed Tomography imaging.

MX2200 IMAGE RECORDING
Prerequisites: Successful completion of 3rd semester
Co-Requisites: MX2310, PH2200
This course is designed to give the student comprehensive knowledge of the process involved in the formation of a diagnostic x-ray image generated through the use of radiant energy. Students will learn photographic as well as digital methods of image capture and will become familiar with the many factors that affect the quality of the radiographic image. Image manipulation, display and archiving will be discussed, as well as methods of reducing image artifact, ensuring the production of optimum diagnostic images.

MX2201 IMAGE RECORDING
Prerequisites: MX2200, MX2310
Co-Requisites: MX2301
This course is a continuation of MX2200. It is designed to provide the student with comprehensive knowledge of quality assurance processes associated with image quality management. Performance of specific quality control procedures necessary to maintain a high standard of image quality using both digital and analog image processing systems will be studied. Quality control tests for general radiographic units as well those used in fluoroscopy, CT, mammography and bone mineral densitometry will be studied. The importance of faithful adherence to quality control procedures and processes as part of a diagnostic imaging department’s overall risk management strategy will be discussed. Students will learn to perform inspection procedures and reject-image analysis as part of the overall quality assurance program.

MX2301 APPARATUS AND ACCESSORIES
Prerequisites: Successful completion of fourth semester
Co-Requisites: MX2120
This course will allow the student to gain a comprehensive knowledge of a wide variety of x-ray generating units. They will acquire the knowledge and skills necessary to operate equipment safely, effectively and efficiently. The students will learn the basic principles of PET and SPECT/Computed Tomography (CT), Magnetic Resonance Imaging (MRI), diagnostic ultrasound, CT, fluoroscopy, mammography and Bone Mineral Densitometry (BMD) units. The student will also learn and apply the basic principles of Digital Radiographic Systems.

MX2310 APPARATUS AND ACCESSORIES
Prerequisites: Successful completion of 3rd semester
Co-Requisites: MX2200, PH2200
This course provides students with a comprehensive knowledge of the production of x-radiation that will be useful for medical purposes. Students will understand the use of the x-ray tube, its components, and characteristics that will allow the proper control of the x-ray beam. Students will have basic knowledge of the electrical circuits that are essential for the production of the type of x-radiation that will result in high-quality radiographic imaging. Students will learn about the effective use of grids and collimators to reduce patient dose and improve image quality. The student will have knowledge of methods employed to facilitate heat dissipation during the production of x-radiation, as well as practical skills employed to conserve tube life. Students will be able to identify signs of tube failure.

MX2410 PATIENT CARE AND SAFETY
Prerequisites: Successful completion of third semester
Co-Requisites: MX2110, MX2102
This course provides students radiographer with the necessary knowledge to provide good patient care in a variety of situations which he/she might encounter in the hospital environment. This course emphasizes basic concepts in general patient care, body mechanics, basic nursing skills, use of common drugs, as well as caring for patients with special needs. During this semester students will also receive instruction in the fundamentals of first aid and basic life support.

MX2500 RADIATION PROTECTION AND RADIobiology
Prerequisites: BL2100, PH2200, MX2102, MX2310
Co-Requisites: MX2103
Combined with their knowledge of radiobiology, students will learn how to utilize radiation to provide maximum diagnostic information with minimal biological damage to the patient. Students will become familiar with international, national and provincial standards. They will learn how to maintain these standards by the correct use of equipment, accessories and other relevant factors. They will learn how to provide maximum protection from ionizing radiation to the patient, general public, co-workers and themselves.
Course Descriptions

MX3250 CLINICAL RADIOGRAPHY  
Prerequisites: Successful completion of 5th Semester  
All clinical courses are designed to provide extensive clinical experience to students. Applied knowledge of anatomy and physiology, radiographic technique, pathology, radiation protection and patient care and safety will be reinforced. Emphasis will be placed on intensive demonstrations and application of clinical skills in professional practice. Throughout the entire clinical component of the Medical Radiography program students will maintain documentation which demonstrates both the quality and quantity of clinical experience acquired, thus ensuring on-going maintenance of competencies acquired. This course will also provide the student with the opportunity to become familiar with related disciplines in order to review patient data such as images and reports from other studies through research and observation of other imaging and therapeutic modalities.

MX3260 CLINICAL RADIOGRAPHY  
Prerequisites: Successful completion of 5th Semester  
All clinical courses are designed to provide extensive clinical experience to students. Applied knowledge of anatomy and physiology, radiographic technique, pathology, radiation protection and patient care and safety will be reinforced. Emphasis will be placed on intensive demonstrations and application of clinical skills in professional practice. Throughout the entire clinical component of the Medical Radiography program students will maintain documentation which demonstrates both the quality and quantity of clinical experience acquired, thus ensuring on-going maintenance of competencies acquired. This course will also provide the student with the opportunity to become familiar with related disciplines in order to review patient data such as images and reports from other studies through research and observation of other imaging and therapeutic modalities.

ND1150 NON-DESTRUCTIVE TESTING  
Prerequisites: CH1120, PH1100  
This course introduces techniques used to detect discontinuities in materials without destroying the object. Coursework focuses on detection, identification, evaluation and categorization of discontinuities using die penetrance, magnetic particle, eddy current, ultrasonic and radiographic testing methods. Students will learn testing procedures and gain practical experience on a variety of test pieces.

OF1100 OFFICE MANAGEMENT I  
This course will acquaint the student with the significant role of the office employee in business, the importance of effective communication and various communications methods, the use of reference resources and the need to enhance desirable personality traits and attitudes.

OF1101 OFFICE MANAGEMENT II  
This course examines filing systems and procedures used by office workers, manual and electronic methods of information storage and retrieval, types of microforms and the need for records retention. Proper procedures for handling mail, planning and organizing business travel, good customer service techniques and researching information are also explored.

OF1400 MANAGING AN OFFICE  
This course exposes students to the functional side of managing an office. This course will include the importance of effective communications, methods of information storage and retrieval, managing time and planning and organization business meetings, and setting up the physical layout of an office environment.

OF2100 OFFICE MANAGEMENT III  
Prerequisites: OF1101, DM1210, CM2110  
This course is designed to further prepare the student for the workplace. The focus is on topics such as personal development, planning meetings and conferences and job search skills to refine the skills needed to become a successful and professional employee.

OF2101 OFFICE MANAGEMENT IV  
Prerequisites: DM2200, OF2100  
Students will complete an office simulation that will require them to perform research, make decisions and apply time management skills.

OF2270 BUSINESS SERVICES  
Prerequisites: DM2200, OF1101  
This course provides students with an opportunity to apply the skills, knowledge, and attitudes learned in Office Administration (Executive) program. The course is conducted in a real training office where students incorporate a variety of office software, tools and equipment to provide a professional business service to their clients. Throughout this course, students will continue to develop their technical skills as well as their employability skills such as working independently, team-building, customer service, work ethic and accountability as would be expected in any business office.

OF2700 CAPSTONE PROJECT  
Prerequisites: OF2100 or OF2500 or OF2400  
This course is designed to provide students with the opportunity to apply the principles and skills necessary to successfully enter the workplace as an administrative professional. This course will reinforce office management concepts, including professionalism and human relations and will assist students as they prepare to make the transition to the workplace as an administrative assistant.

OJ1040 BANKING WORK EXPOSURE II  
Prerequisites: Successful completion of all courses in academic semesters 1 to 4  
The work exposure is a required portion of the Banking diploma program, provides a unique learning experience in a real banking workplace setting and is relevant for students in the Banking program. Participation in this banking work exposure follows the successful completion of the four preceding academic terms in the Banking diploma program. Students are expected to learn, develop and demonstrate the high standards of behaviour and performance normally expected in a banking workplace environment. During the banking work
Course Descriptions

exposure, students develop their employability and technical skills further enhancing their personal growth. They learn from a new network of contacts, gain practical work experience in their occupational field of choice and acquire a greater understanding of banking and the financial industry as a career choice.

OJ1100 WORK EXPOSURE (CERTIFICATE)
Prerequisites: Successful completion of all courses in the Business Administration Certificate program with a minimum Grade Point Average of 2.0
The work exposure is a required portion of the program and provides a unique learning experience in a real workplace setting. Students will complete two weeks in industry where they are expected to learn, develop and demonstrate the high standards of behaviour and performance expected in the work environment. Throughout the work exposure experience, students will apply the skills and knowledge learned in previous courses in the Business Administration Certificate program. They will become more employable as they enhance technical, team-building, customer-service, work ethic, attitude and accountability, further enhancing their personal growth.

OJ1130 WORK EXPOSURE (CERTIFICATE)
Prerequisites: Successful completion of all courses in Semesters 1-3 of the Office Administration Certificate program with a minimum Grade Point Average of 2.0
The work exposure is a required portion of the program and provides a unique learning experience in a real workplace setting. Work exposures must be program relevant and two weeks in duration. Students will complete two weeks in industry where they are expected to learn, develop and demonstrate the high standards of behaviour and performance expected in the work environment. Throughout the work exposure experience, students will apply the skills and knowledge learned in previous courses in the Office Administration certificate program. They will become more employable as they enhance technical, team-building, problem-solving and customer-service skills; increase accountability; and strengthen positive attitudes and work ethic.

OJ1550 WORK EXPOSURE - HRM
Prerequisites: Successful completion of all courses in Semesters 1 to 5 of the HRM diploma program with a minimum GPA of 2.0
The student will gain an appreciation of the real work environment in a business or industry directly related to the area of training. This six-week period will be required in addition to academic content covered. Students will complete six weeks in industry where they are expected to learn, develop and demonstrate the high standards of behaviour and performance expected in the work environment. Throughout the work exposure experience, students will apply the skills and knowledge learned in all previous courses in the HRM diploma programs. They will also further develop employability skills such as working independently, team building, customer service, work ethic, attitude and accountability, further enhancing their personal growth.

OJ1560 WORK EXPOSURE - MARKETING
Prerequisites: Successful completion of all courses in Semesters 1 to 5 of the Marketing diploma program with a minimum GPA of 2.0
The student will gain an appreciation of the real work environment in a business or industry directly related to the area of training. This six-week period will be required in addition to academic content covered. Students will complete six weeks in industry where they are expected to learn, develop and demonstrate the high standards of behaviour and performance expected in the work environment. Throughout the work exposure experience, students will apply the skills and knowledge learned in all previous courses in the Marketing diploma programs. They will also further develop employability skills such as working independently, team building, customer service, work ethic, attitude and accountability, further enhancing their personal growth.

OJ1580 WORK EXPOSURE - ACCOUNTING
Prerequisites: Successful completion of all courses in Semesters 1 to 5 of the Accounting Diploma program.
The student will gain an appreciation of the real work environment in a business or industry directly related to the area of training. This six-week period will be required in addition to academic content covered. The student will complete six weeks in industry where she/he is expected to learn, develop and demonstrate the high standards of behaviour and performance expected in the work environment. Throughout the work exposure experience, the student will apply the skills and knowledge learned in all previous courses in the Accounting Diploma programs. As well, she/he will further develop employability skills such as working independently, team-building, customer service, work ethic, attitude and accountability, further enhancing their personal growth.

OJ1900 WORK EXPOSURE - OFFICE ADMINISTRATION (EXECUTIVE)
Prerequisites: Successful completion of all courses in semester 1 – 5 of the Office Administration (Executive) Diploma program with a minimum Grade Point Average of 2.0
The work exposure is a required portion of the program and provides a unique learning experience in a real workplace setting. Work exposures must be program relevant and six weeks in duration. Students will complete six weeks in industry where they are expected to learn, develop and demonstrate the high standards of behaviour and performance expected in the work environment. Throughout the work exposure experience, students will apply the skills and knowledge learned in previous courses in the Office Administration (Executive) diploma program. They will further enhance their personal growth by developing employability skills such as team building, customer service, work ethic, attitude, accountability and the ability to work independently.
Course Descriptions

PA1125 EMS BASICS
Co-Requisites: PA1190
In this course, students will become familiar with the profession of paramedicine by gaining knowledge on areas such as historical perspective, requirements of a modern EMS system, roles and responsibilities and legislation pertaining to paramedicine. Students will evaluate an emergency scene, carry out a patient assessment at the basic level and modify a basic assessment in circumstances where triage is required. Students will also study information pertaining to ground ambulance operation including performing vehicle safety checks, safe and defensive driving techniques, emergency driving, cleaning and disinfesting equipment and utilizing basic equipment commonly found in emergency vehicles.

PA1210 HEALTH AND FITNESS I
Prerequisites: Completion of Pre-Physical Activity Assessment
This course introduces students to the concepts of physical fitness and the importance of developing and maintaining a healthy lifestyle. This course also explores support systems and stress including the importance of these aspects to an individual's overall level of health and well-being. Students are encouraged to establish their own goals and plan for their future fitness needs related to the paramedic field. Students will identify their areas of physical fitness requiring improvement through completion of a General Physical Fitness Appraisal.

PA1211 HEALTH AND FITNESS II
Prerequisites: PA1210
This course extends the concepts of fitness acquired in Health and Fitness I. While fitness remains a leading concept in this course, students will further explore aspects such as biomechanics, lifting, transferring and securing patients including maximizing crash protection for occupants of the patient compartment. Students will also study regulations and legislation relative to workplace safety as well as demonstrate their ability to safely perform the bona fide occupational requirements of a paramedic.

PA1230 AIRWAY MANAGEMENT
Prerequisites: BL1180, PA1125
This course focuses on the knowledge, skills and abilities of paramedics in assessing and managing the airway, oxygenation and ventilation of patients. Students will study, and practice, methods of evaluating the respiratory system and its airway structures through assessment techniques and diagnostic tests. Students will demonstrate the knowledge and ability to independently conduct therapeutic management of the airway and provide oxygenation and ventilation at the basic life support level. Students will also develop the ability to assist advanced care providers in managing the airway, including below the vocal cords, utilizing specialized techniques and equipment.

PA1280 CARDIOVASCULAR EMERGENCIES
Prerequisites: PA1190 or BL1180, PA1125, Current CPR-HCP certificate
This course provides students with a comprehensive understanding of cardiovascular emergencies, including the pathophysiology of several illnesses affecting the cardiovascular system. Through the application of critical thinking strategies, students will study how to assess and manage cardiovascular emergencies in the pre-hospital setting. Students will focus on acquiring, analyzing and interpreting electrocardiogram (ECG) tracings for a variety of arrhythmias. They will also determine when a 12-lead ECG may be required and demonstrate acquiring a 12-lead ECG.

PA1290 COMMUNITY PARAMEDICINE
Prerequisites: PA1125
In this course, students will explore and participate in expanded roles of paramedic practice into an area commonly referred to as Community Paramedicine. The course consists of both didactic and practical components. In the practical component, students may accompany a health care worker, such as a Mental Health Counsellor, Addictions Counsellor, Public Health Nurse, Community Paramedic and others. Students will evaluate methods and tools utilized to perform related assessments and referrals for clients in the community setting, that is not related to the usual emergency response and transport model.

PA1370 PHARMACOLOGY 1
Co-Requisites: PA1190
This course introduces students to the fundamentals of pharmacology. This course will provide students with the foundation for further studies on drug administration in Pharmacology II and in specific patient-types related to the paramedic’s scope of practice.

PA1371 PHARMACOLOGY II
Prerequisites: BL1180, PA1125, PA1370
This course builds on the previous Pharmacology I course and provides students with the theory and skills for intravenous cannulation, fluid resuscitation and safe administration of medications commonly used in the scope of practice of a Primary Care Paramedic.

PA1415 INTERAGENCY RELATIONS
Prerequisites: Completion of Semester 1 -3 courses
Co-Requisites: PA2200
This course focuses on interagency relations in field operations. In this regard, students will develop an understanding of the responsibility of the paramedic in interacting with police, fire, air transport teams, rescue specialists and experts in managing dangerous goods incidents. Students will study the special considerations to be given when paramedics are involved with patients being transferred to or from air medical transport, including the practical skills of packaging a patient in preparation for transfer to air transport. Students will participate in a practical workshop to learn about the safety issues related to providing patient care while extrication tools are being used. Finally, students will study the responsibilities of the paramedic at crime scenes and accident scenes and their role in collaborating with law enforcement agents.
Course Descriptions

**PA1430 MEDICAL EMERGENCIES**
**Prerequisites:** PA1125, PA1230, PA1280, PA1371
This course focuses on illnesses and medical conditions not covered in other courses for which the paramedic is expected to be knowledgeable during their professional practice. The course provides students with the pathophysiology, common management strategies and treatments for a variety of medical conditions. Some of the management strategies and specific interventions are used in the pre-hospital environment and others in the clinical setting. In cases where a specific intervention is within the Paramedic’s scope of practice, students will proficiently demonstrate correct management of that patient-type in a simulated setting. The course also includes foundational knowledge on various diagnostic tests that may be performed to aid in the diagnosis of various medical conditions.

**PA1440 CLINICAL**
**Prerequisites:** All Semester 1 and 2 courses, current CPR-HCP certificate, specified immunization and personal-safety requirements
The purpose of this clinical placement is to provide students with the opportunity to become acquainted with health care settings and to allow students to gain proficiency with specific skills and tasks in a controlled environment under the supervision of a clinician or preceptor.

**PA1515 SPECIAL POPULATIONS**
**Prerequisites:** PA1430, PA1440
**Co-Requisites:** PA2020
This course addresses special considerations that are required for assessment and treatment of: patients of specific groups; patients with physical and mental impairments, geriatric and bariatric patients, as well as patients with terminal illness or in palliative care. Students will also study the pathophysiology, manifestations and pre-hospital precautions for a variety of communicable and infectious diseases.

**PA1520 MENTAL HEALTH**
**Prerequisites:** PA1415, PA2020
Students will develop an understanding of various mental illnesses including how to relate to patients experiencing a mental health crisis. Students will also study how to protect their mental health as it relates to their paramedicine working experiences.

**PA2000 TRAUMATOLOGY**
**Prerequisites:** All Semester 1-3 courses
**Co-Requisites:** PA1415, PA2020
The course focuses on the skills necessary to recognize mechanisms of injury including assessment and management of trauma patients. Through this course, students will demonstrate organized time-efficient assessments, prioritize and perform critical interventions, appropriately package and transport trauma patients.

**PA2005 OBSTETRICS AND PEDIATRICS**
**Prerequisites:** PA1430, PA1440
**Co-Requisites:** PA2020
In this course, students apply knowledge and demonstrate skills related to the branches of medicine concerned with diseases of the female reproductive system, pregnancy and childbirth. More specifically, the study of the physiologic and pathologic function of the female reproductive tract and the care of the mother and fetus throughout pregnancy, childbirth and the immediate postpartum period is addressed. Students will also incorporate skills learned in previous courses to complete specialized training in evaluation and resuscitation of neonates and pediatric patients.

**PA2030 PATIENT ASSESSMENT**
**Prerequisites:** PA2025
**Co-Requisites:** PA2035
This course provides the opportunity for students to review and master their basic assessment skills, which are foundational to the Assessment-based Management and Clinical Skills Development courses which follow. It also prepares students to employ clinical judgment to make autonomous patient management decisions to a greater degree than that expected of them at the Primary Care Paramedic level.

**PA2035 DIAGNOSTIC TECHNIQUES**
**Prerequisites:** PA2025
**Co-Requisites:** PA2030
This course reinforces students’ understanding of basic diagnostic procedures and prepares students to incorporate diagnostic test results into clinical decision-making. It also introduces the advanced diagnostic procedures which must be mastered for the student to function as a member of a Critical Care team.

**PA2025 PRACTICUM**
**Prerequisites:** All courses in Semesters 1 - 4
**Note:** Learners must successfully pass Simulation Testing within 6 months of beginning the Practicum (PA2025) course. Current CPR-HCP level certificate (maintained throughout course)
In this course, students will proficiently demonstrate knowledge and perform specific competencies, abilities and job tasks at the national occupational competency level for Primary Care Paramedicine, in a field preceptorship.

**PA2030 SIMULATION LAB**
**Prerequisites:** PA2000, PA2035
**Co-Requisites:** PA2025
This course is designed to prepare students for practicum placements through synthesizing and integrating knowledge and skills learned in previous and concurrent courses. Students will demonstrate proficiency assessing, inferring a differential diagnosis and providing care to various patient-types in a simulated setting using high fidelity simulation. Using a teamwork approach, students will simulate the events of a paramedic or clinical response. At the conclusion of simulated scenarios, students who performed lead roles will complete proper documentation in a medical record.
Course Descriptions

PA2040 ASSESSMENT-BASED MANAGEMENT I
Prerequisites: PA2030, PA2035
Co-Requisites: PA2050
As the first of two Assessment-based Management courses, this course will give students the knowledge and skills necessary to provide appropriate care to patients presenting a wide variety of disorders of the neurological, cardiovascular and respiratory systems. Students will gain mastery in the lab of the specific skills required to assess and manage patients; these skills will then be integrated into overall patient management in both the simulated and clinical environments of the co-requisite Clinical Skills Development I course.

PA2045 PROFESSIONAL PRACTICE
Prerequisites: HG1680, PA2025, PA2025, SD1680
This course will prepare students to function as contributing members of the paramedic profession and of healthcare and public safety communities in general. This course also prepares students to take a leadership role in ensuring the continuing quality and propriety of their own practice and that of the profession as a whole.

PA2050 CLINICAL SKILLS DEVELOPMENT I
Prerequisites: PA2030, PA2035, current CPR certificate
Co-Requisites: PA2040
This course provides students with the opportunity to apply the knowledge and skills learned in the co-requisite Assessment-based Management I course and to integrate them into the management of patients from all patient populations in both simulation lab and clinical environments.

PA2055 EVIDENCE-BASED PRACTICE
This course will provide students with a basic understanding of medical research methodologies and an appreciation of the value of research in developing best-practice guidelines. It will also provide the learner with the opportunity to conduct and evaluate research, and to present findings in an audience of peers and supervisors.

PA2060 ASSESSMENT-BASED MANAGEMENT II
Prerequisites: PA2040, PA2050
Co-Requisites: PA2065
As the second of two Assessment-based Management courses, this course will give students the knowledge and skills necessary to provide appropriate care to patients presenting a wide variety of conditions, disorders, syndromes, injuries and illnesses across multiple body systems. Students will gain mastery of the specific skills required to assess and manage patients in the lab component. These skills will then be integrated into overall patient management in both the simulated and clinical environments of the co-requisite Clinical Skills Development II course.

PA2065 CLINICAL SKILLS DEVELOPMENT II
Prerequisites: PA2040, PA2050, current CPR certificate
Building from the foundational competencies gained in Clinical Skills Development I, this course gives students the opportunity to integrate the knowledge and skills learned in the co-requisite Assessment-based Management II into the management of patients from all patient populations in both the simulation lab and clinical environments.

PA2070 FINAL PRACTICUM
Prerequisites: All Semester 6-8 courses with successful completion of Semester 8 Practical Skill Evaluations within the previous 6 months, current CPR certificate
Co-Requisites: RT2120
This final practicum is designed to provide students with the opportunity to synthesize and apply the knowledge, skills and abilities developed throughout the previous eight semesters. Under the supervision of a qualified preceptor, students will integrate - as appropriate - the full scope of paramedicine competencies. Throughout the semester, they will be exposed to a variety of environments and situations typical of the paramedic profession. Students will attend a variety of shifts including nights and weekends, ensuring that they are exposed to the conditions in which they will be working post-graduation.

PE2230 HAZARDOUS AREA TRAINING
This course is designed to give the student an understanding of the hazardous area classification and how systems are designed to confine an explosion inside an enclosure, isolate the ignition source or limit the energy flow into the hazardous area. Combined with this knowledge base, the students will receive hands-on training so they can install and maintain equipment for hazardous areas. This course is not designed to provide Hazardous Area Certification.

PE2300 HV EQUIPMENT TESTING AND MAINTENANCE
Prerequisites: MP2220
This course introduces the test methodologies commonly applied to medium and high voltage transformers, switchgear, cables and generators. The safety of personnel and the importance of maintenance management are continually stressed.

PE2510 ELECTRICAL PRACTICES
Prerequisites: ET1131, CI1310, MP1200
This course covers the care and use of hand tools, safety, types of electrical protection, installation of motor starters and relays, drawing electrical schematics, troubleshooting motor control circuits and installation of circuits using the local electrical code.

PE2511 ELECTRICAL PRACTICES II
Prerequisites: PE2510
This is an intermediate-level course that covers the testing and dismantling of DC and AC motors, as well as an introduction to electrical installations in hazardous locations.

PE2720 INDUSTRIAL INSTRUMENTATION PRACTICES
Prerequisites: CI1310
This course is designed to provide the instrumentation technologist with the knowledge and skills necessary to implement safe systems in an industrial environment. Emphasis will be on safe working practices and equipment installations in hazardous locations, instrument wiring and grounding considerations, tube and fitting installations, safety systems and instrument air supply considerations.
Course Descriptions

**PE3120 FACILITIES ELECTRICAL SYSTEMS I**
**Prerequisites:** PE2511
This course focuses on low voltage (240V/415V) power systems primarily in residential and commercial facilities. Students will have the opportunity to study both the theoretical and practical aspects involved with the wiring methods, protection and grounding of feeders and branch circuits.

**PE3121 FACILITIES ELECTRICAL SYSTEMS II**
**Prerequisites:** PE3120
This course focuses on low voltage (240V/415V) power systems primarily in large commercial and industrial facilities. Students will have the opportunity to study both the theoretical and practical aspects involved with the wiring methods, protection and grounding of feeders and branch circuits for a wide range of loads.

**PF1180 PIPING FABRICATION AND RIGGING**
**Prerequisites:** MH1110
**Co-Requirements:** W1140
This introductory course is designed to provide the student with practical skills in the fabrication of piping transition elements. The student will use hand and power tools to cut metal and non-metallic piping and then prepare it for fabrication. Installation and movement of loads using manual and power equipment will be covered, with emphasis on performance in a safe industrial environment. Aspects for a safe working environment through the recognition of equipment defects and environmental problems and their remediation will be an integral part of the course.

**PH1021 PHYSICS**
**Prerequisites:** FL1080 or equivalent
**Co-Requirements:** MA1025
This is a preparatory, non-credit physics course designed to introduce students to basic physics principles, concepts and applications. The course will focus on the fundamental skills necessary for further study of physics. The course will familiarize students with physics terminology and vocabulary, improve students’ applied mathematics skills (trigonometry, geometry, algebra and graphing) and introduce students to experimentation, data gathering and handling and problem solving.

**PH1100 PHYSICS**
This is an introductory physics course designed to extend students’ knowledge and understanding of basic physics principles, concepts and applications relating to mechanics. This course also extends abilities in data handling, problem solving and experimentation.

**PH1101 PHYSICS**
**Prerequisites:** MA1700, PH1100
This is a second semester course designed to extend the student’s knowledge and understanding of basic physics principles, concepts and applications relating to kinetic theory, heat, vibrations, sound and light. It also extends abilities in data handling, problem solving and experimentation.

**PH1110 FOUNDATIONAL PHYSICS**
**Prerequisites:** MA1700
**Co-Requirements:** MA1700
This is an introductory physics course designed to foster students’ competency in basic physics principles, concepts, and applications relating to mechanics, fluids, heat, sound, and electricity. Through practical application students extend their abilities in data handling, data analysis, experimentation, and problem solving.

**PH1140 APPLIED PHYSICS**
**Co-Requirements:** MA1700
This course introduces students to the physical science concepts applicable to the fields of electrical and instrumentation technology.

**PH1200 PHYSICS**
**Prerequisites:** PH1100 or PH1120
This is a second-semester algebra based course designed to extend the students’ knowledge of the basic concepts and principles of physics, specifically in the areas of heat, static fluids, waves, sound, light and electricity.

**PH1201 PHYSICS**
**Prerequisites:** PH1200
This is an intersession course designed to extend the student’s knowledge and understanding of physics principles, concepts and applications relating to electricity and magnetism.

**PH2200 RADIATION PHYSICS**
**Prerequisites:** PH1201
This is a radiation physics course designed for medical radiography students. It provides an understanding of x-ray physics, the nature of x-rays; the production of x-rays; and the interaction of x-rays with matter; and radiation dosimetry, radiation exposure, absorbed dose, dose equivalent, effective dose equivalent, detection of radiation and dosimeters.

**PM2170 PREVENTIVE MAINTENANCE**
**Prerequisites:** MH1210 and MW2240
This is an introductory course emphasizing application of Preventive Maintenance techniques to industrial equipment and systems. Students will learn about, and practice, work order generation, maintenance record keeping and methods of performing preventive maintenance tasks. This course offers practical experience in the preventive maintenance of a variety of mechanical devices.

**PM2560 FACILITIES ENGINEERING I**
**Prerequisites:** MA1101, PO1120, PO1130
This course presents the basic concepts, design and techniques necessary to operate oil and gas processing systems and equipment.

**PM2561 FACILITIES ENGINEERING II**
**Prerequisites:** PM2560
This course presents the basic concepts and techniques necessary to operate gas handling systems and facilities. The course includes a project component where course concepts are related to the operation of a process plant.
COURSE DESCRIPTIONS

PM3140 RELIABLY CENTERED MAIN
Prerequisites: PM2170
This is an advanced course in the development of Preventive and Predictive Maintenance (PPM) programs for industrial equipment and systems. This course applies the Reliability-Centered Maintenance (RCM) approach in developing comprehensive maintenance programs based on failure consequence analysis. Students will have the opportunity to design and prepare a comprehensive PPM with the aid of Computerized Maintenance Management System (CMMS) software based on the principles taught.

PO1110 PROCESS SYSTEMS INTRODUCTION
This course is designed to introduce students to the principles of design, operation and maintenance requirements of industrial process equipment such as those found in chemical process plants. Safety in the laboratory and plant is emphasized.

PO1120 CHEM PROCESSING CALCULATIONS
Prerequisites: PH1100, CH1121
This course will introduce students to the principles and calculation techniques used in the chemical processing industry. The course presents the concept of material and energy balances and the methods to formulate and solve them. Stoichiometry of industrial chemical reactions and related calculations will also be covered. Heat, heat transfer and heat balance are also investigated as they apply to chemical processes.

PO1130 PROCESS CONTROL SYSTEMS
Prerequisites: CI1180
Co-Requisites: PO2100
This course is an introduction to process control systems and is designed to provide students with the basics of proportional, integral and derivative control as well as an overview of more advanced systems and strategies. An overview of control valves and techniques, Programmable Logic Controllers (PLCs) and Distributed Control Systems (DCS) is presented. Fire and gas detection/emergency shutdown will also be covered.

PO1140 PROCESS SYSTEMS AND EQUIP I
Prerequisites: PO1110
This course provides a more in-depth view of plant systems and equipment. Boilers, water systems, fuel systems, piping and associated codes will be covered to prepare students to safely operate these other pressure systems.

PO1150 PROCESS SYSTEMS AND EQUIP II
Prerequisites: PO1110
This course introduces students to the principles, operation and general maintenance requirements of selected petroleum processing equipment used at onshore refineries. The course focuses on common equipment systems and components used in a refinery.

PO2100 PROCESS SYSTEMS: OPERATIONS
Prerequisites: PO1110
Co-Requisites: PO1130
This course provides an opportunity to apply the principles learned in the chemical processing program to the operation of a variety of pilot-plant scale chemical process equipment. Topics include water purification; pumps; heat exchangers; PH control; and separating mixtures by distillation, gas absorption and liquid-liquid extraction. Developing a safety-conscious work attitude will be an important aspect of the laboratory experience.

PO2200 PROCESS SYSTEMS: TROUBLESHOOTING
Prerequisites: PO2100
This course provides students with troubleshooting skills required to identify problems and take the necessary actions to operate a processing plant.

PO2410 PROCESS UNIT DESIGN
Prerequisites: PM2561, PO2100, PO1120
This course presents the concepts and techniques necessary to design major equipment common to most chemical industries. Emphasis is on preliminary sizing of equipment and operation of chemical processes found within the oil and gas processing industry.

PO2420 PROCESS SIMULATION
Prerequisites: PM2561, PO2100, PO1120
Chem Processing Calculations
This course introduces the fundamentals of computer-aided simulation of chemical processes. The course presents systematic tools to model, design, test, optimize and integrate process plants. Students will be trained to use a commercial process simulator to construct and converge chemical processes; develop and screen potential process flowsheets; conduct sensitivity analyses; optimize, size and estimate the cost; retrieve results; and produce reports for a variety of different chemical processes.

PO2430 APPLIED FLUID MECHANICS
Prerequisites: MA1700, PH1100, PO1120
This course introduces the laws and principles that govern incompressible fluid flow. To support theoretical studies, learners will conduct tests that demonstrate the real behaviour of fluids while comparing findings to calculated values. Course emphasis is on applying theoretical principles to the practical mechanics that govern fluid flow.

PO2500 LIQUID NATURAL GAS (LNG)/GAS TO LIQUID (GTL)
Prerequisites: PM2560
This course prepares students with the essentials of Liquefied Natural Gas (LNG) and Gas to Liquid (GTL) processes. Acid gas removal and enrichment is presented along with various LNG units such as dehydration, mixed refrigeration, fractionation and nitrogen rejection.

PR2155 PROJECT MANAGEMENT
Prerequisites: CM1400 or CM2180
Project Management is the application of processes, knowledge, skills, and experience to achieve a quality project on time, within scope, and on budget. This course introduces the principles of project management, and the application of tools and techniques to manage and direct the various stages of project management. Working in small teams, students will develop a project management plan for a defined project.
Course Descriptions

PR2170 PROJECT MANAGEMENT
This course is designed to help students develop the skills, strategies and tools needed to ensure success in College. Students who successfully complete this course will have a better understanding of themselves as learners and of strategies for improving their learning potential in a post-secondary learning environment. Students will also have a greater appreciation of the need to define their educational and career goals clearly, and to develop the habits and skills which will enable them to achieve such goals. The course will provide an opportunity for students to become aware of the full range of campus resources available to support their learning. They will learn to use campus resources effectively. During this course, students will compile an ePortfolio which should prove to be of value to them throughout their College life.

PR3150 PROJECT MANAGEMENT AND FINANCIAL ANALYSIS
Prerequisites: MA1101
This course introduces students to the topics of project management and financial analysis, by the introduction of the concepts, tools and techniques of formal project management and financial analysis. Topics include project management, risk management, project scheduling, concepts of financial management, economic decision making, analysis of alternatives and depreciation. Students are introduced to the use of project management software.

PR3214 CAPSTONE PROJECT I (CHEMICAL PROCESSING)
Prerequisites: All courses in previous academic semesters and a minimum cumulative GPA of 2.0
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 will work with minimal supervision on a project, under the guidance of a faculty member. The student can work independently or in teams of two to carry out an in-depth study of a problem, design a 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 will be completed in the following academic semester of their program. Students should commence planning for the course at the beginning of the final year of studies. Since the project and report are to be prepared through independent study, the assigned hours represent only part of the time that students are expected to allocate to the course. Regular meetings with a faculty supervisor will be scheduled within the assigned hours as well as scheduled workshops at the Advanced Writing Centre. It is mandatory that students attend these faculty meetings and workshops.

This course will be co-delivered by a technical instructor and a communications instructor.

PR3215 CAPSTONE PROJECT II (CHEMICAL PROCESSING)
Prerequisites: PR3214
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 will work with minimal supervision on a project, under the guidance of a faculty member. The student can work independently or in teams of two to carry out an in-depth study of a problem, design a 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 will be completed in the following academic semester of their program. Students should commence planning for the course at the beginning of the final year of studies. Since the project and report are to be prepared through independent study, the assigned hours represent only part of the time that students are expected to allocate to the course. Regular meetings with a faculty supervisor will be scheduled within the assigned hours as well as scheduled workshops at the Advanced Writing Centre. It is mandatory that students attend these faculty meetings and workshops.

This course will be co-delivered by a technical instructor and a communications instructor.

PR3244 CAPSTONE PROJECT I (MECHANICAL)
Prerequisites: All courses in previous academic semesters and a minimum cumulative GPA of 2.0
The capstone project enables the student completing a Diploma in the Mechanical Engineering Technology (Industrial Maintenance) program to demonstrate the application of skills and knowledge developed throughout the program. Students taking this course will work with minimal supervision on a project, under the guidance of a faculty member. The student can work independently or in teams of two 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 will be completed in the following academic semester of their program. Students should commence planning for the course at the beginning of the final year of studies. Since the project and report are to be prepared through independent study, the assigned hours represent only part of the time that students are expected to allocate to the course. Regular meetings with a faculty supervisor will be scheduled within the assigned hours as well as scheduled workshops at the Advanced Writing Centre. It is mandatory that students attend these faculty meetings and workshops.

This course will be co-delivered by a technical instructor and a communications instructor.
Course Descriptions

PR3245 CAPSTONE PROJECT II (MECHANICAL)
Prerequisites: PR3244
The capstone project enables the student completing a Diploma in the Mechanical Engineering Technology (Industrial Maintenance) program to demonstrate the application of skills and knowledge developed throughout the program. Students taking this course will work with minimal supervision on a project, under the guidance of a faculty member. The student can work independently or in teams of two to carry out an in-depth study of a problem, design or technological application and fully document and present their findings. Students should commence planning for the course at the beginning of the final year of studies. Since the project and report are to be prepared through independent study, the assigned hours represent only part of the time that students are expected to allocate to the course. Regular meetings with a faculty supervisor will be scheduled within the assigned hours and it is mandatory that students attend these meetings. The student can work independently or in teams of two to carry out an in-depth study of a problem, design or technological application and fully document and present their findings. Students should commence planning for the course at the beginning of the final year of studies. Since the project and report are to be prepared through independent study, the assigned hours represent only part of the time that students are expected to allocate to the course. Regular meetings with a faculty supervisor will be scheduled within the assigned hours and it is mandatory that students attend these meetings.

This course will be co-delivered by a technical instructor and a communications instructor.

PR3260 CAPSTONE PROJECT I (TELECOMMUNICATIONS)
Prerequisites: All courses in previous academic semesters and a minimum cumulative GPA of 2.0
The capstone project enables the student completing a Diploma in the Telecommunications Engineering Technology program to demonstrate the application of skills and knowledge developed throughout the program. Students taking this course will work with minimal supervision on a project, under the guidance of a faculty member. The student can work independently or in teams of two 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 will be completed in the following academic semester of their program. Students should commence planning for the course at the beginning of the final year of studies. Since the project and report are to be prepared through independent study, the assigned hours represent only part of the time that students are expected to allocate to the course. Regular meetings with a faculty supervisor will be scheduled within the assigned hours as well as scheduled workshops at the Advanced Writing Centre. It is mandatory that students attend these faculty meetings and workshops. The student can work independently or in teams of two to carry out an in-depth study of a problem, design or technological application and fully document and present their findings. Students should commence planning for the course at the beginning of the final year of studies. Since the project and report are to be prepared through independent study, the assigned hours represent only part of the time that students are expected to allocate to the course. Regular meetings with a faculty supervisor will be scheduled within the assigned hours and it is mandatory that students attend these meetings. The student can work independently or in teams of two to carry out an in-depth study of a problem, design or technological application and fully document and present their findings. Students should commence planning for the course at the beginning of the final year of studies. Since the project and report are to be prepared through independent study, the assigned hours represent only part of the time that students are expected to allocate to the course. Regular meetings with a faculty supervisor will be scheduled within the assigned hours and it is mandatory that students attend these meetings.

This course will be co-delivered by a technical instructor and a communications instructor.

PR3261 CAPSTONE PROJECT II (TELECOMMUNICATIONS)
Prerequisites: PR3260
The capstone project enables the student completing a Diploma in the Telecommunications Engineering Technology program to demonstrate the application of skills and knowledge developed throughout the program. Students taking this course will work with minimal supervision on a project, under the guidance of a faculty member. The student can work independently or in teams of two to carry out an in-depth study of a problem, design or technological application and fully document and present their findings. Students should commence planning for the course at the beginning of the final year of studies. Since the project and report are to be prepared through independent study, the assigned hours represent only part of the time that students are expected to allocate to the course. Regular meetings with a faculty supervisor will be scheduled within the assigned hours as well as scheduled workshops at the Advanced Writing Centre. It is mandatory that students attend these faculty meetings and workshops. The student can work independently or in teams of two to carry out an in-depth study of a problem, design or technological application and fully document and present their findings. Students should commence planning for the course at the beginning of the final year of studies. Since the project and report are to be prepared through independent study, the assigned hours represent only part of the time that students are expected to allocate to the course. Regular meetings with a faculty supervisor will be scheduled within the assigned hours and it is mandatory that students attend these meetings. The student can work independently or in teams of two to carry out an in-depth study of a problem, design or technological application and fully document and present their findings. Students should commence planning for the course at the beginning of the final year of studies. Since the project and report are to be prepared through independent study, the assigned hours represent only part of the time that students are expected to allocate to the course. Regular meetings with a faculty supervisor will be scheduled within the assigned hours and it is mandatory that students attend these meetings. The student can work independently or in teams of two to carry out an in-depth study of a problem, design or technological application and fully document and present their findings. Students should commence planning for the course at the beginning of the final year of studies. Since the project and report are to be prepared through independent study, the assigned hours represent only part of the time that students are expected to allocate to the course. Regular meetings with a faculty supervisor will be scheduled within the assigned hours and it is mandatory that students attend these meetings. The student can work independently or in teams of two to carry out an in-depth study of a problem, design or technological application and fully document and present their findings. Students should commence planning for the course at the beginning of the final year of studies. Since the project and report are to be prepared through independent study, the assigned hours represent only part of the time that students are expected to allocate to the course. Regular meetings with a faculty supervisor will be scheduled within the assigned hours and it is mandatory that students attend these meetings.

This course will be co-delivered by a technical instructor and a communications instructor.

PR3271 CAPSTONE PROJECT II (ELECTRICAL)
Prerequisites: PR3270 - Capstone Project I (Electrical)
The capstone project enables the student completing a Diploma in the Electrical Engineering Technology (Electrical) program to demonstrate the application of skills and knowledge developed throughout the program. Students taking this course will work with minimal supervision on a project, under the guidance of a faculty member. The student can work independently or in teams of two to carry out an in-depth study of a problem, design or technological application and fully document and present their findings. Students should commence planning for the course at the beginning of the final year of studies. Since the project and report are to be prepared through independent study, the assigned hours represent only part of the time that students are expected to allocate to the course. Regular meetings with a faculty supervisor will be scheduled within the assigned hours as well as scheduled workshops at the Advanced Writing Centre. It is mandatory that students attend these faculty meetings and workshops. The student can work independently or in teams of two to carry out an in-depth study of a problem, design or technological application and fully document and present their findings. Students should commence planning for the course at the beginning of the final year of studies. Since the project and report are to be prepared through independent study, the assigned hours represent only part of the time that students are expected to allocate to the course. Regular meetings with a faculty supervisor will be scheduled within the assigned hours and it is mandatory that students attend these meetings. The student can work independently or in teams of two to carry out an in-depth study of a problem, design or technological application and fully document and present their findings. Students should commence planning for the course at the beginning of the final year of studies. Since the project and report are to be prepared through independent study, the assigned hours represent only part of the time that students are expected to allocate to the course. Regular meetings with a faculty supervisor will be scheduled within the assigned hours and it is mandatory that students attend these meetings. The student can work independently or in teams of two to carry out an in-depth study of a problem, design or technological application and fully document and present their findings. Students should commence planning for the course at the beginning of the final year of studies. Since the project and report are to be prepared through independent study, the assigned hours represent only part of the time that students are expected to allocate to the course. Regular meetings with a faculty supervisor will be scheduled within the assigned hours and it is mandatory that students attend these meetings. The student can work independently or in teams of two to carry out an in-depth study of a problem, design or technological application and fully document and present their findings. Students should commence planning for the course at the beginning of the final year of studies. Since the project and report are to be prepared through independent study, the assigned hours represent only part of the time that students are expected to allocate to the course. Regular meetings with a faculty supervisor will be scheduled within the assigned hours and it is mandatory that students attend these meetings. The student can work independently or in teams of two to carry out an in-depth study of a problem, design or technological application and fully document and present their findings. Students should commence planning for the course at the beginning of the final year of studies. Since the project and report are to be prepared through independent study, the assigned
Course Descriptions

hours represent only part of the time that students are expected to allocate to the course. Regular meetings with a faculty supervisor will be scheduled within the assigned hours as well as scheduled workshops at the Advanced Writing Cerner. It is mandatory that students attend these faculty meetings and workshops.

This course will be co-delivered by a technical instructor and a communications instructor.

PR3280 CAPSTONE PROJECT I
(PROCESS AUTOMATION)
Prerequisites: All courses in previous academic semesters and a minimum cumulative GPA of 2.0
The capstone project enables the student completing a Diploma in the Process Automation Engineering Technology program to demonstrate the application of skills and knowledge developed throughout the program. Students taking this course will work with minimal supervision on a project, under the guidance of a faculty member. The student can work independently or in teams of two 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 will be completed in the following academic semester of their program. Students must commence planning for the course at the beginning of the final year of studies. Since the project and report are to be prepared through independent study, the assigned hours represent only part of the time that students are expected to allocate to the course. Regular meetings with a faculty supervisor will be scheduled within the assigned hours and it is mandatory that students attend these meetings.

This course will be co-delivered by a technical instructor and a communications instructor.

PR3281 CAPSTONE PROJECT II
(PROCESS AUTOMATION)
Prerequisites: PR3280 – Capstone Project I
The capstone project enables the student completing a Diploma in the Process Automation Engineering Technology program to demonstrate the application of skills and knowledge developed throughout the program. Students taking this course will work with minimal supervision on a project, under the guidance of a faculty member. The student can work independently or in teams of two to carry out an in-depth study of a problem, design or technological application and fully document and present their findings. Students should commence planning for the course at the beginning of the final year of studies. Since the project and report are to be prepared through independent study, the assigned hours represent only part of the time that students are expected to allocate to the course. Regular meetings with a faculty supervisor will be scheduled within the assigned hours and it is mandatory that students attend these meetings.

This course will be co-delivered by a technical instructor and a communications instructor.

PR3520 WEB DEVELOPER CAPSTONE
Prerequisites: Successful completion of all Semester 8 courses and instructor approval of a proposed capstone project.
The Web Developer Capstone course provides students with an opportunity to utilize and demonstrate the tools, understanding and knowledge developed during the program. The course encourages individual and team work in small groups on a substantial project. The intent of the course is to provide, where possible, a real-world sponsor-led capstone experience that integrates the concepts learned in the program. The project involves web design, client-side and server-side applications, database server installation and configuration, demonstration of digital imaging, streaming media, multimedia concepts and other areas of study. The course will also include discussion about professional and ethical issues related to Information Technology.

PR3530 NETWORK AND SYSTEMS ADMINISTRATION CAPSTONE
Prerequisites: Successful completion of all courses in Semesters 1 through 8 and instructor approval of a proposed capstone project.
The capstone project course enables students to demonstrate the application of knowledge and skills developed throughout their program of studies. Students taking this course will work under the supervision of a faculty supervisor.

PS1100 PSYCHOLOGY I
This is an introductory psychology course. Current experimentation and the various methods of psychological research are emphasized throughout the course. The topics to be covered include psychology as a science, learning, perception, sensation, personality and human development.

PS1110 INTRODUCTORY PSYCHOLOGY
This is an introductory psychology course. Current experimentation in the field and the various methods of psychological research are emphasized throughout the course. This course introduces the student to psychology as a science. Topics include brain and behavior, learning and motivation, memory, human development, cognition, intelligence and creativity, stress and its impact on health. Social psychology and group behavior are also explored.

PS1420 HEALTH CARE ORGANIZATION AND STRUCTURE
This course is an introduction to the study of organizational behaviour and structure within the health care system. Students will familiarize themselves with their health care system, specifically the roles that directly impact structure and function. Students will examine individual and inter-disciplinary relationships and roles of health professions within the hospital organizational structure.
PS2340 ORGANIZATIONAL BEHAVIOUR
This is an introductory course in the study and practical application of organizational behavior. Through the use of workplace examples and the analysis of the interrelated levels of individual behavior, group functioning and organizational structure, students will examine how employees within organizations achieve both personal and organizational goals. Topics such as motivation, leadership, group dynamics and organizational communication are studied.

PT1120 OPERATOR RESPONSIBILITIES
Prerequisites: SE1036
This course is designed to introduce students to the basic responsibilities and duties of a process operator, including the basics of plant communication. Students will be provided with the necessary knowledge base of personal and process safety responsibilities, safe work practices, production responsibilities, and responsibilities during an emergency and under upset conditions. Students will also gain practical experience in collecting, sending, and receiving technical information in a process plant environment.

PT1125 PROCESS DIAGRAMS
Prerequisites: SE1120
Students in this course will gain practical experience in reading, interpreting, and drawing process block diagrams, process flow diagrams, and process and instrumentation diagrams (P&ID).

PT1130 PROCESS WATER SYSTEMS
Prerequisites: SE1036, PT1120, PT1125
This course is designed to introduce students to process water systems, different types of plant water systems, basics of treatment systems, and the boiler feed water system. Students will gain hands-on training in controlling hazards associated with a boiler feed water system.

PT1135 STEAM SYSTEMS
Prerequisites: SE1036, PT1120, PT1125
This course is designed to introduce students to the steam production and supply system as one of the utilities/plant services in 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.

PT1140 AIR SUPPLY SYSTEMS
Prerequisites: SE1036, PT1120, PT1125
This course is designed to introduce students to the air supply system as one of the utilities/plant services in a process plant. Topics covered in this course include different types of plant air systems, basic components and operation of instrument air systems, and nitrogen systems.

PT1146 ELECTRICITY SUPPLY SYSTEMS
Prerequisites: SE1036, PT1120, PT1125
This course is designed to introduce students to the electricity supply system as one of the utilities/plant services in a process plant. Different types of electric power equipment, voltages for different applications, safety aspects, and the consequences of power failure in a process plant will be covered. Students will also be trained in how to safely respond to a simulated electric power failure in a process plant according to standard operating procedures.

PT1150 PIPEWORK SYSTEMS
Prerequisites: SE1036, PT1120, PT1125
This course is designed to introduce students to pipe standards, types of pipe fittings and joints, insulation, and color coding used in the process industry.

PT1155 VALVE SYSTEMS
Prerequisites: SE1036, PT1120, PT1125
This course is designed to introduce students to the main features and operation of different types of valves used in the process industry. Students will be provided with the necessary knowledge base and hands-on skills to operate a variety of valves, including isolation valves, throttling valves, check valves/non-return valves, and safety-related valves.

PT1160 PROCESS PHYSICS
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 gases, measurements for force, pressure, power, and efficiency and modes of heat transfer.

PT1166 PROCESS CHEMISTRY
This course is designed to introduce students to basic chemistry principles as related to the operation of a process plant. The structure of elements and compounds, basic chemical formulas and equations, and the nature and composition of hydrocarbons are covered in this course. Awareness of the environment is also developed in students to ensure a basic understanding of common toxins and their associated environmental impacts.

PT1170 HEAT EXCHANGERS
Prerequisites: SE1036, PT1120, PT1125
This course is designed to introduce students to the components, features, operation, and control of different types of heat exchangers commonly used in the process plant industry.

PT1175 WORKPLACE ORIENTATION
Prerequisites: Successful completion of all previously scheduled courses
This four-week workplace orientation presents an opportunity for Technician Certificate (Process Operations) students to become familiar with the plant environment within Qatar’s Energy and Industry sector. The student trainee will be required to demonstrate effective communication skills, an exemplary work ethic, and a willingness to learn the administrative and operational workings of a plant. During the four-week orientation, trainees will be expected to demonstrate punctuality and full attendance, as well as exhibit the discipline required to be an effective member of a maintenance/production team.

PT1180 PUMP OPERATION
Prerequisites: SE1036, PT1120, PT1125
In this course, students will be provided with the necessary knowledge and hands-on skills to safely operate different types of pumps 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.
PT1185 PRIME MOVERS  
**Prerequisites:** SE1036, PT1120, PT1125  
This course is designed to introduce students to prime movers, including their components, features, and operations. Students will be provided with the necessary knowledge base to safely operate a reactor system. Students will apply hands-on 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.

PT1190 PROCESS INSTRUMENTATION  
**Prerequisites:** PT1150, PT1155, PT1160, PT1166  
This course is designed to introduce students to the basic instruments used for process variable measurement in the process industry. Topics covered in this course include pressure, level, flow rate and temperature measuring instruments.

PT1195 PROCESS CONTROL SYSTEMS  
**Prerequisites:** PT1150, PT1155, PT1160, PT1166  
In this course, students will be provided with the necessary knowledge base to work with process control systems. The basic principles of control loops and digital controllers, as well as the basic features of distributed control systems are covered in this course.

PT1215 COMPRESSORS  
**Prerequisites:** PT1150, PT1155, PT1160, PT1166  
This course is designed to introduce students to the basic principles and features of compressor systems used in the process industry. Topics such as the operation and control of dynamic and positive displacement compressors, and lube oil and seal oil systems are covered. Students will be provided with the necessary knowledge base and hands-on skills to operate centrifugal, axial, reciprocating, and rotary compressors.

PT1225 STORAGE OF LIQUIDS AND GASES  
**Prerequisites:** PT1150, PT1155, PT1160, PT1166, PT1190, PT1195  
This course is designed to introduce students to the storage of liquids and gases in the oil and gas industry. Topics covered in this course include the operation and control of vessels and storage tanks. Students will be provided with the necessary knowledge base and hands-on skills to perform purging, bleeding, and venting of vessels.

PT1230 HEATING FURNACES  
**Prerequisites:** PT1150, PT1155, PT1160, PT1166, PT1190, PT1195  
Students will be provided with the knowledge base and hands-on skills to operate and monitor heating furnaces used in the process industry. The course will also cover safety aspects related to heating furnace operation.

PT1235 REACTORS  
**Prerequisites:** PT1150, PT1155, PT1160, PT1166, PT1190, PT1195  
This course is designed to introduce students to the operation, monitoring and control of reactors employed in the process industry. Topics covered in this course include catalysts and cooling and heating methods in reactors. Students will apply hands-on skills to safely operate a reactor system.

PT1240 GAS ABSORPTION & DEHYDRATION  
**Prerequisites:** PT1150, PT1155, PT1160, PT1166, PT1190, PT1195  
This course is designed to introduce students to the operation and control of gas absorption and dehydration units used in the process industry. Topics include the main features, components, operation, monitoring, and safety aspects related to gas absorption and dehydration units. In this course, students will apply hands-on skills to operate a gas absorption system.

PT1245 DISTILLATION SYSTEMS  
**Prerequisites:** PT1150, PT1155, PT1160, PT1166, PT1190, PT1195  
This course introduces students to the operation and control of distillation modules and systems employed in the process industry. Topics include different types of distillation columns and their operation, monitoring, and control and safety aspects. Students will be provided with the necessary knowledge base and hands-on skills to operate a distillation system.

PT1250 REFRIGERATION & LIQUEFACTION  
**Prerequisites:** PT1150, PT1155, PT1160, PT1166, PT1190, PT1195  
This course is designed to introduce students to the operation and monitoring of refrigeration and liquefaction systems used in the process industry. Topics covered in this course include the principles of refrigeration and gas liquefaction, and the components, operation, and monitoring of gas liquefaction and refrigeration units. Students will apply hands-on skills to operate refrigeration and gas liquefaction units.

PT1255 WORKSITE PRACTICUM  
**Prerequisites:** Successful completion of all previously scheduled courses  
This worksite practicum presents an opportunity for Technician Certificate (Process Operations) students to demonstrate competencies acquired on campus in pilot plants, workshops, and using simulators. Working in an industrial setting, program competencies will be undertaken by student trainees in conjunction with workplace maintenance/operations staff and assessors. Students will be expected to apply knowledge and skills gained in the preceding technical phases, while demonstrating high standards of behavior expected in an industrial environment.

This practicum follows the successful completion of all semester work in the Technician Certificate (Process Operations) program. The practicum is discipline-specific and takes place over a period of 24 weeks, within a regular work week of at least 30 hours, and is remunerated (paid) and evaluated. Learners will be assessed by their employer using an assessment scheme co-developed by the College and employer. Upon completion of the practicum, students will be expected to perform satisfactorily without assistance and/or supervision (Competence Level 3).
Course Descriptions

PT1260 CONDENSATE TREATMENT & TAIL GAS
Prerequisites: PR1190, PR1195, PR1225, PR1230, PR1235
This course provides an overview of condensate treatment and tail end gas regeneration processes. The students will learn about process description, operation, control system of condensate treatment, and Triethylene Glycol regeneration processes.

PT1265 HYDROGEN PRODUCTION
Prerequisites: PR1190, PR1195, PR1225, PR1230, PR1235
This course provides an overview of hydrogen and hydrogen production. The student will learn about hydrogen processes, hydrocracking, reforming, hydro treatment and hydrodesulphurization in the petrochemical industry.

PT1270 STEAM TURBINE UNITS
Prerequisites: PR1190, PR1195, PR1225, PR1230, PR1235
This course provides students with an overview of the operation of steam turbine units used in the oil and gas petrochemical industries. The students will learn the main features, components and functions, operations and monitoring of steam turbine systems.

PT1280 SULPHUR RECOVERY & TAIL GAS TREATMENT
Prerequisites: PR1190, PR1195, PR1225, PR1230, PR1235
This course provides an overview of sulphur recovery (SRU) and tail gas treatment (TGT) processes. Topics covered by students in this course include SRU and TGT processes, equipment, methods of production, operation, and control system.

RT1100 INTRODUCTION TO RT
Co-Prerequisites: RT1110
In this course, learners will be introduced to the profession of respiratory therapy and the equipment related to medical gas therapy in adult and pediatric patient populations.

RT1110 APPLIED SCIENCE FOR RT
Co-Prerequisites: MA1700
In this course, principles of chemistry, biochemistry, and physics are studied as they apply to the practice of respiratory therapy. Major topics include bonding, matter, solutions, equilibrium, and electrochemistry. The fundamental concepts covered in this course will form the basis for further studies in respiratory therapy.

RT1120 CARDIOPULMONARY PHYSIOLOGY
Prerequisites: BL1180
This course is an in-depth study of the anatomy and physiology of the cardiopulmonary and other body systems which have an impact on respiratory medicine. Included will be the analysis of various disease conditions which affect the human body, especially the cardiopulmonary components.

RT1130 CARDIOPULMONARY PATHO I
Prerequisites: BL1180
This course will enable the student to describe the pathophysiologic manifestations, clinical signs, symptoms, and therapeutic management of the major respiratory obstructive and restrictive diseases, in order to facilitate the development of treatment protocols.

RT1140 AIRWAY MANAGEMENT I
Prerequisites: Successful completion of second semester
In this course, learners explore the use of various airway management techniques, related equipment, and associated therapies. Primary emphasis is on the principles of operation of the various types of equipment utilized in airway management within respiratory therapy.

RT1150 CLINICAL APPLICATION I
Prerequisites: Successful completion of first and second Semesters
The course is designed to introduce respiratory therapy students to the adult/pediatric clinical settings, using both the simulation laboratory and the hospital environment. Under direct supervision, students will demonstrate knowledge/skills learned in previously taught respiratory therapy courses.

RT2110 AIRWAY MANAGEMENT II
Prerequisites: RT1140
In this course learners explore the use of various types of airways: including management techniques, related equipment, and associated therapies used in respiratory therapy.

RT2120 MECHANICAL VENTILATION I
Prerequisites: RT1140, RT1150
This is the first in a series of courses designed to provide the student with the knowledge and critical thinking skills to effectively and safely operate mechanical ventilators. The first course in this series will focus on the technical analysis of mechanical ventilators.

RT2130 CLINICAL APPLICATION II
Prerequisites: Successful completion of Semester 3 of the Respiratory Therapy program
This course is a continuation of Clinical Application I and is designed to further assimilate the respiratory therapy student to the clinical setting (adult/pediatric) through experience in both the simulation laboratory and the hospital environment. Under direct supervision, students will expand their knowledge and skill of respiratory therapy procedures and build upon previously learned materials.

RT2140 CARDIAC DIAGNOSTICS
Prerequisites: Successful completion of Semester 3
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 will take place in a simulate clinical environment.

RT2150 CARDIOPULMONARY PATHO II
Prerequisites: Successful completion of Semester 3
This course will enable the respiratory therapy student to describe the pathophysiologic manifestations, clinical signs, symptoms, and therapeutic management of the major neuromuscular, cardiovascular and renal diseases, in order to facilitate the development of treatment protocols.
Course Descriptions

Important topics such as the effects of thermal injury and hypo/hyperbarism will also be discussed.

RT2160 MECHANICAL VENTILATION II
Prerequisites: Successful completion of Semester 4
This course focuses on the physiological implications of instituting, maintaining, and discontinuing mechanical ventilatory support. Emphasis is placed on patient monitoring and evaluation of mechanical ventilatory techniques.

RT2170 PULMONARY DIAGNOSTICS
Prerequisites: Successful completion of Semester 4
This course introduces the student to the principles of pulmonary diagnostic procedures and explores the significance of the various test data to the respiratory therapist.

RT2180 NEONATAL CLINICAL APPLICATION
Prerequisites: Successful completion of Semester 4
This course is designed to assist the student in further development of skills and the comprehensive understanding of Neonatal Respiratory Care. The student will be expected to apply the theoretical knowledge and skills previously taught in the simulation and/or hospital environment in all major topic objectives.

RT2190 MECHANICAL VENTILATION III
Prerequisites: Successful completion of Semester 5
This course focuses on advanced modes and management strategies used in the mechanically ventilated patient.

RT2200 GAS SUPPLY AND CONTROL
In this course learners explore the administration of medical gas therapies with the primary emphasis on the principles of operation of the various types of equipment utilized in the delivery of respiratory therapy.

RT2240 CARDIOPULMONARY RESUSCITATION
Prerequisites: Basic Life Support (BLS)/CPR course completion, Successful completion of Semester 5
This course will provide respiratory therapy students with the knowledge and skills necessary to better recognize and treat critically ill adults, infants and children. The course will include the latest standards in neonatal resuscitation (NRP), pediatric advanced life support (PALS), and advanced cardiac life support (ACLS) programs. Presentation of these emergency management strategies will use a combination of laboratory, simulation, and classroom presentations.

RT2250 CLINICAL APPLICATION IV
Prerequisites: Successful completion of Semester 5
The course is designed to further assimilate the respiratory therapy student to the adult, pediatric and neonatal clinical setting, using both the simulation laboratory and the hospital environment. Under direct supervision, students will be expected to expand their knowledge/skills and comprehension of respiratory therapy procedures in keeping with didactic theory and laboratory skills previously taught. This course is also an orientation to the final year of the program (Year 3) and encompasses a review of all respiratory therapy procedures, equipment, hospital policies and clinical skills previously learned.

RT2305 PHARMACOLOGY
Prerequisites: Successful completion of Semester 1
This is an introductory course in Pharmacology as applied to Respiratory Therapy. General principles relating to drug administration are studied. Emphasis is placed on drugs affecting the cardiovascular, respiratory and central nervous systems.

RT2320 ANESTHESIA
Prerequisites: Successful completion of Semester 4
This is an introductory course in the principles and practices of anesthesia pertinent to the respiratory therapist. Major course topics include anesthesia machines, vaporizers, breathing circuits, anesthetic ventilators, preoperative procedures, monitoring the anaesthetized patient and complications of anesthesia.

RT2460 RT TECHNIQUES
Prerequisites: Successful completion of Semester 1
Successful completion of semester one. This course introduces students to the theory and application of clinical assessment and management skills requisite to the practice of respiratory therapy in a simulated environment.

RT2470 NEONATAL RESPIRATORY CARE
Prerequisites: Successful completion of Semester 3
This course introduces the student to the anatomical and physiological differences of the neonate and the clinical management of these patients. Major areas of study are gestational lung development; fetal-neonatal transition; newborn assessment; thermodilution; neonatal cardiopulmonary pathophysiology, neonatal ventilation.

RT3000 PRACTICUM I
Prerequisites: Successful completion of all courses in Semesters 1 to 6
This course is part one of two full-time, fifteen (15) week practicums. The practicum will provide students with the opportunity to apply theoretical knowledge, and practical skills acquired throughout the first six 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 will be assigned to a variety of clinical environments which will focus on caring for neonatal, pediatric, and adult patients. The practicum will have a blended delivery format and will include class sessions, discussions, assignments, simulation labs, and bedside care. Core values relating to professional behavior, ethical standards, communication, and safe practices will be emphasized and assessed using the behavioral assessment/core values appraisal.
Course Descriptions

RT3010 PRACTICUM II
Prerequisites: Successful completion of all year one and two courses, RT3000
This course is part two of two full-time, fifteen (15) week practicums. It will provide student with the opportunity to further apply theoretical knowledge, and practical skills acquired throughout the Respiratory Therapy Program, including RT3000 Practicum 1 to real-time clinical environments. Students will master skills related to clinical competencies in the remaining skill balance of Practicum 1. 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 will be assigned to a variety of clinical environments which will focus on caring for neonatal, pediatric, and adult patients. Practicum II will have a blended delivery format and will include class sessions, discussion, assignments, simulation labs and bedside care. Core values relating to professional behavior, ethical standards, safe practices, and effective communication will be emphasized and assessed using the behavioral assessment/core values appraisal.
It is the expectation that skills attained during Practicum I will be performed again as opportunities present themselves. Students are expected to progress to a highly autonomous and independent role as compared to Practicum I.

RT3020 PRACTICUM III
Prerequisites: RT3010
This is the third of three clinical practicum courses. This course enables students to integrate theories and skills acquired throughout the previous two clinical practicums. Students will be evaluated on skills proficiency, time management, organizational skills, and decision-making at a high level of independence.
Students will be 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 used to help prepare students to challenge the national credential exam for entry to practice (CBRC exam). Examinations will be delivered in diverse formats including classroom/online/self-study, where learners will be presented with case studies, quizzes and discussions that will emphasize the competency areas in the Canadian National Competency Profile (NCP). These examinations will assist the learner in identifying specific areas of respiratory therapy knowledge where further study is required. This course will conclude with a Graduate Examination (format similar to the CBRC examinations). Clinical placements will be determined in consultation with the clinical instructor and will be based on past clinical performance/exposure as well as individual preference. Students may request to travel to alternate (rural) locations during this practicum. The program will strive to give students their location preference, but as each area/hospital has limited availability, placement at preferred sites and areas is not guaranteed. Students will be responsible for travel/living expenses incurred if they travel to alternate (rural) sites.
To successfully pass this course, students must consistently demonstrate clinical competency throughout this course at a LEVEL 4.

RT3430 CLINICAL APPLICATION III
Prerequisites: Successful completion of Semester 4
The course is a continuation of Clinical Application II and is designed to further assimilate the respiratory therapy student to the adult/pediatric clinical setting, using both the simulation laboratory and the hospital environment. Under direct supervision, students will be expected to expand their knowledge/skills and comprehension of respiratory therapy procedures in keeping with didactic theory and laboratory skills previously taught.

RX1140 PHARMACY MANAGEMENT AND INVENTORY CONTROL
Part of the role of the pharmacist technician is inventory management of medications, equipment and devices. The student will develop a working knowledge of various pharmacy management techniques, pharmacy operations, financial and operational importance of purchasing and inventory control, as well as the risks involved with medication errors.

RX1220 PHARMACEUTICAL CALCULATIONS
Prerequisites: MA1730
The student will develop a working knowledge of the various systems of metric and imperial weights, as well as other measurements encountered in pharmacy. The student will become familiar with strength designations, and will perform various dosage, compounding and conversion calculations. The student will be able to perform calculations required for various prescription types. Accuracy is stressed throughout the course.

RX1251 PHARMACY COMPUTER SYSTEMS
Prerequisites: MC1250 or equivalent
The student will learn the fundamentals of both community and hospital pharmacy computer systems, under supervision. The student will develop skills in accurate and efficient data entry, retrieval of information, and the generation of computer labels using actual pharmacy computer systems. Students will also learn to identify the physical appearance of medications, and dosage forms for sample prescriptions used for order entry.

RX2100 PRESCRIPTION PROCESSING I
Prerequisites: RX1220, RX1251
This course will introduce the student to the prescription dispensing process. Basic concepts in the pharmacy dispensing process from prescription drop off to prescription pick up will be covered. These concepts will occur in the lab simulating real life situations.
Course Descriptions

RX2101 PRESCRIPTION PROCESSING II
Prerequisites: RX2100, RX1220
This course is a continuation of concepts and techniques from Prescription Processing I. The student will need to be able to process prescriptions in a prescribed time frame to 95% accuracy. The student will also be introduced to compounding pharmaceutical items. Simulation of the doctor, patient, pharmacist, pharmacy technician roles will be necessary for this course.

RX2130 PHARMACY FUNDAMENTALS APPLICATION
Prerequisites: RX2140
This is an application of Pharmacy Fundamentals. Students will increase their level of proficiency in the application of inventory control, dosage forms, and routes of administration. As well, medication administration devices and auxiliary drug labels will be discussed. The pharmacy technician code of ethics will be examined and students will be required to use the code in responding to case studies of ethical scenarios.

RX2140 PHARMACY FUNDAMENTALS
Prerequisites: BL1210, CH1210
This is an introductory course to pharmacy practice. It investigates the history of the profession and explains the meanings of many terms used in the various aspects of pharmacy. Basic concepts in pharmacy practice, such as terminology and drug labels, will be covered, as well as medication dosage forms, and drug information sources.

RX2170 PHARMACOLOGY I
Prerequisites: BL1210, CH1210
In this first of a two-part course, the student will be introduced to the principles of pharmacology – the study of drug-altered function. Focus will be placed on drug classes, mechanics of drug action, disease types, and body systems. The goal is to provide pharmacy technicians with sufficient background information to play a key role in avoiding dispensing errors. Students will learn basic pharmacokinetics and various drug types, such as: central nervous system, endocrine system, antibiotics, gastrointestinal system, muscle and joint disease, and pain drugs.

RX2180 PHARMACOLOGY II
Prerequisites: RX2170
This is the second course in pharmacology. The student will continue to build on the knowledge gained in Pharmacology I by discussing additional medications in a variety of therapeutic classifications. The student will learn generic and brand names, mechanisms of action, therapeutic dosages and indications, drug interactions, adverse events, and dispensing considerations. The pharmacy technician role and scope of practice will be emphasized throughout the course.

RX2200 COMMUNITY PHARMACY
Co-Prerequisites: RX1100, RX2100, RX2140
This course introduces the student to community pharmacy practice. Students will learn about the therapeutic properties and uses of various over the counter (OTC) medications and alternative therapies. The significance of health promotion, patient counselling and education will be emphasized. Students will also be introduced to merchandising and home care practice experiences. The nature of the pharmacist technician’s role in the health care system also requires them to work with topic areas such as first aid and CPR. Simulation of the patient, pharmacist, and pharmacy technician roles will be a required component of this course.

RX2231 HOSPITAL PHARMACY
Prerequisites: RX2100, RX2140
This course introduces the student to the practice of hospital pharmacy, and to the hospital’s organization. The course will allow the student to focus on the operations of the hospital pharmacy in terms of medication distributions, and policies and procedures.

RX2300 ASEPTIC TECHNIQUE
Prerequisites: RX1210, RX1220
Students will learn to compound sterile products according to the appropriate techniques regarding the concepts of sterility and incompatibilities. They will use applicable quality assurance processes, and will perform their work in accordance with the laws, regulations, and standards that govern the preparation of sterile products. Preparation of sterile products may include infusion pump cassettes, intravenous admixtures, total parenteral nutrition, eye preparations, and irrigation solutions.

SD1480 WORKPLACE SKILLS
This course is designed to familiarize the student with the theory and practice of basic workplace competencies. This course emphasizes the importance of effective communications, functions of quality customer service and the elements of professional behaviour. This course will also emphasize the importance of team work, discipline and sound work ethics and students will be evaluated on their class participation, punctuality and team work and overall attitude.

SD1570 EFFECTIVE LEARNING
This course is designed to help students develop the skills, strategies and tools needed to ensure their success at the College. Students who successfully complete the course will have a better understanding of themselves as students and of strategies for improving their learning potential. They will also have a greater appreciation of the need to define their educational and career goals clearly and to develop the habits and skills which will enable them to achieve those goals. The course will also provide an opportunity for students to become aware of the full range of campus resources available to support their learning and to learn how to use those resources effectively. Students will compile an ePortfolio during this course which should prove to be of value to them throughout their college life.

SE1036 WORKPLACE SAFETY
This course provides students with the knowledge and skills required to identify environmental and workplace hazards. Students in this course will gain practical experience in determining appropriate safety precautions to eliminate or minimize the risk of personal injury, equipment damage, and loss of production.
Course Descriptions

SE1110 INTRODUCTION TO HEALTH, SAFETY AND 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 to prevent the loss of life, health and property in the workplace. Topics concerning fire safety, working with electricity, ergonomics, hazardous material management, and environmental management are introduced from an occupational health and safety risk management perspective.

SE1120 WORKPLACE SAFETY
This is an introductory course that explores the nature and dimension of workplace health, safety and environment and the role played by both the employer and the employee in the process. Course topics include health, safety and environment, hazardous communications and safety awareness.

SE1130 WORKPLACE SAFETY FOR HUMAN RESOURCES
This is an introductory course that explores the nature and dimensions of a typical health, safety and environment department. It also explores the role of both the employer and the employee in the safety process. Topics included are health, safety and the environment; Qatar labor law as it relates to health and safety; and safety awareness.

SE1140 HEALTH, SAFETY AND ENVIRONMENT MANAGEMENT SYSTEMS
Prerequisites: SE1110
This course examines all 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 risk using international standards and make decisions for continuous quality improvement of a complete system.

SE1150 ENVIRONMENTAL MANAGEMENT
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.

SE1350 TOXICOLOGY
Prerequisites: BL1210
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, a detailed analysis of the processes of absorption, distribution and storage and biotransformation and elimination of toxins is completed. Various metals and organic solvents are used as examples to describe these processes and students learn how to conduct toxicological risk assessments in accordance with internationally recognized standards.

SE2110 OCCUPATIONAL HEALTH HAZARDS AND CONTROLS
Prerequisites: SE1140, CH1200, BL1200, PH1110, MA1670
Co-Requisites: SE2115
Occupational health hazards typically cause acute health effects after a single exposure. Examples include fractures, lacerations, burns, and concussions. Students develop the skills required to identify occupational safety hazards in the workplace, assess the risk of safety hazards, and recommend controls to minimize the risk of safety hazards with the aim of keeping the workforce safe in accordance with international standards and best practices.

SE2115 OCCUPATIONAL SAFETY HAZARDS AND CONTROLS
Prerequisites: SE1140, PH1110
Co-Requisites: SE2110
Occupational safety hazards typically cause acute health effects after a single exposure. Examples include fractures, lacerations, burns, and concussions. Students develop the skills required to identify occupational safety hazards in the workplace, assess the risk of safety hazards, and recommend controls to minimize the risk of safety hazards with the aim of keeping the workforce safe in accordance with international standards and best practices.

SE2125 MANAGEMENT OF HEALTH AND WELL-BEING AT WORK
This course is designed to develop the skills and knowledge to complete a health and well-being 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.

SE2130 HEALTH, SAFETY AND ENVIRONMENT LAW, REGULATIONS AND STANDARDS
This course introduces students to different sources of occupational health, safety and environmental legislation, legal terms and legal concepts. Students develop the skills needed to extract sections of legislative documentation and apply it to workplace policy and procedures. Students examine the interrelated roles of the enforcement officer and the Health, Safety and Environment (HSE) Practitioner in strengthening or hindering enforcement efforts. Students also explore the importance of ‘Return to Work’ programs.
Course Descriptions

SE2135 HEALTH, SAFETY AND ENVIRONMENT IN PROCESS INDUSTRIES
**Prerequisites: SE1110, SE1150**
This course provides an introduction to 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. Students demonstrate competence in general health and safety, process safety and environmental management.

SE2160 FIRE SAFETY AND RISK MANAGEMENT
**Prerequisites: SE2110, SE2115**
This course provides students with the knowledge and skills to identify, assess and control fire safety risks. Basic fire science is examined before moving on to fire protection in buildings and safety of people in the event of a fire. Students develop the skills required to undertake a comprehensive fire inspection in a building and develop and implement fire emergency plans.

SE2165 INSPECTIONS, INVESTIGATIONS AND AUDITING
**Prerequisites: SE2110, SE2115**
HSE Practitioners constantly monitor an organization’s occupational health, safety and environment management system, and report the results to management. This is accomplished by conducting workplace inspections, accident investigations, and audits. 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 full workplace inspection. Students present results to management by way of written and oral reports.

SE2170 OCCUPATIONAL HYGIENE
**Prerequisites: SE2110, SE2115**
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. This course examines the monitoring and analysis needed to detect the extent of exposure to chemical, physical, biological and ergonomic agents, and the methods used for hazard control. Students will develop the knowledge and skills required to conduct an occupational hygiene survey and to inspect food premises, which sometimes falls under the responsibility of an HSE Practitioner.

SE2175 PROFESSIONALISM AND ETHICS
Professionalism and ethical behavior in the workplace are closely linked. This 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 is also explored.

SE2180 HEALTH, SAFETY AND ENVIRONMENT PRACTICUM
**Prerequisites: Successful completion of all courses**
This course provides students an opportunity to apply their knowledge, professional and technical skills in a real-world work setting in Qatar. Students spend seven weeks working as an Health, Safety and Environment (HSE) Practitioner under the direct supervision of an HSE Professional. Professional performance and technical skills will be 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) International General Certificate and the NEBOSH International Management of Environmental Hazards Certificate.

SM1120 SOCIAL MARKETING PLATFORMS
This course uses a hands-on approach to give students the opportunity to explore how current platforms are used for social marketing. Students will develop a personal or business-related social media network using current platforms such as Facebook, LinkedIn, Twitter, Google+, and YouTube. Students will also examine methods used to measure the effectiveness of the current platforms.

SP1200 MACHINE SHOP PRACTICE
This is an introductory course designed to give students a knowledge and understanding of the fundamental metal-removal and general machine shop concepts which will form the basis for further studies in science and technology.

SP1700 COMPUTER NUMERICAL CONTROL (CNC) MACHINING I
**Prerequisites: SP1200**
The course is designed to be an introductory course in Computer Numerical Control (CNC). Most of the course will be instructed through hands-on work with both a CNC lathe and CNC milling machine. Lecture will accompany the labs for theory.

SP2300 QUALITY ASSURANCE
This course is designed to introduce the concepts, philosophy and application of total quality management, statistical process control and the International Organization for Standardization (ISO) 9000 quality standards. Emphasis will be on the integration of the total quality management philosophy into the production process. Development of quality control procedures and documentation will be discussed including reference to existing industry quality control specifications. The implementation process for quality assurance manuals and their auditing procedures will be outlined.
Course Descriptions

SP2340 QUALITY ASSURANCE
This course is designed to introduce the concepts, philosophy and application of Total Quality Management (TQM). Emphasis will be placed on the integration of TQM philosophy into the production process. Development of quality control procedures and documentation will be discussed including reference to existing industry quality control specifications. The implementation process for quality assurance manuals and their auditing procedures will also be outlined.

TC-AE0001 ACCESS ENGLISH I
Prerequisites: A placement score of CEFR A0 or lower on the CNA-Q TCP placement rubric
This course is designed for students in the Non User – Initial User proficiency range in English (CEFR A0 and below) who are working towards the Technician Certificate. The course will focus on improving English in all skill areas using an integrated approach so that students can communicate and interact in a meaningful way. Student success strategies related to independent learning, academic study, and technology are embedded throughout the course. By the end of the course, students will be able to communicate in the English language at an Initial User – Basic User proficiency range (CEFR A1.1).

TC-GE1000 GENERAL ENGLISH I
Prerequisites: A placement score of CEFR A1.1 or higher on the CNA-Q TCP placement rubric
This course is designed for students in the Initial User – Basic User proficiency range in English (CEFR A1.1) who are working towards the Technician Certificate. The course will focus on improving English in all skill areas using an integrated approach so that students can communicate and interact in a meaningful way. Student success strategies related to independent learning, academic study, and technology are embedded throughout the course. By the end of the course, students will be able to communicate in the English language at a Basic User – Breakthrough Plus proficiency range (CEFR A1.2).

TC-GE1001 GENERAL ENGLISH II
Prerequisites: Successful completion of TC-GE1000 or a placement score of CEFR A1.2 on the CNA-Q TCP placement rubric
Co-Requisites: TC-TE1000
This course is designed for students in the Basic User – Breakthrough Plus proficiency range in English (CEFR A1.2) who are working towards the Technician Certificate. Course goals are to improve English in all skill areas to an elementary level using an integrated approach so that students can communicate and interact in a meaningful way. Student success strategies related to independent learning, academic study, and technology are embedded throughout the course. By the end of the course, students will be able to communicate in the English language at a Basic User – Waystage Plus proficiency range (CEFR A2.2).

TC-MA1000 TECHNICIAN CERTIFICATE MATHEMATICS I
Prerequisites: TC-GE1001
Co-Requisites: TC-TE2000
This course provides trainees in the Technician Certificate program foundational mathematical skills through an enhanced learning experience that emphasizes the use of contexts and applications, which enables trainees to relate mathematical skills to their discipline.

TC-MA1001 TECHNICIAN CERTIFICATE MATHEMATICS II
Prerequisites: TC-MA1000, TC-TE2000
Building on the numeracy skills of TC-MA1000, this course is designed to provide beginner trainees in the Technician Certificate program with further mathematical skills.

TC-TE1000 WORKPLACE EXPOSURE I
Prerequisites: A placement score of CEFR A1.2 on the CNA-Q TCP placement rubric or successful completion of TC-GE1000.
Co-Requisites: TC-GE1001
This course is designed for students in the Basic User – Breakthrough Plus proficiency range in English (CEFR A1.2) who are working towards the Technician Certificate. The course focuses on both content and integrated language learning through a series of competency based tasks. Course goals are to introduce basic, practical knowledge and skills as they relate to the technical programs offered at CAN-Q. Student success strategies related to independent learning, academic study, and technology are embedded throughout the course. By the end of the course, students will be able to demonstrate basic knowledge, skills and safety practices when using hand tools, Personal Protective Equipment (PPE) and performing required housekeeping in the workshop.

TC-TE2000 TECHNICAL ENGLISH I
Prerequisites: A placement score of CEFR A2.2 on the CNA-Q TCP placement rubric or successful completion of TC-GE1001 and TC-TE1000
This course is designed for students in the Basic User – Waystage Plus proficiency range in English (CEFR A2.2) who are working towards the Technician Certificate. The course will focus on increasing students’ lexical knowledge of technical related topics and solidifying their general English proficiency level using an integrated approach so that students can communicate and interact in a meaningful way. Student success strategies related to independent learning, academic study, and technology are embedded throughout the course. By the end of this course, students will be able to communicate using technical English and general English language at the Basic User – Waystage Plus proficiency range (CEFR A2.2).
Course Descriptions

TC-TE2001 TECHNICAL ENGLISH II
Prerequisites: Successful completion of TC-TE2000
Co-Requisites: TC-TE2000 or TC-TE2002
This course is designed for students at a CEFR A2.2 level who are working towards the Technician Certificate. The course supports students in becoming strong users of basic technical English. It aims to develop their technical English competencies so that they can function effectively in their future industrial workplaces. This course engages students in learning through scenarios and tasks related to real-world technical communication requirements. The language skills of listening, speaking, reading, and writing; the related strategic, pragmatic, and linguistic competencies; and student success strategies are carefully embedded in course scenarios and tasks. By the end of this course, students will maintain their general English level of CEFR A2.2 while building capacity to function effectively in technical English contexts.

TC-TE2002 TECHNICAL ENGLISH III
Prerequisites: Successful completion of TC-TE2001
Co-Requisites: TC-TE2001
This course is designed for students at a CEFR A2.2 level who are working towards the Technician Certificate. The course supports students in becoming strong users of basic technical English. It aims to develop specific industrial workplace communication competencies with its emphasis on writing. Language-embedded real-world projects are the vehicles for learning in this task-based course. Students will learn how to give presentations about safety issues and equipment in toolbox talks, write incident reports and emails; and complete a variety of forms and permits for given workplace scenarios. The skills of writing, reading, listening, and speaking; grammatical knowledge; and lexical knowledge are carefully embedded in course tasks and projects. There is a strong emphasis on specific technical writing skills needed in the industrial workplace. By the end of the course, students will maintain their general English level of CEFR A2.2 while building their capacity to function effectively in technical English contexts.

TD3131 APPLIED THERMODYNAMICS
Prerequisites: MA1101, PO1120 or PH1101
This course presents a review of the laws of thermodynamics and applications to the oil and gas processing industry. It has been designed to apply theory to the applications as taught in the program and to aid further study.

TM1130 MEDICAL TERMINOLOGY
This course guides the student from the fundamentals of word building to complete mastery of a medical word building system. Correct spelling and pronunciation are emphasized. The course integrates the terms for anatomy, physiology and pathology of specified body systems in a manner that maximizes learning opportunities.

VA1230 GRAPHIC DESIGN I
Students will gain a clear understanding of the elements and principles of design, and how they can be utilized for basic graphic arts tasks. Students will also be introduced to the role of the Graphic Designer in the graphics industry and will gain exposure to the basic operation of a design studio environment.

WD1420 WELDING FUNDAMENTALS
This introductory course deals with welding technology and processes. Safety practices are emphasized in all aspects of welding applications in the shop. Applications include welding equipment, procedures, oxy-fuel cutting and joining, shielded metal arc welding (SMAW) processes, gas metal arc welding (GMAW) processes, tungsten inert gas (TIG) processes and practice in welding basic joints.

WT1170 WORK TERM
Prerequisites: Successful completion of all courses in Semesters 1 through 5
The work term is a required portion of the program. The work term provides a unique learning experience in a real workplace setting. Participation in the work term is determined through a competitive process and successful completion of all courses prior to the work term is mandatory for work term eligibility. This work term follows the successful completion of the preceding academic term. For most students, it represents their first professional work experience in a business environment; as such, it represents their first opportunity to evaluate their choice of pursuing a career in information technology. Students are expected to learn, develop and demonstrate the high standards of behaviour and performance normally expected in the work environment. During the on-the-job experience, students develop their employability and technical skills, further enhancing their personal growth. Through the work term students will experience different business cultures (e.g., public, private and not-for-profit sector, small and large organizations). They are learning from the new network of contacts and widening their perception of life and career choices.

WT1160 WORK TERM
Prerequisites: Successful completion of all courses in Semesters 1 through 5
The work term is a required portion of the program. The work term provides a unique learning experience in a real workplace setting for Network and Systems Administration students. Participation in the work term is determined through a competitive process and successful completion of all courses in Semesters 1 through 5. This work term follows the successful completion of the preceding academic term. For most students, it represents their first professional work experience in a business environment; as such, it represents their first opportunity to evaluate their choice of pursuing a career in information technology. Students are expected to learn, develop and demonstrate the high standards of behaviour and performance normally expected in the work environment. During the on-the-job experience students develop their employability and technical skills, further enhancing their personal growth. Through the work term students will experience different business cultures (e.g., public, private and not-for-profit sector, small and large organizations). They are learning from the new network of contacts and widening their perception of life and career choices.
Course Descriptions

WT1800 PHARMACY CLINICAL PLACEMENT

Prerequisites: Successful completion of all previous program courses, Valid CPR/First Aid certification

This twelve-week clinical placement is designed to enable the student to apply the fundamental principles of pharmacy technology in the field, under the local scope of practice. This placement will ensure that a graduating student has the opportunity to practice for four weeks in a community setting, and eight weeks in a hospital setting while under close supervision. Students will be placed with pharmacy health-related agencies, and their performances will be evaluated by the preceptor. As part of their duties, students will be required to prepare medicines, maintain inventory, receive payments, complete records, and perform other duties related to their program under the supervision and direction of a pharmacist and/or pharmacy technician. The student’s professional and ethical conduct will also be evaluated.
Appendix A

Minimum requirements for course completion for Advanced Care Paramedicine and Dental Hygiene diploma courses

### Advanced Care Paramedicine

<table>
<thead>
<tr>
<th>COURSE NUMBER AND DESCRIPTION (CURRENT AS OF FALL 2015)</th>
<th>MINIMUM REQUIREMENTS FOR COURSE COMPLETION</th>
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<tr>
<td></td>
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<tr>
<td>CM1250 Communicating in the Workplace</td>
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<tr>
<td>PA1125 EMS Basics</td>
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<tr>
<td>BL1180 Anatomy &amp; Physiology</td>
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<tr>
<td>PA1210 Health &amp; Fitness I</td>
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</tr>
<tr>
<td>PA1370 Pharmacology I</td>
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<tr>
<td>PS1420 Healthcare Organization &amp; Structure</td>
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<tr>
<td>TM1130 Medical Terminology</td>
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<td>CM1260 Communications in Healthcare</td>
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<td>PA1211 Health &amp; Fitness II</td>
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<td>PA1280 Cardiovascular Emergencies</td>
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<td>PA1520 Mental Health</td>
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<td>PA1440 Clinical</td>
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<td>PA1415 Interagency Relations</td>
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<td>PA1515 Special Populations</td>
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<td>PA2000 Traumatology</td>
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<tr>
<td>PA2005 Obstetrics &amp; Paediatrics</td>
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<td>PA2020 Simulation Lab</td>
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<td>PA2025 Practicum</td>
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<td>CM2200 Oral Communications</td>
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<td>PA2030 Patient Assessment</td>
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<td>PA2035 Diagnostic Techniques</td>
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Appendix A

Minimum requirements for course completion for Advanced Care Paramedicine and Dental Hygiene diploma courses

### Dental Hygiene

<table>
<thead>
<tr>
<th>COURSE NUMBER AND DESCRIPTION (CURRENT AS OF FALL 2015)</th>
<th>MINIMUM REQUIREMENTS FOR COURSE COMPLETION</th>
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<td>PA2045 Professional Practice</td>
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<td>PA2050 Clinical Skills Development I</td>
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<td>PA2055 Evidence-based Practice</td>
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<td>PA2060 Assessment-based Management II</td>
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<td>PA2065 Clinical Skills Development II</td>
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<td>PA2070 Final Practicum</td>
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## Minimum requirements for course completion for Advanced Care Paramedicine and Dental Hygiene diploma courses

<table>
<thead>
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<th>COURSE NUMBER AND DESCRIPTION (CURRENT AS OF FALL 2015)</th>
<th>MINIMUM REQUIREMENTS FOR COURSE COMPLETION</th>
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<td>DH2101 Oral Pathology II</td>
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<td>DH3150 Community Oral Health III</td>
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