ARE YOU READY?
2017 - 2018 ACADEMIC CALENDAR
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
College of the North Atlantic – Qatar is committed to being a high-quality, student-centered, public post-secondary applied learning institution. This commitment will be reflected through world-class facilities, accessible and responsive programs, and a contribution to technological development through partnerships with industry. The College will prepare individuals to be self-sufficient contributors to sustainable social and economic development of local communities and the State of Qatar, to fulfill QNV 2030.

Our Vision
College of the North Atlantic – Qatar will be recognized as a world-class educational institution. It will reflect quality and innovation in its programs, its services to students, and its response to current and future needs of individuals, business, industry, the State, and the region. Its role in human resource development will ensure that people are prepared to contribute to a diverse economy and globalization.

Welcome to College of the North Atlantic – Qatar

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 CNA-Q.

CNA-Q offers the best in applied learning education – programs that are internationally accredited, job-focussed and relevant to the needs of the workforce in Qatar. Our programs are delivered through hands-on learning, using the best educational technology and training systems, and led by instructors who have real world experience and a commitment to educating the next generation.

The CNA-Q campus is a welcoming ‘second home’ that is built around the needs of our students. We have the latest technology to support learning, including labs that match the real working environment. There are Help Centres where instructors support students one-on-one, and a Learning Commons and Library where advice and resources are always available. The College is proud to have a strong Student Affairs team that ensures a well-rounded campus life – from fitness, team sports, to many clubs and events to match your own interests.

From the minute you walk through our doors, sit down in a classroom or visit our website, we want you to feel welcomed and supported in your educational experience and in meeting your goals.

As you browse through the Academic Calendar you will see that there are more than 30 programs to choose from that can lead to exciting careers in Business Studies, Engineering Technology, Health Sciences, and Information Technology. Our programs are designed to take you right to the workforce or on to further studies.

Enjoy!

Dr. Ken MacLeod
President, College of the North Atlantic – Qatar
رسالة من الرئيس

أهلاً وسهلاً بكم، أشكركم لاهتمامكم في كلية شمال الأطلسي في قطر، ونحن على ثقة تامة بأنكم سوف تجدون ما تبحثون عنه داخل هذه الصفحات وذلك لبداية مستقبلكم في كلية شمال الأطلسي في قطر.

كلية شمال الأطلسي في قطر توفر أفضل أنواع التعليم التقني، وتقوم بتقديم برامج معتمدة دولياً، تركز على احتياجات الوظيفة. كما أنها تلبي احتياجات سوق العمل الجديدة والنامية في قطر، وهو الأمر الذي يمتدح مع تحقيق أهداف رؤية قطر الوطنية 2030.

يتم تقديم برامجنا من خلال التعليم التقني، مستخدمين في ذلك أفضل المعدات وأنظمة التدريب، وذلك بقيادة معلمين لديهم خيرة وتجربة.

حرم كلية شمال الأطلسي في قطر هو بمثابة "المنزل" للتعليم الذي وضع خصيصاً لتناسب احتياجات طلبتنا. فلدينا أحدث التقنيات لتحكي ذاكرة العمل الحقيقي، وهناك كبار المعلمين الذين يطعمون الطلبة الذين يتعلمون في كلية شمال الأطلسي في قطر.

وزعم كلية شمال الأطلسي في قطر في التدريس وجود طريقة فريدة لشغف الطلاب، وهو المعلم الذي يضمن أن يحظى الطلاب بتجربة غنية جداً من حيث البيئة البدنية، والتفوق الذهني إلى العديد من النواحي والفعاليات التي تناسب احتياجات الطلاب الخاصة.

من لحظة دخولكم في كلية شمال الأطلسي في قطر، وتجد بيئة تحفيز تزداد في كلياتنا، أو اختيار فندق أو مقهى على الإنترنت تناولنا متعالك.

نأمل أن نرى الكثير من الطلاب الذين يشتركون ثقافاتهم معنا في الشكل الجماعي، وتكون من خلال التقويم الكلي، ومكتبة تشمل أكثر من 300 برنامجاً للاختيار من بينها، والتي يمكن أن تؤدي إلى إعدادك في المحاسبة، وتكنولوجيا الكهرباء، وتكنولوجيا الحاسبات، والعديد من المواضيع الأخرى، وكل ذلك على سبيل المثال لا الحصر.

نرجوا منكم التواصل معنا فيما إذا كان لديكم رغبة بمعرفة المزيد من المعلومات. مكتب التسجيل دائماً على استعداد لمساعدتكم.

نأمل أن نراك في حرم الكلية قريبًا.

الدكتور كين ماكلويد
رئيس كلية شمال الأطلسي في قطر
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College of the North Atlantic - Qatar | Academic Calendar 2017-18
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 2017

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>Date</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wednesday, September 06</td>
<td>Start of Fall Term/Faculty Return Date</td>
</tr>
<tr>
<td>Saturday, September 09</td>
<td>Student Registration and Orientation for Credit Diploma Programs</td>
</tr>
<tr>
<td>8:00am – 2:30pm</td>
<td></td>
</tr>
<tr>
<td>Thursday, September 07</td>
<td>Deferred and Supplementary Exams</td>
</tr>
<tr>
<td>8:00am and 1:00pm</td>
<td></td>
</tr>
<tr>
<td>Thursday, September 07</td>
<td>Deadline for: Appeal Application Submission to Registrar’s Office at 3:00pm</td>
</tr>
<tr>
<td>Sunday, September 10</td>
<td>Deadline for: Supplementary and Deferred grades submission to Registrar’s Office at 8:00am.</td>
</tr>
<tr>
<td>Monday, September 11</td>
<td>First day of classes for Credit Diploma Programs</td>
</tr>
<tr>
<td>First day of Appeal Hearings 8:00am – 3:00pm</td>
<td></td>
</tr>
<tr>
<td>Tuesday, September 12</td>
<td>Last day to Register for all Programs</td>
</tr>
<tr>
<td>(late registrants, waitlisted and appeal accepted students)</td>
<td></td>
</tr>
<tr>
<td>Sunday, September 24</td>
<td>Spring incomplete grades due to Registrar’s Office at 3:00pm</td>
</tr>
<tr>
<td>Sunday, September 24</td>
<td>Last day for adding courses for registered students for Credit Diploma Programs</td>
</tr>
<tr>
<td>Sunday, October 22</td>
<td>Last day to withdraw with prorated refund</td>
</tr>
<tr>
<td>Monday, October 23 -</td>
<td>Midterm Evaluations for all Programs</td>
</tr>
<tr>
<td>Wednesday, October 25</td>
<td></td>
</tr>
<tr>
<td>Sunday, October 29</td>
<td>Mid Term Grade Submission Deadline: Grades due by 12:00pm to the Registrar’s Office</td>
</tr>
<tr>
<td>Sunday, November 05</td>
<td>Last day for dropping courses without academic prejudice – Credit Diploma Programs</td>
</tr>
<tr>
<td>Monday, December 04</td>
<td>Last day of Classes – Fall Semester</td>
</tr>
<tr>
<td>Tuesday, December 05 -</td>
<td>Final Exams for Fall Semester for Credit Diploma Programs</td>
</tr>
<tr>
<td>Wednesday, December 13</td>
<td>8:00am and 1:00pm</td>
</tr>
<tr>
<td>Thursday, December 14</td>
<td>Final Grade Submission Deadline: Grades due by 12:00pm to the Registrar’s Office</td>
</tr>
<tr>
<td>Thursday, December 14</td>
<td>Last working day for the Fall Semester</td>
</tr>
<tr>
<td>Sunday, December 17 -</td>
<td>Semester Break (9 days)</td>
</tr>
<tr>
<td>Thursday, December 28</td>
<td></td>
</tr>
<tr>
<td>Monday, December 18</td>
<td>Qatar National Day – College closed</td>
</tr>
<tr>
<td>Thursday, December 21</td>
<td>Grade Reports available to Students at 8:00am</td>
</tr>
<tr>
<td>Application for Supplementary Exams announced (SMS)</td>
<td></td>
</tr>
<tr>
<td>Thursday, December 21</td>
<td>End of Fall Term</td>
</tr>
</tbody>
</table>
## Academic Schedule of Events – Winter 2018

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sunday, December 31</td>
<td>Start of Winter Term/Faculty Return Date</td>
</tr>
<tr>
<td>Monday, January 01</td>
<td>Deferred and Supplementary Exams 8:00am and 1:00pm</td>
</tr>
<tr>
<td>Tuesday, January 02 – Thursday, January 04</td>
<td>Student Registration and Orientation for Credit Diploma Programs 8:00am – 2:30pm</td>
</tr>
<tr>
<td>Wednesday, January 03</td>
<td>Deadline for: Supplementary and Deferred grades submission to Registrar’s Office at 8:00am</td>
</tr>
<tr>
<td>Wednesday, January 03</td>
<td>Deadline for: Appeal Application Submission to Registrar’s Office at 3:00pm</td>
</tr>
</tbody>
</table>
| Sunday, January 07    | First day of classes for Credit Diploma Programs  
                       | First day of Appeal Hearings 8:00am – 3:00pm                        |
| Monday, January 08    | Last day to Register for all Programs  
                       | (late registrants, waitlisted and appeal accepted students)         |
| Thursday, January 18  | Last day for adding courses for registered students for Credit Diploma Programs |
| Thursday, January 18  | Last day to submit grades for Fall incompletes                        |
| Tuesday, February 13  | National Sports Day – College Closed                                  |
| Thursday, February 15 | Last day to withdraw with prorated refund                             |
| Sunday, February 18 – Tuesday, February 20 | Midterm Evaluations for all Programs |
| Thursday, February 22 | Mid Term Grade Submission Deadline:  
                       | Grades due by 12:00pm to the Registrar’s Office                      |
| Thursday, March 01    | Last day for dropping courses without academic prejudice – Credit Diploma Programs |
| Thursday, March 15    | Deadline for: Application to Graduate due to Registrar’s Office at 3:00pm |
| Monday, March 19      | Skills Day - No Classes                                               |
| Tuesday, April 03     | Last day of classes – Winter Semester                                 |
| Wednesday, April 04 – Wednesday, April 11 | Final exams for Winter Semester for Credit Diploma Programs 8:00am and 1:00pm |
| Thursday, April 12    | Final Grade Submission Deadline:  
                       | Grades due by 12:00pm to the Registrar’s Office                      |
| Thursday, April 12    | Last Working Day before the Winter Semester Break                     |
| Sunday, April 15 – Monday, April 16 | Semester Break (2 Annual Leave Days) |
| Tuesday, April 17     | Grade Reports available to students at 8:00am  
                       | Application for Supplementary Exams announced (SMS)                 |
| Monday, April 16      | End of Winter Term                                                    |
### INTERSESSION SEMESTER 2018

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tuesday, April 17</td>
<td>Start of Spring Term/Faculty Return Date</td>
</tr>
<tr>
<td>Wednesday, April 18</td>
<td>Deferred and Supplementary Exams 8:00am and 1:00pm</td>
</tr>
<tr>
<td>Wednesday, April 18</td>
<td>Deadline for: Appeal Application Submission to Registrar’s Office at 3:00pm</td>
</tr>
<tr>
<td>Wednesday, April 18 - Thursday, April 19</td>
<td>Student Registration and Orientation for Credit Diploma Programs 8:00am – 2:30pm</td>
</tr>
<tr>
<td>Sunday, April 22</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>Sunday, April 22</td>
<td>Supplementary and Deferred grades submission to Registrar’s Office at 8:00am</td>
</tr>
<tr>
<td>Monday, April 23</td>
<td>Last day to Register for all Programs (late registrants, waitlisted students and appeal accepted students)</td>
</tr>
<tr>
<td>Thursday, April 26</td>
<td>Last day for adding courses for registered students for Credit Diploma Programs</td>
</tr>
<tr>
<td>Thursday, May 10</td>
<td>Last day for dropping courses without academic prejudice – Credit Diploma Programs</td>
</tr>
<tr>
<td>Thursday, May 10</td>
<td>Last day to withdraw with prorated refund</td>
</tr>
<tr>
<td>Monday, May 14</td>
<td>Graduation 2018</td>
</tr>
<tr>
<td>Sunday, May 20 - Thursday, June 14</td>
<td>Ramadan</td>
</tr>
<tr>
<td>Tuesday, June 05</td>
<td>Last day of Classes – Spring Semester</td>
</tr>
<tr>
<td>Wednesday, June 06 - Tuesday, June 12</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>Wednesday, June 13</td>
<td>Final Grade Submission Deadline: Grades due by 12:00pm to the Registrar’s Office</td>
</tr>
<tr>
<td>Sunday, June 17 - Thursday, June 21</td>
<td>Eid Al Fitr (5 Stat Holidays) – College Closed</td>
</tr>
<tr>
<td>Sunday, June 24 - Thursday, August 16</td>
<td>Faculty Annual Leave</td>
</tr>
<tr>
<td>Thursday, June 28</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>Thursday, June 28</td>
<td>End of Spring Term</td>
</tr>
<tr>
<td>Sunday, August 19 - Thursday, August 23</td>
<td>Eid Al Adha (5 Stat Holidays) – College Closed</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>Banking</td>
<td>41 minimum</td>
<td>Certificate</td>
<td>1 year</td>
</tr>
<tr>
<td>Banking</td>
<td>86 minimum</td>
<td>Diploma</td>
<td>2 years</td>
</tr>
<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>139 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 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 and Safety</td>
<td>97</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>48</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 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
- Registrar’s 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 2017 – 2018 year for international applicants:

<table>
<thead>
<tr>
<th>Season</th>
<th>Application Submission Dates</th>
<th>Start:</th>
<th>End:</th>
</tr>
</thead>
<tbody>
<tr>
<td>WINTER 2018</td>
<td>Start: September 24, 2017</td>
<td></td>
<td>November 02, 2017</td>
</tr>
<tr>
<td>(January - April)</td>
<td>Testing Completed</td>
<td>December 03, 2017</td>
<td></td>
</tr>
<tr>
<td>INTERSESSION 2018</td>
<td>Start: January 21, 2018</td>
<td></td>
<td>February 22, 2018</td>
</tr>
<tr>
<td>(May – June)</td>
<td>Testing Completed</td>
<td>March 26, 2018</td>
<td></td>
</tr>
<tr>
<td>FALL 2018</td>
<td>Start: May 06, 2018</td>
<td></td>
<td>July 05, 2018</td>
</tr>
<tr>
<td>(September –December)</td>
<td>Testing Completed</td>
<td>August 09, 2018</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.
• 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.
• 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.

It is mandatory that international applicants who are interested to enroll at CNA-Q as part of our rolling admissions program, hold Qatari National citizenship.

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.
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 two-semester period
- Be comprised of a minimum of 40 credits
- 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 (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
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.

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.

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 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 Health 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 or the Career Counselling and Resource Centre.
Academic Regulations

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.

Transfer of Credit Status
When transfer of credit is awarded, the College will accept the passing grade awarded by the institution and this mark will be used in the calculation of the GPA. Transfer of credit is awarded only if the course level and course content are the same.

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:

- 80% and above A
- 70% – 75% B
- 60% – 65% C
- 50% – 55% D
- Below 50% F

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 a 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.

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.

Academic Advising
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 2.0 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 2.0 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 and Safety, 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 247 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 247 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  
OR  
• 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 table on the following page. 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.
### 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>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 is 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>Front Desk</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>Records</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>Honour standing letters for the completed term are issued on the 20th day of the first month of the following semester. Students will be notified by email when these letters are available from the Registrar’s Office.</td>
</tr>
<tr>
<td>Graduation</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>Academic Status Letter</td>
<td>This letter is issued to students who require their current academic status. This letter includes the student’s demographic details and the level of completion they have attained in the program they have been enrolled in.</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>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></td>
</tr>
<tr>
<td>Graduation</td>
<td>Graduation Letter</td>
<td>This letter is issued to graduating and graduated students. The letter indicates student details, academic program graduated, GPA, year of graduation and the English language proficiency test outcome.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>English Proficiency Letter</td>
<td>This letter is issued to students that require confirmation that the language of instruction at the College is English.</td>
<td></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 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.

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.
# Student Tuition Structure for Work Term

## 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 (page 80)</td>
<td>2 weeks</td>
<td>692 QR</td>
</tr>
<tr>
<td>Office Administration Executive (page 80)</td>
<td>6 weeks</td>
<td>2,025 QR</td>
</tr>
<tr>
<td>Business Management <em>(Three Year Diploma Programs)</em> (Accounting (page 61), Marketing (page 76), Human Resource (page 69))</td>
<td>6 weeks</td>
<td>2,025 QR</td>
</tr>
<tr>
<td>Business Administration <em>(Two Year Diploma Programs)</em> (Accounting (page 58), Marketing (page 73), Human Resource (page 66))</td>
<td>6 weeks</td>
<td>2,025 QR</td>
</tr>
<tr>
<td>Banking Certificate (page 53)</td>
<td>4 weeks</td>
<td>1,358 QR</td>
</tr>
<tr>
<td>Banking Diploma (page 55)</td>
<td>8 weeks</td>
<td>2,692 QR</td>
</tr>
</tbody>
</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 (page 162)</td>
<td>8 weeks</td>
<td>2,692 QR</td>
</tr>
<tr>
<td>Information Systems – Software (page 156)</td>
<td>8 weeks</td>
<td>2,692 QR</td>
</tr>
<tr>
<td>Information Systems – Web Developer (page 159)</td>
<td>8 weeks</td>
<td>2,692 QR</td>
</tr>
<tr>
<td>Information Systems – Network and Systems Administration (page 165)</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 an opportunity for students in diploma programs to improve their standing in courses they have taken in the current semester. Supplementary examinations apply to a course in which the final exam is worth 30% or more of the total course evaluation scheme. If the passing grade in such a course is 50% and the student has achieved a failing grade of 40% or 45%; or if the passing grade in such a course is 60% and the student has achieved a failing grade of 50% or 55%, she/he is eligible to write a supplementary examination. There are no supplementary examinations in Academic Preparatory and English Language Preparatory courses.

For upgrading purposes, in their last semester of studies, students may be given an opportunity to write a supplementary examination for a course in which they have attained a passing mark of 50% or 55% taken any time throughout their program.

The grade attained in a supplementary examination will replace only the grade attained in the final examination 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 3:00pm on the last work day preceding the date of the supplementary exam. The actual exam 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.

The Registrar’s Office should be contacted for information and permission regarding Supplementary Examinations.

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.

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.

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 – 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.
Awards and Scholarships

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 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.

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

CNA-Q Memorial Scholarship
This scholarship is available to international students enrolled in full-time studies in the Telecommunications and Network Engineering Technology diploma program at College of the North Atlantic – Qatar. Candidates must have completed at least three semesters in their program of study, and be in good academic standing with a GPA of at least 2.5.
Quantity: One
Award: Cash award of 10,000 QR and recognition certificate
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 4 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 sportspersonship in the College or community.

Quantity: One
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 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 Sports Awards

Quantity: Two
Criteria: Demonstrated sports achievement and sportsmanlike attitude 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
Other Academic Recognition

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.

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 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 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 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.

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.

Please refer to page 37 for further details on Refund.

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.

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)
Graduation

Graduating from CNA-Q
Students must meet the following criteria to be eligible to graduate:

• Completed all courses pertaining to their program plan
• Should have a clear academic standing
• Should have a minimum GPA of 2.00
• Should have cleared all outstanding fees
• Should meet their English Proficiency Requirement for their program (Health Sciences only)
• Should 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

Refund Schedule for Non-Sponsored Students

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

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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

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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 September 2017

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CNA-Qatar Corporate Services

Relevant, Value-Added, Innovative Training and Development Solutions for Today and 2030

CNA-Q Corporate Services delivers relevant, value-added and innovative training and development 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, one-day or several weeks or months, the CNA-Qatar Corporate Services team works in partnership with every client to develop and deliver solutions tailored to their unique technical and professional workforce development and performance management 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 15 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 Services technical and professional development solutions includes:

- American Heart Association ACLS, BLS, EFA and PALS
- Anti-Money Laundering
- AUMA Customer Service Training
- AutoCAD and Autodesk
- Banking Graduates Orientation
- Canadian Red Cross CPR
- Communications
- Compressor Training Courses
- Corporate Governance: Strategies for Internal Audit
- CPD Courses for Health Care Professionals
- Crisis Management and Emergency Response
- Fundamentals of Diabetes Education
- Project Management
- IT Projects Cost Analysis
- Presentation Skills
- Electrical Safety
- Emergency Medical Technician - Basic
- English Language Training for Business, Every Day English
- Excel for Business
- Finance for Non-Finance Managers
- Leadership
- Pumps, Operations and Maintenance
- Reading and Interpretation of Instrument Drawings
- Shutdown and Turnaround Management for Technicians and Operators
- Thermography

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

The table below outlines the criteria that a student must meet to satisfy the Technician Certificate Program.

<table>
<thead>
<tr>
<th>ACADEMIC STANDING</th>
<th>ACTION</th>
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<tbody>
<tr>
<td>Clear Standing</td>
<td>• Passed 100% of courses taken • Cleared all past course deficiencies in current academic program</td>
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<tr>
<td>Conditional Standing – Existing Condition</td>
<td>• Passed 100% of courses taken • Course deficiencies have not been cleared for current program</td>
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<tr>
<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 • 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 • 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 remedial 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, first come, first serve.
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). Instructors work with students to determine their level in all four skills. 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
- Recreation Manager 4495-2458
- 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 Affairs can be found in the Student Handbook.

Sport and Recreation
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.

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).

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.
Student Affairs

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.

Guidelines for OOPT at the end of FL1090
All students exiting FL1090 are required to obtain an overall score of 71 or greater on the Oxford Online Placement Test (OOPT), as administered and validated by the CNA-Q Testing Centre. Students in FL1090 are provided preparation for the OOPT test within their course instruction and take the OOPT test as part of the requirements of the FL1090 course.

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 Office Administration, Banking, 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***
- Banking
- Business Administration
- Office Administration

**Two Year Diploma***
- Banking
- 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.

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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>Banking</td>
<td>Banking Certificate</td>
<td>Banking Diploma</td>
<td>N/A</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>
Program
The Certificate in Banking is designed to give students a background in the technical and service skills required in today’s banking environment. To be competitive, banks require employees with good problem-solving abilities, who can work in a team environment, adapt to changing environments and be prepared for life-long learning.

The certificate program has been developed to provide students with the fundamental skills and abilities which will prepare them for entry level employment opportunities within the banking sector. Ongoing development of practical and consumer-centric skills, will allow them to develop a diverse set of technical and people skills. The model simulated branch (laboratory) provides many “hands-on” opportunities to apply banking principles and experiences.

By the end of the one-year Banking Certificate program, graduates will have acquired a basic level of business and banking knowledge, a set of fundamental competencies and skills for an entry level banking position. Positions may be in retail and/or back-office operations departments. The program provides them with the foundation necessary to be able to participate in further learning and training, as may be deemed necessary by their future employers, and required for their banking career advancement.

Objectives
Upon successful completion of the program, graduates will be able to:
1. Demonstrate a general understanding of the fundamental business principles and practices essential for efficient and effective job performance in a banking work environment at an entry level position.
2. Apply foundational knowledge and skills in various key areas of banking; particularly in the areas of retail banking, customer service and relationship building.
3. Utilize essential knowledge and competencies for employment in an entry level position for the Qatar banking sector.
4. Demonstrate application of the Conference Board of Canada employability skills.

Career Opportunities
Graduates of the program may obtain employment with a bank in an entry-level position in a variety of areas, such as retail banking and back-office operations. The following job titles represent examples of the positions graduates may be assigned to, depending on the bank’s recruitment needs at the time:
• Tellers
• Cashiers
• Customer Service Representatives
• Customer Service Agents
• Branch and back office clerical staff
The actual job title may vary, depending on the bank’s organizational chart.

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

2. Obtaining 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 Banking Certificate program must meet English language proficiency requirements by obtaining one of the following:
1. An overall score of 71 or greater on the Oxford Online Placement Test (OOPT), as administered and validated by the CNA-Q Testing Centre.
2. 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.
3. Successfully complete FL1090, a pass/fail language development course, where the final examination is the OOPT. A score of 71 or greater is required on the OOPT.
## Banking Certificate

**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>FN1140</td>
<td>Introduction to Finance</td>
<td>3</td>
</tr>
<tr>
<td>CM1240</td>
<td>Business Communications I</td>
<td>4</td>
</tr>
<tr>
<td>MC1250</td>
<td>Computer Applications I</td>
<td>3</td>
</tr>
<tr>
<td>Elective</td>
<td>(Minimum 3 credits)</td>
<td>-</td>
</tr>
<tr>
<td>BK1100</td>
<td>Banking Operations I</td>
<td>4</td>
</tr>
<tr>
<td>EP1160</td>
<td>Introduction to Business Functions</td>
<td>3</td>
</tr>
<tr>
<td>AC1260</td>
<td>Financial Accounting I</td>
<td>5</td>
</tr>
<tr>
<td>CM1241</td>
<td>Business Communications II</td>
<td>4</td>
</tr>
<tr>
<td>BK1101</td>
<td>Banking Operations II</td>
<td>4</td>
</tr>
<tr>
<td>MR1120</td>
<td>Relationship Banking</td>
<td>4</td>
</tr>
<tr>
<td>BK1110</td>
<td>Banking Operations III</td>
<td>4</td>
</tr>
<tr>
<td>OJ1030</td>
<td>Banking Work Exposure I</td>
<td></td>
</tr>
</tbody>
</table>

After the successful completion of the above listed courses, the student will be eligible to graduate with a Banking Certificate. Students may complete a second year to achieve a Banking Diploma.
Banking (Two Year Diploma)

Program
The Diploma in Banking is designed to give students a background in the technical and service skills required in today’s banking environment. To be competitive, banks require employees with good problem-solving abilities, who can work in a team environment, adapt to changing environments, and be prepared for life-long learning.

The program will provide students with ongoing development of practical and consumer-centric skills, which will allow them to develop and enhance a diverse set of technical and people skills resulting from many “hands-on” opportunities throughout the program, by way of exposure to real-life applications of banking principles and experiences. The program will enable students to advance their careers with broader knowledge specific to the banking industry. The model simulated branch (laboratory) provides students with an in-depth knowledge and practical experiences which will advance throughout the program.

By the end of the two-year Banking Program, graduates will have acquired a solid basis of business and banking knowledge, as well as a comprehensive set of competencies and skills allowing them to be productive in a variety of banking positions and enabling graduates to progress within their careers. This program will provide graduates with the competencies and experiences necessary to be successful in their banking careers.

Objectives
Upon successful completion of the program, graduates will be able to:
1. Apply banking practices and business principles essential to efficient and effective job performance at a senior/supervisory level.
2. Examine and critique the key fundamentals of bank operations from a strategic level, such as capital adequacy, risk, profitability and reserve requirements.
3. Demonstrate competencies in various key areas of banking, particularly in the areas of retail banking, commercial banking, financial planning, and investment management.
4. Integrate effective banking industry quality management principles and practices while developing and maintaining professional banking relationships with clients.
5. Demonstrate application of the Conference Board of Canada employability skills.

Career Opportunities
Graduates of the program may obtain employment with a bank and occupy an entry-level position in a variety of areas, such as retail banking, operations, the credit department, etc. The following job titles represent examples of the positions graduates may be assigned to, depending on the bank’s recruitment needs at the time:
• Management Trainee, Assistant Relationship Manager, Loan Officer
• Junior positions such as: Teller, Cashier, Customer Service Representative, branch and back office clerical staff
The actual job title may vary depending on the bank’s organizational chart.

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>

Three additional courses at the Grade 12 level
2. Obtaining 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.

Language Proficiency Requirements
Students entering the Banking Diploma program must meet English language proficiency requirements by obtaining one of the following:
1. An overall score of 71 or greater on the Oxford Online Placement Test (OOPT), as administered and validated by the CNA-Q Testing Centre.
2. 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.
3. Successfully complete FL1090, a pass/fail language development course, where the final examination is the OOPT. A score of 71 or greater is required on the OOPT.

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.
## Banking Diploma

**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>FN1140</td>
<td>Introduction to Finance</td>
<td>3</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>CM1240</td>
<td>Business Communications I</td>
<td>4</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>MC1250</td>
<td>Computer Applications I</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>BK1100</td>
<td>Banking Operations I</td>
<td>4</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>EP1160</td>
<td>Introduction to Business Functions</td>
<td>3</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>AC1260</td>
<td>Financial Accounting I</td>
<td>5</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>CM1241</td>
<td>Business Communications II</td>
<td>4</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>BK1101</td>
<td>Banking Operations II</td>
<td>4</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>MR1120</td>
<td>Relationship Banking</td>
<td>4</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>BK1110</td>
<td>Banking Operations III</td>
<td>4</td>
<td>2</td>
<td>6</td>
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<tr>
<td>OJ1030</td>
<td>Banking Work Exposure I</td>
<td></td>
<td></td>
<td>6 weeks (126 hours)</td>
</tr>
</tbody>
</table>

After the successful completion of the above listed courses, the student will be eligible to graduate with a Banking Certificate.
## Banking Diploma

### 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>FN2120</td>
<td>Investments for Banking</td>
<td></td>
</tr>
<tr>
<td>EC1650</td>
<td>Money Banking and Monetary Policy</td>
<td></td>
</tr>
<tr>
<td>AC2260</td>
<td>Financial Accounting II</td>
<td></td>
</tr>
<tr>
<td>BK2200</td>
<td>Consumer Lending</td>
<td></td>
</tr>
<tr>
<td>CM2200</td>
<td>Oral Communications</td>
<td></td>
</tr>
<tr>
<td>FN2130</td>
<td>Financial Planning and Investment Management</td>
<td>4</td>
</tr>
<tr>
<td>EC1660</td>
<td>Economics for Bankers</td>
<td></td>
</tr>
<tr>
<td>BK2401</td>
<td>Anti-Money Laundering</td>
<td></td>
</tr>
<tr>
<td>BK2360</td>
<td>Bank Financial Management</td>
<td></td>
</tr>
<tr>
<td>BK2210</td>
<td>Commercial Lending</td>
<td></td>
</tr>
<tr>
<td>Elective</td>
<td>(Minimum 3 credits)</td>
<td></td>
</tr>
<tr>
<td>LW1240</td>
<td>Qatar Business Law</td>
<td></td>
</tr>
<tr>
<td>OJ1040</td>
<td>Banking Work Exposure II</td>
<td></td>
</tr>
</tbody>
</table>

After the successful completion of the above listed courses, the student will be eligible to graduate with a Banking Diploma.
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. Throughout the program, the student will develop a learning portfolio and career and educational plans.

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>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. Obtaining 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 – Accounting program must meet English language proficiency requirements by obtaining one of the following:
1. An overall score of 71 or greater on the Oxford Online Placement Test (OOPT), as administered and validated by the CNA-Q Testing Centre.
2. 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.
3. Successfully complete FL1090, a pass/fail language development course, where the final examination is the OOPT. A score of 71 or greater is required on the OOPT.

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 - 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>MC1250</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>
<td>4</td>
</tr>
<tr>
<td>HN1240</td>
<td>Human Resource Management II</td>
<td>3</td>
</tr>
<tr>
<td>LW1240</td>
<td>Qatar Business Law</td>
<td>3</td>
</tr>
<tr>
<td>MR2100</td>
<td>Marketing II</td>
<td>4</td>
</tr>
<tr>
<td>AC2230</td>
<td>Computerized Accounting I</td>
<td>3</td>
</tr>
<tr>
<td>CM2200</td>
<td>Oral Communications</td>
<td>2</td>
</tr>
<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.
## Business Administration – Accounting

**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>AC2220</td>
<td>Intermediate Financial Accounting I</td>
<td>5</td>
</tr>
<tr>
<td>AC2250</td>
<td>Managerial Accounting I</td>
<td>4</td>
</tr>
<tr>
<td>AC2231</td>
<td>Computerized Accounting II</td>
<td>3</td>
</tr>
<tr>
<td>EC1110</td>
<td>Microeconomics</td>
<td>4</td>
</tr>
<tr>
<td>MA1670</td>
<td>Statistics</td>
<td>4</td>
</tr>
<tr>
<td>CM2300</td>
<td>Report Writing</td>
<td>2</td>
</tr>
<tr>
<td>AC2370</td>
<td>Principles of Taxation</td>
<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 (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:
   - 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. Obtaining 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 71 or greater on the Oxford Online Placement Test (OOPT), as administered and validated by the CNA-Q Testing Centre.
2. 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.
3. Successfully complete FL1090, a pass/fail language development course, where the final examination is the OOPT. A score of 71 or greater is required on the OOPT.

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

### Level 1 (Year 1)

<table>
<thead>
<tr>
<th>COURSE NUMBER</th>
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<tbody>
<tr>
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<td>Work Exposure (Certificate only)</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 – Accounting

**Level 2 (Year 2)**

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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)**

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<th>COURSE TITLE</th>
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<td>AC3251</td>
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Options will be selected from the following list after consultation with the students and/or local industry.

<table>
<thead>
<tr>
<th>COURSE NUMBER</th>
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<tr>
<td></td>
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<td>AC2540</td>
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<tr>
<td>BK1100</td>
<td>Banking Operations I</td>
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</tr>
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</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 2 options (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.
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</th>
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</thead>
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<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>
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</tbody>
</table>

Three additional courses at the Grade 12 level

2. Obtaining 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 – Human Resource Management program must meet English language proficiency requirements by obtaining one of the following:
1. An overall score of 71 or greater on the Oxford Online Placement Test (OOPT), as administered and validated by the CNA-Q Testing Centre.
2. 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.
3. Successfully complete FL1090, a pass/fail language development course, where the final examination is the OOPT. A score of 71 or greater is required on the OOPT.
### Business Administration – Human Resource Management

**Level 1 (Year 1)**

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<td>OJ1100</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 Administration – Human Resource Management

## Level 2 (Year 2)

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<tr>
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<tr>
<td>CM2300</td>
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<td>EC1110</td>
<td>Microeconomics</td>
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<td>OF1400</td>
<td>Managing an Office</td>
<td>3</td>
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<tr>
<td>HN2130</td>
<td>Recruitment and Selection</td>
<td>3</td>
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<td>HN2150</td>
<td>Training and Development</td>
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<td>MA1670</td>
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<td>MR2300</td>
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<td>AC2600</td>
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<td>Workplace Safety for Human Resources</td>
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<tr>
<td>Elective</td>
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<tr>
<td>OJ1550</td>
<td>Work Exposure (HRM)</td>
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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 – 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 Officer
• Other business-related occupation

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

2. Obtaining 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 Management – Human Resource Management program must meet English language proficiency requirements by obtaining one of the following:
1. An overall score of 71 or greater on the Oxford Online Placement Test (OOPT), as administered and validated by the CNA-Q Testing Centre.
2. 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.
3. Successfully complete FL1090, a pass/fail language development course, where the final examination is the OOPT. A score of 71 or greater is required on the OOPT.

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 – Human Resource Management

#### Level 1 (Year 1)

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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 – Human Resource Management

#### Level 2 (Year 2)

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|               | 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>
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<td>EP2250</td>
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<td>4</td>
</tr>
<tr>
<td>HN2140</td>
<td>Attendance and Disability Management</td>
<td>3</td>
</tr>
<tr>
<td>HN2200</td>
<td>Strategic Compensation and Benefits</td>
<td>3</td>
</tr>
<tr>
<td>MN2600</td>
<td>Strategic Management</td>
<td>3</td>
</tr>
<tr>
<td>Elective</td>
<td>(Minimum 3 credits)</td>
<td>–</td>
</tr>
<tr>
<td>EP2200</td>
<td>Business Planning</td>
<td>4</td>
</tr>
<tr>
<td>HN2310</td>
<td>Alternate Dispute Resolution</td>
<td>4</td>
</tr>
<tr>
<td>HN2210</td>
<td>Human Resource Planning</td>
<td>3</td>
</tr>
<tr>
<td>HN3110</td>
<td>Current Topics in Human Resource Management and Industrial Relations</td>
<td>3</td>
</tr>
<tr>
<td>MN3100</td>
<td>Business Ethics</td>
<td>3</td>
</tr>
<tr>
<td>MN3200</td>
<td>Performance Management</td>
<td>3</td>
</tr>
</tbody>
</table>

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

Three additional courses at the Grade 12 level
2. Obtaining 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 band score (reading, writing, speaking, and 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 71 or greater on the Oxford Online Placement Test (OOPT), as administered and validated by the CNA-Q Testing Centre.
2. 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.
3. Successfully complete FL1090, a pass/fail language development course, where the final examination is the OOPT. A score of 71 or greater is required on the OOPT.

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
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 – Marketing

#### 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>MC1250</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>
<td>4</td>
</tr>
<tr>
<td>HN1240</td>
<td>Human Resource Management II</td>
<td>3</td>
</tr>
<tr>
<td>LW1240</td>
<td>Qatar Business Law</td>
<td>3</td>
</tr>
<tr>
<td>MR2100</td>
<td>Marketing II</td>
<td>4</td>
</tr>
<tr>
<td>AC2230</td>
<td>Computerized Accounting I</td>
<td>3</td>
</tr>
<tr>
<td>CM2200</td>
<td>Oral Communications</td>
<td>2</td>
</tr>
<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.
## Business Administration – Marketing

### Level 2 (Year 2)

<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>CM2300</td>
<td>Report Writing</td>
<td>2</td>
</tr>
<tr>
<td>EC1110</td>
<td>Microeconomics</td>
<td>4</td>
</tr>
<tr>
<td>MA1670</td>
<td>Statistics</td>
<td>4</td>
</tr>
<tr>
<td>MR1500</td>
<td>Consumer Behaviour</td>
<td>3</td>
</tr>
<tr>
<td>MR1600</td>
<td>Professional Selling</td>
<td>4</td>
</tr>
<tr>
<td>MR2300</td>
<td>Business Research</td>
<td>4</td>
</tr>
<tr>
<td>Elective</td>
<td>(Minimum 3 credits)</td>
<td>-</td>
</tr>
<tr>
<td>EC1210</td>
<td>Macroeconomics</td>
<td>4</td>
</tr>
<tr>
<td>EP2150</td>
<td>Entrepreneurship</td>
<td>3</td>
</tr>
<tr>
<td>MR2200</td>
<td>Retailing</td>
<td>3</td>
</tr>
<tr>
<td>MR2350</td>
<td>E-Business</td>
<td>4</td>
</tr>
<tr>
<td>MR2400</td>
<td>Marketing Communications</td>
<td>4</td>
</tr>
<tr>
<td>PR2170</td>
<td>Project Management</td>
<td>2</td>
</tr>
<tr>
<td>Elective</td>
<td>(Minimum 3 credits)</td>
<td>-</td>
</tr>
<tr>
<td>OJ1560</td>
<td>Work Exposure – Marketing</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 – Marketing Diploma. Students may continue an additional year to achieve a Business Management – Marketing 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>Average</th>
<th>Minimum</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>60%</td>
</tr>
</tbody>
</table>

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 71 or greater on the Oxford Online Placement Test (OOPT), as administered and validated by the CNA-Q Testing Centre.
2. 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.
3. Successfully complete FL1090, a pass/fail language development course, where the final examination is the OOPT. A score of 71 or greater is required on the OOPT.

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>
<th>HOURS/WEEK</th>
</tr>
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<tbody>
<tr>
<td></td>
<td></td>
<td>CR</td>
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<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>MC1250</td>
<td>Computer Applications I</td>
<td>3</td>
</tr>
<tr>
<td>MR1100</td>
<td>Marketing I</td>
<td>4</td>
</tr>
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<td>AC2260</td>
<td>Financial Accounting II</td>
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<tr>
<td>CM1241</td>
<td>Business Communications II</td>
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<td>HN1240</td>
<td>Human Resource Management II</td>
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<tr>
<td>LW1240</td>
<td>Qatar Business Law</td>
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</tr>
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<td>MR2100</td>
<td>Marketing II</td>
<td>4</td>
</tr>
<tr>
<td>AC2230</td>
<td>Computerized Accounting I</td>
<td>3</td>
</tr>
<tr>
<td>CM2200</td>
<td>Oral Communications</td>
<td>2</td>
</tr>
<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.
### Business Management – Marketing

#### Level 2 (Year 2)

<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>CM2300</td>
<td>Report Writing</td>
<td>2</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>EC1110</td>
<td>Microeconomics</td>
<td>4</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>MA1670</td>
<td>Statistics</td>
<td>4</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>MR1500</td>
<td>Consumer Behaviour</td>
<td>3</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>MR1600</td>
<td>Professional Selling</td>
<td>4</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>MR2300</td>
<td>Business Research</td>
<td>4</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Elective</td>
<td>(Minimum 3 credits)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EC1210</td>
<td>Macroeconomics</td>
<td>4</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>EP2150</td>
<td>Entrepreneurship</td>
<td>3</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>MR2200</td>
<td>Retailing</td>
<td>3</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>MR2350</td>
<td>E-Business</td>
<td>4</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>MR2400</td>
<td>Marketing Communications</td>
<td>4</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>PR2170</td>
<td>Project Management</td>
<td>2</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Elective</td>
<td>(Minimum 3 credits)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OJ1560</td>
<td>Work Exposure – Marketing</td>
<td></td>
<td></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 - Marketing Diploma. Students may continue a third year to complete a Business Management - Marketing Diploma.
## Business Management – Marketing

**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>EP2250</td>
<td>Small Business Development</td>
<td>4</td>
</tr>
<tr>
<td>FN2110</td>
<td>Business Finance</td>
<td>4</td>
</tr>
<tr>
<td>MN2600</td>
<td>Strategic Management</td>
<td>3</td>
</tr>
<tr>
<td>MR2450</td>
<td>Services Marketing</td>
<td>3</td>
</tr>
<tr>
<td>MR2800</td>
<td>Business-to-Business Marketing</td>
<td>3</td>
</tr>
<tr>
<td>Elective</td>
<td>(Minimum 3 credits)</td>
<td></td>
</tr>
<tr>
<td>EP2200</td>
<td>Business Planning</td>
<td>4</td>
</tr>
<tr>
<td>MR2620</td>
<td>Sales Management</td>
<td>4</td>
</tr>
<tr>
<td>MR2700</td>
<td>International Marketing</td>
<td>4</td>
</tr>
<tr>
<td>MR3100</td>
<td>Current Topics in Marketing</td>
<td>3</td>
</tr>
<tr>
<td>PS2340</td>
<td>Organizational Behaviour</td>
<td>4</td>
</tr>
<tr>
<td>Elective</td>
<td>(Minimum 3 credits)</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 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. Obtaining 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).

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 71 or greater on the Oxford Online Placement Test (OOPT), as administered and validated by the CNA-Q Testing Centre.
2. 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.
3. Successfully complete FL1090, a pass/fail language development course, where the final examination is the OOPT. A score of 71 or greater is required on the OOPT.

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>
</tr>
</thead>
<tbody>
<tr>
<td>AC1100</td>
<td>Bookkeeping I</td>
<td>4 3 2</td>
</tr>
<tr>
<td>CM1100</td>
<td>Writing Essentials</td>
<td>3 3 1</td>
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<tr>
<td>DM1200</td>
<td>Document Production I</td>
<td>6 4 1</td>
</tr>
<tr>
<td>EP1110</td>
<td>Introduction to Business</td>
<td>4 4 0</td>
</tr>
<tr>
<td>OF1100</td>
<td>Office Management I</td>
<td>3 3 1</td>
</tr>
<tr>
<td>AC2100</td>
<td>Bookkeeping II</td>
<td>4 3 2</td>
</tr>
<tr>
<td>CM2110</td>
<td>Business Writing Fundamentals</td>
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<tr>
<td>CP2310</td>
<td>Electronic Spreadsheet Applications</td>
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<tr>
<td>DM1210</td>
<td>Document Production II</td>
<td>5 3 5</td>
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<tr>
<td>KB1150</td>
<td>Keyboarding I</td>
<td>1 1 1</td>
</tr>
<tr>
<td>OF1101</td>
<td>Office Management II</td>
<td>3 3 1</td>
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<tr>
<td>DM1300</td>
<td>Transcription I</td>
<td>3 3 1</td>
</tr>
<tr>
<td>CP2410</td>
<td>Micro Database Applications</td>
<td>3 2 2</td>
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<tr>
<td>OJ1130</td>
<td>Work Exposure – Office Administration (Certificate Only)</td>
<td>2 weeks (70 – 80 hours)</td>
</tr>
</tbody>
</table>

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)

<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>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>
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<td>2</td>
<td>0</td>
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<tr>
<td>DM1301</td>
<td>Transcription II</td>
<td>3</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>DM2200</td>
<td>Document Production III</td>
<td>6</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>OF2100</td>
<td>Office Management III</td>
<td>3</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>CP2640</td>
<td>Desktop Publishing</td>
<td>4</td>
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<tr>
<td>DM2240</td>
<td>Document Production IV</td>
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<td>KB1151</td>
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<td>OF2101</td>
<td>Office Management IV</td>
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<td>Organizational Behaviour</td>
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<tr>
<td>OF2700</td>
<td>Capstone Project</td>
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<td>2</td>
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</tr>
<tr>
<td>Elective</td>
<td>Elective</td>
<td>2</td>
<td>2</td>
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<tr>
<td>Elective</td>
<td>Elective</td>
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<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

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.

Engineering Technology programs are designed to meet internationally recognized standards. Currently, Electrical Engineering Technology and Process Automation Engineering Technology programs have been accredited by the Canadian Technology Accreditation Board (CTAB). www.ctab.ca
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, 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 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.

Graduates of the technician diploma will be employed by oil and gas companies, refineries, petrochemical plants, power plants and process plants. Graduates of the Chemical Processing Technician program are eligible for entrance into the third year of the Chemical Processing Technology program.

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 good 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:

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

Two Science courses (Grade 12) Minimum 50%. Chemistry and Physics are highly recommended.

2. Obtaining 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 Chemical Processing Technician 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 Chemical Processing Technician diploma program must meet English language proficiency requirements by obtaining one of the following:
1. An overall score of 71 or greater on the Oxford Online Placement Test (OOPT), as administered and validated by the CNA-Q Testing Centre.
2. 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.
3. Successfully complete FL1090, a pass/fail language development course, where the final examination is the OOPT. A score of 71 or greater is required on the OOPT.

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.

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 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>CM1190</td>
<td>Technical Reading</td>
<td>3</td>
</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 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</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.

Graduates may find employment in oil and gas companies, refineries, petrochemical plants, power plants and manufacturing plants.

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 good 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.

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 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>OR Advanced Mathematics (Grade 12 level)</td>
<td>Minimum 50%</td>
</tr>
<tr>
<td>Two Science courses (Grade 12)</td>
<td>Minimum 50%. Chemistry and Physics are highly recommended.</td>
</tr>
</tbody>
</table>

2. Obtaining 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 Chemical Processing Technology 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 Chemical Processing Technology diploma program must meet English language proficiency requirements by obtaining one of the following:

1. An overall score of 71 or greater on the Oxford Online Placement Test (OOPT), as administered and validated by the CNA-Q Testing Centre.
2. 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.
3. Successfully complete FL1090, a pass/fail language development course, where the final examination is the OOPT. A score of 71 or greater is required on the OOPT.

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>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>CR</td>
</tr>
<tr>
<td>CM1190</td>
<td>Technical Reading</td>
<td>3</td>
</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>
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<tr>
<td>MA1101</td>
<td>Mathematics</td>
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<tr>
<td>ET1135</td>
<td>Fundamentals of Electricity</td>
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<tr>
<td>PO1110</td>
<td>Process Systems: Introduction</td>
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<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>
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### Chemical Processing Technology

**Level 2 (Year 2)**

<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>PO1120</td>
<td>Chem Processing Calculations</td>
<td>3</td>
</tr>
<tr>
<td>PO1130</td>
<td>Process Control Systems</td>
<td>4</td>
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<tr>
<td>PO2100</td>
<td>Process Systems: Operations</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>
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<td>CM2181</td>
<td>Technical Reporting II</td>
<td>3</td>
</tr>
<tr>
<td>EN2480</td>
<td>Ethics &amp; Environ Awareness</td>
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</tr>
<tr>
<td>CH2420</td>
<td>Applied Hydrocarbon Chemistry</td>
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<tr>
<td>SE1120</td>
<td>Workplace Safety</td>
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<tr>
<td>MH4500</td>
<td>Prime Movers</td>
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</tr>
<tr>
<td>PM2560</td>
<td>Facilities Engineering I</td>
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</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>
<td>3</td>
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<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>
</tr>
<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>
<td>5</td>
</tr>
<tr>
<td>CS3000</td>
<td>Engineering Leadership</td>
<td>2</td>
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<tr>
<td>PO2430</td>
<td>Applied Fluid Mechanics</td>
<td>4</td>
</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.
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:

<table>
<thead>
<tr>
<th>Course</th>
<th>Minimum Percentage</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 and Physics. One of these may be at the Grade 12 level and the other may be at the Grade 11 level, Minimum 50%. Chemistry and Physics are highly recommended.

2. Obtaining 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.

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 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 Electrical Power Systems Technician program must meet English language proficiency requirements by obtaining one of the following:
1. An overall score of 71 or greater on the Oxford Online Placement Test (OOPT), as administered and validated by the CNA-Q Testing Centre.
2. 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.
3. Successfully complete FL1090, a pass/fail language development course, where the final examination is the OOPT. A score of 71 or greater is required on the OOPT.

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 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>
</tr>
<tr>
<td>EN2480</td>
<td>Ethics and Environmental Awareness</td>
<td>3</td>
</tr>
<tr>
<td>PH1140</td>
<td>Applied Physics</td>
<td>4</td>
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<tr>
<td>ET1130</td>
<td>Fundamentals of Electricity I</td>
<td>4</td>
</tr>
<tr>
<td>CM1190</td>
<td>Technical Reading</td>
<td>3</td>
</tr>
<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>
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<td>MA1101</td>
<td>Mathematics</td>
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<tr>
<td>AE1260</td>
<td>Power Electronics</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>
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<tr>
<td>CI1310</td>
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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>
</tr>
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<tbody>
<tr>
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<tr>
<td>CM2180</td>
<td>Technical Reporting I</td>
<td>3</td>
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<td>MP2220</td>
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<td>MP2370</td>
<td>Power System Transformers</td>
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<tr>
<td>MP2160</td>
<td>Electromechanical Motor Controls</td>
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<tr>
<td>PE2510</td>
<td>Electrical Practices</td>
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<tr>
<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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<tr>
<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>
<tr>
<td>PE2511</td>
<td>Electrical Practices II</td>
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<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 (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.

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>Average</th>
<th>Minimum</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>OR Advanced Mathematics</td>
<td>Minimum 50%</td>
</tr>
<tr>
<td>Two Science courses selected from Biology, Chemistry, Geology and Physics. One of these may be at the Grade 12 level and the other may be at the Grade 11 level, Minimum 50%. Chemistry and Physics are highly recommended.</td>
<td></td>
</tr>
</tbody>
</table>

2. Obtaining 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.

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

1. An overall score of 71 or greater on the Oxford Online Placement Test (OOPT), as administered and validated by the CNA-Q Testing Centre.
2. 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.
3. Successfully complete FL1090, a pass/fail language development course, where the final examination is the OOPT. A score of 71 or greater is required on the OOPT.

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).
# Electrical 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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</thead>
<tbody>
<tr>
<td>EN2480</td>
<td>Ethics and Environmental Awareness</td>
<td>3 CR 3 LEC 0 LAB</td>
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<td>PH1140</td>
<td>Applied Physics</td>
<td>4 CR 3 LEC 2 LAB</td>
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<td>ET1130</td>
<td>Fundamentals of Electricity I</td>
<td>4 CR 3 LEC 2 LAB</td>
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<td>Technical Reading</td>
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<td>MA1700</td>
<td>Mathematics</td>
<td>4 CR 3 LEC 3 LAB</td>
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<tr>
<td>CI1140</td>
<td>Introduction to Electrical and Instrumentation Technology</td>
<td>3 CR 2 LEC 2 LAB</td>
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<tr>
<td>EG1230</td>
<td>Electrical and Instrumentation CAD</td>
<td>3 CR 2 LEC 2 LAB</td>
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<td>ET1131</td>
<td>Fundamentals of Electricity II</td>
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<td>MA1101</td>
<td>Mathematics</td>
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<td>AE1260</td>
<td>Power Electronics</td>
<td>3 CR 2 LEC 2 LAB</td>
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<tr>
<td>CE1210</td>
<td>Basic Communication Networks I</td>
<td>4 CR 3 LEC 3 LAB</td>
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<td>Electrical Motors</td>
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<td>CI1350</td>
<td>Basic Process Automation</td>
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<td>Electrical/Electronic Fabrication Techniques</td>
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## Electrical Engineering Technology

### Level 2 (Year 2)

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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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<td>MP2370</td>
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<td>PE2510</td>
<td>Electrical Practices</td>
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<td>PE2300</td>
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After successful completion of the above listed courses, the student will be eligible to graduate with an Electrical Power Systems Technician Diploma.
## Electrical Engineering Technology

### Level 3 (Year 3)

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<tr>
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<td>Flow and Temperature Measurement and Control</td>
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<td>Transmission and Distribution Systems Operational Analysis</td>
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<td>DP3450</td>
<td>Advanced Programmable Logic Controllers</td>
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</table>

After successful completion of the above listed courses, the student will be eligible to graduate with an Electrical Engineering Technology Diploma.
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:
   - Minimum 60% English Language (Grade 12 level)
   - Minimum 60% Academic Mathematics (Grade 12 level)
   - Minimum 50% OR Advanced Mathematics (Grade 12 level)
   - Minimum 50% Two Science courses selected from Biology, Chemistry, Geology and Physics (Grade 12 level), Chemistry and Physics are highly recommended.

2. Obtaining 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 band score (reading, writing, speaking, and 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.

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 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 Mechanical Technician (Industrial Maintenance) program must meet English language proficiency requirements by obtaining one of the following:
1. An overall score of 71 or greater on the Oxford Online Placement Test (OOPT), as administered and validated by the CNA-Q Testing Centre.
2. 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.
3. Successfully complete FL1090, a pass/fail language development course, where the final examination is the OOPT. A score of 71 or greater is required on the OOPT.

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>
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<tr>
<td></td>
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<td>CR</td>
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<tr>
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<td>Fundamentals of Electricity</td>
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<tr>
<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>
<td>3</td>
</tr>
<tr>
<td>CI1180</td>
<td>Basic Instrumentation</td>
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<tr>
<td>CH1120</td>
<td>Chemistry</td>
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<tr>
<td>EG1430</td>
<td>AutoCAD Essentials</td>
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<tr>
<td>SP1200</td>
<td>Machine Shop Practice</td>
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# Mechanical Technician (Industrial Maintenance)

## Level 2 (Year 2)

<table>
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<tr>
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</tr>
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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>PF1180</td>
<td>Piping Fabrication and Rigging</td>
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<tr>
<td>CF1160</td>
<td>Materials Practices</td>
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</tr>
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<td>WD1420</td>
<td>Welding Fundamentals</td>
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<td>CM2181</td>
<td>Technical Reporting II</td>
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<td>Prime Movers</td>
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<td>MH2010</td>
<td>Rotating Equipment</td>
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<td>CF1120</td>
<td>Materials and Processes</td>
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<td>FM2160</td>
<td>Mechanics - Statics and Dynamics</td>
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<td>PM2170</td>
<td>Preventive Maintenance</td>
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<td>ND1150</td>
<td>Non-Destructive Testing</td>
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<tr>
<td>FM2400</td>
<td>Hydraulics and Pneumatics</td>
<td>3 2 2</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 Technician (Industrial Maintenance) Diploma. Students may continue a third year to complete the Mechanical Engineering Technology 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.

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.

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

<table>
<thead>
<tr>
<th>Subject</th>
<th>Grade 12 Level</th>
<th>Requirement</th>
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<tbody>
<tr>
<td>English Language</td>
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<td>Minimum 60%</td>
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<tr>
<td>Mathematics</td>
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<tr>
<td>Academic Mathematics</td>
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<td>Minimum 60%</td>
</tr>
<tr>
<td>OR Advanced Mathematics</td>
<td></td>
<td>Minimum 50%</td>
</tr>
</tbody>
</table>

Two Science courses selected from Biology, Chemistry, Geology and Physics (Grade 12 level), Minimum 50%. Chemistry and Physics are highly recommended.

1. Obtaining 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.

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 71 or greater on the Oxford Online Placement Test (OOPT), as administered and validated by the CNA-Q Testing Centre.
2. 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.
3. Successfully complete FL1090, a pass/fail language development course, where the final examination is the OOPT. A score of 71 or greater is required on the OOPT.

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 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.

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.
## Mechanical Engineering Technology (Industrial Maintenance)

### Level 1 (Year 1)

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<tr>
<td>CH1120</td>
<td>Chemistry</td>
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<td>AutoCAD Essentials</td>
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<tr>
<td>SP1200</td>
<td>Machine Shop Practice</td>
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## Mechanical Engineering Technology (Industrial Maintenance)

### Level 2 (Year 2)

<table>
<thead>
<tr>
<th>COURSE NUMBER</th>
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<th>HOURS/WEEK</th>
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<tr>
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<td>MW2240</td>
<td>Industrial Mechanics</td>
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<tr>
<td>MH2320</td>
<td>Power Plant Components</td>
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<td>PF1180</td>
<td>Piping Fabrication and Rigging</td>
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<td>CF1160</td>
<td>Materials Practices</td>
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<tr>
<td>WD1420</td>
<td>Welding Fundamentals</td>
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<td>MH4500</td>
<td>Prime Movers</td>
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<td>MH2010</td>
<td>Rotating Equipment</td>
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<td>CF1120</td>
<td>Materials and Processes</td>
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<tr>
<td>FM2160</td>
<td>Mechanics - Statics and Dynamics</td>
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<td>PM2170</td>
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<td>ND1150</td>
<td>Non-Destructive Testing</td>
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<tr>
<td>FM2400</td>
<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.
### Mechanical Engineering Technology (Industrial Maintenance)

#### Level 3 (Year 3)

<table>
<thead>
<tr>
<th>COURSE NUMBER</th>
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<th>HOURS/WEEK</th>
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<tr>
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<td>PM3140</td>
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<td>PR3244</td>
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<td>PR3150</td>
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<td>CS3000</td>
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<tr>
<td>SP1700</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 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, 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 (Grade 12 level)</td>
<td>60%</td>
</tr>
<tr>
<td>Academic Mathematics (Grade 12 level)</td>
<td>60%</td>
</tr>
<tr>
<td>OR Advanced Mathematics (Grade 12 level)</td>
<td>50%</td>
</tr>
</tbody>
</table>

Two Science courses selected from Biology, Chemistry, Geology and Physics. One of these may be at the Grade 12 level and the other may be at the Grade 11 level, Minimum 50%. Chemistry and Physics are highly recommended.

2. Obtaining 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).

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 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 Process Automation Technician program must meet English language proficiency requirements by obtaining one of the following:
1. An overall score of 71 or greater on the Oxford Online Placement Test (OOPT), as administered and validated by the CNA-Q Testing Centre.
2. 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.
3. Successfully complete FL1090, a pass/fail language development course, where the final examination is the OOPT. A score of 71 or greater is required on the OOPT.

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>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>CR</td>
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<tr>
<td>MA1700</td>
<td>Mathematics</td>
<td>4</td>
</tr>
<tr>
<td>ET1130</td>
<td>Fundamentals of Electricity I</td>
<td>4</td>
</tr>
<tr>
<td>PH1140</td>
<td>Applied Physics</td>
<td>4</td>
</tr>
<tr>
<td>CI1140</td>
<td>Introduction to Electrical and Instrumentation Technology</td>
<td>3</td>
</tr>
<tr>
<td>CM1190</td>
<td>Technical Reading</td>
<td>3</td>
</tr>
<tr>
<td>EN2480</td>
<td>Ethics and Environmental Awareness</td>
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<tr>
<td>MA1101</td>
<td>Mathematics</td>
<td>5</td>
</tr>
<tr>
<td>ET1131</td>
<td>Fundamentals of Electricity II</td>
<td>4</td>
</tr>
<tr>
<td>EG1230</td>
<td>Electrical and Instrumentation CAD</td>
<td>3</td>
</tr>
<tr>
<td>AE1260</td>
<td>Power Electronics</td>
<td>3</td>
</tr>
<tr>
<td>CE1210</td>
<td>Basic Communications 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>
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.

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

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

Career Opportunities
Process Automation has very diverse applications. Program graduates may find employment in production plants, hospitals, 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>Subject</th>
<th>Minimum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average</td>
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<td>Minimum 50%</td>
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</tbody>
</table>

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2. Obtaining the required score on the Academic English Placement (AEP) and Academic Math Placement (AMP).

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 71 or greater on the Oxford Online Placement Test (OOPT), as administered and validated by the CNA-Q Testing Centre.
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3. Successfully complete FL1090, a pass/fail language development course, where the final examination is the OOPT. A score of 71 or greater is required on the OOPT.

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.
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# 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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<td>MA1700</td>
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<td>ET1130</td>
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### Process Automation Engineering Technology

#### Level 2 (Year 2)

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<th>HOURS/WEEK</th>
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<td>CM2181</td>
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<td>CI2300</td>
<td>Advanced Control Strategies</td>
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<td>DP2360</td>
<td>Function Block Programming</td>
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<td>CI2100</td>
<td>Pressure and Level Measurement and Control</td>
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<td>CI2120</td>
<td>Final Control Elements and Instrument Air Systems</td>
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</tr>
<tr>
<td>CM2180</td>
<td>Technical Reporting I</td>
<td>3 3 1</td>
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<td>MP2160</td>
<td>Electromechanical Motor Controls</td>
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<td>PE2720</td>
<td>Industrial Instrument Practices</td>
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<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 3 2</td>
</tr>
<tr>
<td>PE2230</td>
<td>Hazardous Area Training</td>
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<tr>
<td>MP2260</td>
<td>Solid State Motor Controls</td>
<td>4 3 2</td>
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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>
</tr>
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<tbody>
<tr>
<td></td>
<td></td>
<td>CR</td>
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<tr>
<td>CM2800</td>
<td>Oral/Written Communication Skills</td>
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<tr>
<td>PR3150</td>
<td>Project Management and Financial Analysis</td>
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<td>CH3100</td>
<td>Chemistry for Process Analyzers</td>
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<td>MA2100</td>
<td>Mathematics</td>
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<tr>
<td>CI3110</td>
<td>Safety Shutdown and Machine Monitoring Systems</td>
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<td>PR3280</td>
<td>Capstone Project I (Process Automation)</td>
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<td>MA2101</td>
<td>Mathematics</td>
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<td>DP3240</td>
<td>DCS (Distributed Control Systems) Configuration</td>
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<tr>
<td>CI3160</td>
<td>Introduction to Process Analysis</td>
<td>4</td>
</tr>
<tr>
<td>CI3230</td>
<td>Advanced Process Control Applications</td>
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</tr>
<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>
<td>4</td>
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<td>CI3320</td>
<td>Foundation Fieldbus</td>
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<tr>
<td>CI3330</td>
<td>Process Analyzers</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.

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.

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.
Telecommunications and Network Technician

Entrance Requirements

1. High school graduation certificate with the following:

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

Two Science courses (Grade 12) Minimum 50%. Chemistry and Physics are highly recommended.

2. Obtaining 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 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 71 or greater on the Oxford Online Placement Test (OOPT), as administered and validated by the CNA-Q Testing Centre.

2. 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.

3. Successfully complete FL1090, a pass/fail language development course, where the final examination is the OOPT. A score of 71 or greater is required on the OOPT.
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>
</tr>
<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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</tbody>
</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>
</tr>
<tr>
<td>CM2180</td>
<td>Technical Reporting I</td>
<td>3</td>
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<td>AE2340</td>
<td>Analog Electronics I</td>
<td>4</td>
</tr>
<tr>
<td>CE3381</td>
<td>Advanced Routing and Switching</td>
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</tr>
<tr>
<td>CE2220</td>
<td>Analog Communications</td>
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</tr>
<tr>
<td>ET1160</td>
<td>Electronic Circuits and Devices</td>
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<tr>
<td>CM2181</td>
<td>Technical Reporting II</td>
<td>3</td>
</tr>
<tr>
<td>AE2370</td>
<td>Analog Electronics II</td>
<td>4</td>
</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>
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<tr>
<td>DP1120</td>
<td>Digital Microprocessors</td>
<td>4</td>
</tr>
<tr>
<td>CE1230</td>
<td>Troubleshooting Comms Systems</td>
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<tr>
<td>EG1140</td>
<td>Electronic Circuit Simulation</td>
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</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.

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

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 micro-controller 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.
### 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>
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<tr>
<td>Academic Mathematics (Grade 12 level)</td>
<td>60%</td>
</tr>
<tr>
<td>OR Advanced Mathematics (Grade 12 level)</td>
<td>50%</td>
</tr>
</tbody>
</table>

Two Science courses (Grade 12) Minimum 50%. Chemistry and Physics are highly recommended.

2. Obtaining 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 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 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 Telecommunications and Network Engineering Technology program must meet English language proficiency requirements by obtaining one of the following:

1. An overall score of 71 or greater on the Oxford Online Placement Test (OOPT), as administered and validated by the CNA-Q Testing Centre.
2. 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.
3. Successfully complete FL1090, a pass/fail language development course, where the final examination is the OOPT. A score of 71 or greater is required on the OOPT.

### 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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<tbody>
<tr>
<td></td>
<td></td>
<td>CR</td>
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<tr>
<td>PH1140</td>
<td>Applied Physics</td>
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<td>MA1700</td>
<td>Mathematics</td>
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<td>Basic Networks</td>
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<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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<td>ET1131</td>
<td>Fundamentals of Electricity II</td>
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<td>Hazards, Safety and Ethics</td>
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<td>CE3430</td>
<td>Infrastructure Cabling</td>
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<td>CE2720</td>
<td>RF Transmission and Antennas</td>
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</table>
## Telecommunications and Network Engineering Technology

### Level 2 (Year 2)

<table>
<thead>
<tr>
<th>COURSE NUMBER</th>
<th>COURSE TITLE</th>
<th>HOURS/WEEK</th>
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<td>CE3381</td>
<td>Advanced Routing and Switching</td>
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</tr>
<tr>
<td>ET1160</td>
<td>Electronic Circuits and Devices</td>
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<td>3</td>
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<td>Technical Reporting II</td>
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<td>CI1310</td>
<td>Electrical/Electronic Fabrication Techniques</td>
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<td>CE2310</td>
<td>Telecom Networks Overview</td>
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<td>3</td>
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<tr>
<td>DP1120</td>
<td>Digital Microprocessors</td>
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<td>3</td>
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<tr>
<td>CE1230</td>
<td>Troubleshooting Comms Systems</td>
<td>3</td>
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<tr>
<td>EG1140</td>
<td>Electronic Circuit Simulation</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>CE3220</td>
<td>WANs and SP Operations</td>
<td>4</td>
<td>3</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.
# Telecommunications and Network Engineering 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>
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<tr>
<td>CM2800</td>
<td>Oral / Written Communication Skills</td>
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<tr>
<td>MA2100</td>
<td>Mathematics</td>
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<tr>
<td>PR3260</td>
<td>Capstone Project I (TNET)</td>
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<tr>
<td>PR3150</td>
<td>Project Management and Financial Analysis</td>
<td>4</td>
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<tr>
<td>CE3640</td>
<td>Unified Communications (VOIP)</td>
<td>5</td>
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<tr>
<td>MA1530</td>
<td>Statistics</td>
<td>2</td>
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<tr>
<td>CE3120</td>
<td>IP Network Security</td>
<td>4</td>
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<tr>
<td>DP2230</td>
<td>Microcontrollers</td>
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<tr>
<td>CT2300</td>
<td>Applied Programming</td>
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<tr>
<td>ET2150</td>
<td>Advanced Circuit Analysis</td>
<td>5</td>
</tr>
<tr>
<td>PR3261</td>
<td>Capstone Project II (TNET)</td>
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<tr>
<td>CE3150</td>
<td>Microwave and RF Systems</td>
<td>5</td>
</tr>
<tr>
<td>DP2460</td>
<td>Digital Signal Processing</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 Engineering Technology Diploma.
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, 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:

- Advanced Care Paramedicine – accredited by the Canadian Medical Association (CMA) https://www.cma.ca
- Occupational Health and Safety - accredited by the National Examination Board in Occupational Safety and Health (NEBOSH) https://www.nebosh.org.uk
- Medical Radiography – accredited by the Canadian Medical Association (CMA) https://www.cma.ca
- Pharmacy Technician – accredited by the Canadian Council for Accreditation of Pharmacy Programs (CCAPP) http://ccapp-accredit.ca
- Respiratory Therapy – accredited by the Council on Accreditation for Respiratory Therapy Education (CoARTE) http://www.csrt.com/coarte
Baccalaureate Degree Options
For those wishing to pursue a baccalaureate degree, university transfer agreements are in place that 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 and Safety
- 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 can range from 50% to 80%, depending on the course and program of study.

All students in Health Sciences programs must complete a medical assessment and immunization requirements specific to the program of study as indicated in each course calendar description. Any student not deemed to be medically fit to complete the program will be required to withdraw. All costs associated with completing the medical assessment will be the student’s responsibility. Students sponsored by Hamad Medical Corporation will have the medical completed as part of their contract obligations with HMC. The College will assist other students to complete the process during the first semester.

Students 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 Science programs may be required to have a criminal background check, as a standard work requirement.
Advanced Care Paramedicine (Three Year Diploma)

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.

The Advanced Care Paramedicine program at CNA-Q is currently accredited by the Canadian Medical Association (CMA), ensuring that the program is fully aligned to the National Occupational Competency Profile for Paramedics in Canada.

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 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 private sector within industrial sites. Graduates may occupy positions as Ambulance Paramedics and Critical Care Paramedics with oil and gas, and construction sector companies.

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.
**Advanced Care Paramedicine**

### Entrance Requirements

1. High school graduation certificate with the following:

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

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/diptheria 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 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.

### 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 71 or greater on the Oxford Online Placement Test (OOPT), as administered and validated by the CNA-Q Testing Centre.
   b) 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.
   c) Successfully complete FL1090, a pass/fail language development course, where the final examination is the OOPT. A score of 71 or greater is required on the OOPT.

2. Students graduating from the Advanced Care Paramedicine program must meet English language proficiency requirements on exit by obtaining one of the following:
   a) An overall score of 81 or greater on the Oxford Online Placement Test, as administered and validated by the CNA-Q Testing Centre.
   b) Present a valid Academic IELTS exam with an overall band of 6.0 with no individual skill band below 5.5.
## Advanced Care Paramedicine

### Level 1 (Year 1)

<table>
<thead>
<tr>
<th>COURSE NUMBER</th>
<th>COURSE TITLE</th>
<th>HOURS/WEEK</th>
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### Level 2 (Year 2)

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<td>PA1440</td>
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<td>–</td>
<td>14 wks (42 hrs/wk)</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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<td>Patient Assessment</td>
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<td>PA2035</td>
<td>Diagnostic Techniques</td>
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<td>PA2040</td>
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<td>PA2045</td>
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<td>Clinical Skills Dev. I (with clinical for 3 wks)</td>
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<td>14/wk</td>
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<td>PA2055</td>
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<tr>
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<td>PA2070</td>
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<td>14 wks (42 hrs/wk)</td>
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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 on-set 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.
**Dental Hygiene**

**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>
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<tr>
<td>Academic Mathematics (Grade 12 level)</td>
<td>Minimum 60%</td>
</tr>
<tr>
<td>*Biology and Chemistry (Grade 12 level)</td>
<td>Minimum 60%</td>
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</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. Obtaining 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.

**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 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.

**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**

Students are required to purchase a set of dental hygiene instruments for use in the program. Initial costs are approximately 2500 QR.

**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.

**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 71 or greater on the Oxford Online Placement Test (OOPT), as administered and validated by the CNA-Q Testing Centre.
   b) Present a valid Academic IELTS exam with an overall band of 6.0 with no individual skill band below 5.5.
   c) Successfully complete FL1090, a pass/fail language development course, where the final examination is the OOPT. A score of 71 or greater is required on the OOPT.
# Dental Hygiene

**Level 1 (Year 1)**

<table>
<thead>
<tr>
<th>COURSE NUMBER</th>
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<th>HOURS/WEEK</th>
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<td>DH1450</td>
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## Dental Hygiene

### Level 2 (Year 2)

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<td>General Dentistry Introduction</td>
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# Dental Hygiene

**Level 3 (Year 3)**

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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>Subject</th>
<th>Minimum Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>English Language (Grade 12)</td>
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<tr>
<td>Academic Mathematics (Grade 12)</td>
<td>60%</td>
</tr>
<tr>
<td>* Biology and Chemistry (Grade 12)</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 upgrade in the basic skills required for successful completion of allied health programs.

2. Obtaining 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 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 71 or greater on the Oxford Online Placement Test (OOPT), as administered and validated by the CNA-Q Testing Centre.
   b) 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.
   c) Successfully complete FL1090, a pass/fail language development course, where the final examination is the OOPT. A score of 71 or greater is required on the OOPT.

2. Students graduating from the Environmental Health program must meet English language proficiency requirements on exit by obtaining one of the following:
   a) An overall score of 81 or greater on the Oxford Online Placement Test, as administered and validated by the CNA-Q Testing Centre.
   b) Present a valid Academic IELTS exam with an overall band of 6.0 with no individual skill band 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>
<th>CR</th>
<th>LEC</th>
<th>LAB</th>
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</thead>
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<tr>
<td>MA1700</td>
<td>Mathematics</td>
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<td>CH1200</td>
<td>Chemistry</td>
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## Level 2 (Year 2)

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<td>HL1650</td>
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### Environmental Health

**Level 3 (Year 3)**

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<tr>
<td>EV1830</td>
<td>Land and Sustainable Development</td>
<td>5 CR, 4 LEC</td>
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<tr>
<td>HL1610</td>
<td>Public Health Administration</td>
<td>3 CR, 3 LEC</td>
</tr>
<tr>
<td>EN1551</td>
<td>Water Quality II</td>
<td>4 CR, 3 LEC</td>
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<tr>
<td>EV1710</td>
<td>Indoor Air Quality</td>
<td>4 CR, 3 LEC</td>
</tr>
<tr>
<td>FH1380</td>
<td>Health and Wellness</td>
<td>3 CR, 3 LEC</td>
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<tr>
<td>Elective</td>
<td>Unspecified</td>
<td>3 CR, 3 LEC</td>
</tr>
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<td>HL1301</td>
<td>Communicable Disease Control II</td>
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<td>HL1410</td>
<td>EH Inspection and Investigation</td>
<td>4 CR, 3 LEC</td>
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<td>HL1800</td>
<td>Environmental Health Research</td>
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<td>EV1711</td>
<td>Ambient Air Quality</td>
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<td>Elective</td>
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<td>HL1921</td>
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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 that take into account understanding of condition, patient and family involvement, patient characteristics, learning environment, and motivation.
4. Develop and deliver an effective health education campaigns.
5. Demonstrate a clear knowledge and understanding of moral and legal issues related to patient advocacy and confidentiality.
6. Demonstrate professional and ethical behaviours 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. Obtaining 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

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

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 by obtaining an overall score of 81 or greater on the Oxford Online Placement Test, as administered and validated by the CNA-Q Testing Centre or a valid Academic IELTS exam with an overall band of 6.0 with no individual skill band below 5.5.
2. Students graduating from the Health and Wellness Promotion program must meet English language proficiency requirements on exit by obtaining an overall score of 81 or greater on the Oxford Online Placement Test, as administered and validated by the CNA-Q Testing Centre or a valid Academic IELTS exam with an overall band of 6.0 with no individual skill band 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)

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<td>HG1680</td>
<td>Ethics in Health Care</td>
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<td>HD1200</td>
<td>Educator-Patient Interactions</td>
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<td>Health Education Campaigns</td>
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<td>Patient Education Plans</td>
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<td>Research in Patient Education</td>
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<tr>
<td>HD2300</td>
<td>Patient Education Practicum</td>
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</tbody>
</table>

After successful completion of the above listed courses, the student will be eligible to graduate with a Health and Wellness Promotion-Post Diploma.
**Health Education: Diabetes (One Year 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 offices, community agencies, home health, wellness programs, etc.

**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. Obtaining 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 TOEL, 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 that treat and/or prevent diabetes and aim to reduce adverse health behaviors in patients and the wider population (e.g., Hamad Medical Corporation, SIDRA, and Primary Health Care).

**Language Proficiency Requirements**

Students entering the Health Education: Diabetes program, must meet English language proficiency requirements by obtaining one of the following:

- An overall score of 71 or greater on the Oxford Online Placement test (OOPT), as administered and validated by the CNA-Q Testing Centre.
- Present a valid Academic IELTS exam with an overall band of 5.5 with no individual skill band 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)

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<td>Health Care Organization and Structure</td>
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<td>Diabetes Educator Practicum</td>
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DE2030: Diabetes Educator Practicum: 7 hours per week for 7 weeks

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
The Medical Radiography program at CNA-Q is accredited by the Canadian Medical Association (CMA).

Successful completion of the Medical Radiography program will enable graduates to access the CAMRT (Canadian Association of Medical Radiography Technologists) registry examination.

Successful completion of the CAMRT exam provides practitioners with the professional designation (RTR) and satisfies requirements for entry-level practitioners in Canada.

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.

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, 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:

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<th>Subject</th>
<th>Average</th>
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</thead>
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<tr>
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<tr>
<td>Academic (Grade 12)</td>
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</tr>
<tr>
<td>Biology (Grade 12)</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. Obtaining 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.
Medical Radiography

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).

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 Centre fee of CDN approximately $144.00.

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 71 or greater on the Oxford Online Placement Test (OOPT), as administered and validated by the CNA-Q Testing Centre.
   b) Present a valid Academic IELTS exam with an overall band of 5.0 with no individual skill band below 4.5.
   c) Successfully complete FL1090, a pass/fail language development course, where the final examination is the OOPT. A score of 71 or greater is required on the OOPT.

2. Students graduating from the Medical Radiography program must meet English language proficiency requirements on exit by obtaining one of the following:
   a) An overall score of 81 or greater on the Oxford Online Placement Test, as administered and validated by the CNA-Q Testing Centre.
   b) Present a valid Academic IELTS exam with an overall band of 6.0 with no individual skill band below 5.5.
Medical Radiography

Level 1 (Year 1)

<table>
<thead>
<tr>
<th>COURSE NUMBER</th>
<th>COURSE TITLE</th>
<th>HOURS/WEEK</th>
<th></th>
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<td>PH1201</td>
<td>Physics</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>PS1420</td>
<td>Health Care Organization and Structure</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>HG1680</td>
<td>Ethics in Healthcare</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>CM2200</td>
<td>Oral Communications</td>
<td>2</td>
<td>2</td>
</tr>
</tbody>
</table>
Medical Radiography

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>MX2102</td>
<td>Radiographic Anatomy and Pathology</td>
<td>4</td>
</tr>
<tr>
<td>MX2110</td>
<td>Radiographic Technique</td>
<td>5</td>
</tr>
<tr>
<td>MX2200</td>
<td>Image Recording</td>
<td>4</td>
</tr>
<tr>
<td>MX2310</td>
<td>Apparatus and Accessories</td>
<td>3</td>
</tr>
<tr>
<td>MX2410</td>
<td>Patient Care and Safety</td>
<td>3</td>
</tr>
<tr>
<td>PH2200</td>
<td>Radiation Physics</td>
<td>3</td>
</tr>
<tr>
<td>MX1620</td>
<td>Clinical Orientation</td>
<td>Pass/Fail</td>
</tr>
<tr>
<td>MX2103</td>
<td>Radiographic Anatomy and Pathology</td>
<td>5</td>
</tr>
<tr>
<td>MX2120</td>
<td>Radiographic Technique</td>
<td>5</td>
</tr>
<tr>
<td>MX2201</td>
<td>Image Recording</td>
<td>4</td>
</tr>
<tr>
<td>MX2301</td>
<td>Apparatus and Accessories</td>
<td>5</td>
</tr>
<tr>
<td>MX2500</td>
<td>Radiation Protection and Radiobiology</td>
<td>3</td>
</tr>
<tr>
<td>MX1621</td>
<td>Clinical Orientation</td>
<td>Pass/Fail</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></td>
<td></td>
<td>CR</td>
</tr>
<tr>
<td>MX1510</td>
<td>Clinical Radiography</td>
<td>16</td>
</tr>
<tr>
<td>MX3250</td>
<td>Clinical Radiography</td>
<td>16</td>
</tr>
<tr>
<td>MX3260</td>
<td>Clinical Radiography</td>
<td>16</td>
</tr>
</tbody>
</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.
Occupational Health and Safety (Two Year Diploma)

Program
Occupational Health and Safety (OHS) professionals play a vital role in preventing injuries and illnesses to the workforce. The foundation of occupational health and safety is to identify various hazards in the workplace, assess the associated risk, and implement control measures to minimize the risk of those hazards. Students are trained in the application of this process, through legislative requirements, international standards and guidelines, and local company policy and procedures. OHS professionals require effective investigative, analytical skills, and interpersonal skills. The Occupational Health and Safety program is accredited by the National Examination Board (NEBOSH).

Objectives
Upon successful completion of the program, students will be able to:
1. Apply the knowledge and skills to effectively inspect and assess workplace facilities for potential occupational health and safety hazards.
2. Interpret and effectively apply government legislation and policies.
3. Identify and rectify existing or potential occupational health and safety hazards, perform accident investigations and conduct risk assessment.
4. Evaluate and monitor health and safety hazards.
5. Develop strategies for controlling risks and create safety training programs for workers and for handling and storage of hazardous substances in the workplace.
6. Demonstrate professionalism and responsibility.

Career Opportunities
OHS professionals are employed in a variety of private industries, including construction, manufacturing, health care, and oil and gas. In private industry, OHS professionals are responsible for preventing injuries and illnesses by effectively identifying, assessing and controlling OHS hazards and complying with OHS legislation. Alternatively, OHS professionals can be employed by government ministries who are responsible for enforcing OHS legislation. In both sectors, OHS professionals play a vital role in protecting the health and safety of workers, which ultimately leads to a more productive and effective workforce. As industry continues to rapidly expand, the need to protect workers from occupational risks has never been greater.

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

<table>
<thead>
<tr>
<th>Subject</th>
<th>Average 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>* Biology and Chemistry</td>
<td>60%</td>
</tr>
</tbody>
</table>

1. *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. Obtaining 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.

Language Proficiency Requirements
1. Students entering the Occupational Health and Safety program must meet English language proficiency requirements by obtaining one of the following:
   a) An overall score of 71 or greater on the Oxford Online Placement Test (OOPT), as administered and validated by the CNA-Q Testing Centre.
   b) 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.
   c) Successfully complete FL1090, a pass/fail language development course, where the final examination is the OOPT. A score of 71 or greater is required on the OOPT.

2. Students graduating from the Occupational Health and Safety program must meet English language proficiency requirements on exit by obtaining one of the following:
   a) An overall score of 81 or greater on the Oxford Online Placement Test, as administered and validated by the CNA-Q Testing Centre.
   b) Present a valid Academic IELTS exam with an overall band of 6.0 with no individual skill band 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 4,500 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, Part 3-100 QR).

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 and Safety 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.
## Occupational Health and Safety

### 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>MA1700</td>
<td>Mathematics</td>
<td>4</td>
</tr>
<tr>
<td>BL1200</td>
<td>Biology</td>
<td>4</td>
</tr>
<tr>
<td>CH1200</td>
<td>Chemistry</td>
<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>
<td>3</td>
</tr>
<tr>
<td>HL1140</td>
<td>Principles of EHS</td>
<td>4</td>
</tr>
<tr>
<td>MA1670</td>
<td>Statistics</td>
<td>4</td>
</tr>
<tr>
<td>BL1131</td>
<td>Microbiology</td>
<td>4</td>
</tr>
<tr>
<td>CH1210</td>
<td>Chemistry II</td>
<td>4</td>
</tr>
<tr>
<td>BL1210</td>
<td>Biology II</td>
<td>4</td>
</tr>
<tr>
<td>CM2180</td>
<td>Technical Reporting I</td>
<td>3</td>
</tr>
<tr>
<td>SE1160</td>
<td>Principles of OHS</td>
<td>3</td>
</tr>
<tr>
<td>HL1210</td>
<td>Epidemiology</td>
<td>3</td>
</tr>
<tr>
<td>HL1720</td>
<td>Emergency Management</td>
<td>5</td>
</tr>
</tbody>
</table>
## Occupational Health and Safety

### 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>FH1380</td>
<td>Health and Wellness</td>
<td>3</td>
</tr>
<tr>
<td>EN2310</td>
<td>Environmental Health Law</td>
<td>3</td>
</tr>
<tr>
<td>SE1610</td>
<td>Workplace Hazards and Controls</td>
<td>3</td>
</tr>
<tr>
<td>SE2420</td>
<td>Inspection and Investigation</td>
<td>2</td>
</tr>
<tr>
<td>SE2350</td>
<td>Measurement and Analysis I</td>
<td>3</td>
</tr>
<tr>
<td>SE2360</td>
<td>Hazardous Material Management</td>
<td>3</td>
</tr>
<tr>
<td>SE2520</td>
<td>OHS Management Systems</td>
<td>4</td>
</tr>
<tr>
<td>CM2181</td>
<td>Technical Reporting II</td>
<td>3</td>
</tr>
<tr>
<td>CM2200</td>
<td>Oral Communications</td>
<td>2</td>
</tr>
<tr>
<td>SE1350</td>
<td>Toxicology</td>
<td>4</td>
</tr>
<tr>
<td>SE2450</td>
<td>Ergonomics</td>
<td>3</td>
</tr>
<tr>
<td>SE1520</td>
<td>Fire Protection</td>
<td>3</td>
</tr>
<tr>
<td>SE2351</td>
<td>Measurement and Analysis II</td>
<td>3</td>
</tr>
<tr>
<td>Elective</td>
<td>Unspecified</td>
<td>3</td>
</tr>
<tr>
<td>HL1900</td>
<td>OHS Practicum</td>
<td>3</td>
</tr>
</tbody>
</table>

After successful completion of the above listed courses, the student will be eligible to graduate with an Occupational Health and Safety Diploma.
Pharmacy Technician (Two Year 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. 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.

Accreditation

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 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 that 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:

<table>
<thead>
<tr>
<th>Average</th>
<th>Minimum</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</td>
<td>Minimum 60%</td>
</tr>
<tr>
<td>Mathematics</td>
<td></td>
</tr>
<tr>
<td>Grade 12 level</td>
<td></td>
</tr>
<tr>
<td>Biology and Chemistry</td>
<td>Minimum 60%</td>
</tr>
<tr>
<td>Grade 12 level or equivalent</td>
<td></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. Obtaining 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
1. Students entering the Pharmacy Technician program must meet English language proficiency requirements by obtaining one of the following:
a) An overall score of 71 or greater on the Oxford Online Placement Test (OOPT), as administered and validated by the CNA-Q Testing Centre.
b) 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.
c) Successfully complete FL1090, a pass/fail language development course, where the final examination is the OOPT. A score of 71 or greater is required on the OOPT.

2. Students graduating from the Pharmacy Technician program must meet English language proficiency requirements on exit by obtaining one of the following:
a) An overall score of 81 or greater on the Oxford Online Placement Test, as administered and validated by the CNA-Q Testing Centre.
b) Present a valid Academic IELTS exam with an overall band of 6.0 with no individual skill band below 5.5.

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.
# Pharmacy 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>CM1190</td>
<td>Technical Reading</td>
<td>3</td>
</tr>
<tr>
<td>CH1200</td>
<td>Chemistry</td>
<td>4</td>
</tr>
<tr>
<td>BL1200</td>
<td>Biology</td>
<td>4</td>
</tr>
<tr>
<td>MA1700</td>
<td>Mathematics</td>
<td>4</td>
</tr>
<tr>
<td>MC1250</td>
<td>Computer Applications I</td>
<td>3</td>
</tr>
<tr>
<td>CM2180</td>
<td>Technical Reporting I</td>
<td>3</td>
</tr>
<tr>
<td>CH1210</td>
<td>Chemistry II</td>
<td>4</td>
</tr>
<tr>
<td>BL1210</td>
<td>Biology II</td>
<td>4</td>
</tr>
<tr>
<td>MA1730</td>
<td>Mathematics for Pharmacy Technicians</td>
<td>4</td>
</tr>
<tr>
<td>PA2055</td>
<td>Evidence Based Practice</td>
<td>2</td>
</tr>
<tr>
<td>HG1680 or PS1420</td>
<td>Program Option- HG1680 Ethics in Healthcare or PS1420 Health Care Organization and Structure</td>
<td>3</td>
</tr>
<tr>
<td>MR1280</td>
<td>Customer Service</td>
<td>2</td>
</tr>
<tr>
<td>RX1220</td>
<td>Pharmaceutical Calculations</td>
<td>5</td>
</tr>
<tr>
<td>RX1251</td>
<td>Pharmacy Computer Systems</td>
<td>3</td>
</tr>
<tr>
<td>CM2200</td>
<td>Oral Communications</td>
<td>2</td>
</tr>
</tbody>
</table>
Pharmacy 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>CM2181</td>
<td>Technical Reporting II</td>
<td>3</td>
</tr>
<tr>
<td>RX2100</td>
<td>Prescription Processing I</td>
<td>3</td>
</tr>
<tr>
<td>RX2140</td>
<td>Pharmacy Fundamentals</td>
<td>3</td>
</tr>
<tr>
<td>RX2170</td>
<td>Pharmacology I</td>
<td>5</td>
</tr>
<tr>
<td>RX2200</td>
<td>Community Pharmacy</td>
<td>4</td>
</tr>
<tr>
<td>RX1100</td>
<td>Pharmacy Regulations and Professionalism</td>
<td>3</td>
</tr>
<tr>
<td>RX2101</td>
<td>Prescription Processing II</td>
<td>3</td>
</tr>
<tr>
<td>RX2130</td>
<td>Pharmacy Fundamentals Application</td>
<td>3</td>
</tr>
<tr>
<td>RX2180</td>
<td>Pharmacology II</td>
<td>5</td>
</tr>
<tr>
<td>RX2231</td>
<td>Hospital Pharmacy</td>
<td>3</td>
</tr>
<tr>
<td>RX2300</td>
<td>Aseptic Technique</td>
<td>3</td>
</tr>
<tr>
<td>RX1140</td>
<td>Pharmacy Management and Inventory Control</td>
<td>3</td>
</tr>
<tr>
<td>WT1800</td>
<td>Pharmacy Clinical Placement</td>
<td>12</td>
</tr>
</tbody>
</table>

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>
</tr>
</thead>
<tbody>
<tr>
<td>English</td>
<td>60%</td>
<td>60%</td>
</tr>
<tr>
<td>Language (Grade 12 level)</td>
<td></td>
<td></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>60%</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. Obtaining 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 71 or greater on the Oxford Online Placement Test (OOPT), as administered and validated by the CNA-Q Testing Centre.
   b) 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.
   c) Successfully complete FL1090, a pass/fail language development course, where the final examination is the OOPT. A score of 71 or greater is required on the OOPT.
2. Students graduating from the Respiratory Therapy program must meet English language proficiency requirements on exit by obtaining one of the following:
   a) An overall score of 81 or greater on the Oxford Online Placement Test, as administered and validated by the CNA-Q Testing Centre.
   b) Present a valid Academic IELTS exam with an overall band of 6.0 with no individual skill band 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 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.
# Respiratory Therapy

## 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>CM1250</td>
<td>Communication in the Workplace</td>
<td>3</td>
</tr>
<tr>
<td>TM1130</td>
<td>Medical Terminology</td>
<td>3</td>
</tr>
<tr>
<td>MA1700</td>
<td>Mathematics</td>
<td>4</td>
</tr>
<tr>
<td>BLI180</td>
<td>Anatomy &amp; Physiology</td>
<td>5</td>
</tr>
<tr>
<td>RT1100</td>
<td>Introduction to RT</td>
<td>4</td>
</tr>
<tr>
<td>RT1110</td>
<td>Applied Science for RT</td>
<td>4</td>
</tr>
<tr>
<td>MA1530</td>
<td>Statistics</td>
<td>2</td>
</tr>
<tr>
<td>RT1120</td>
<td>Cardiopulmonary Physiology</td>
<td>4</td>
</tr>
<tr>
<td>RT2305</td>
<td>Pharmacology</td>
<td>3</td>
</tr>
<tr>
<td>RT1130</td>
<td>Cardiopulmonary Patho I</td>
<td>4</td>
</tr>
<tr>
<td>RT2460</td>
<td>RT Techniques</td>
<td>4</td>
</tr>
<tr>
<td>BL2410</td>
<td>RT Microbiology</td>
<td>3</td>
</tr>
<tr>
<td>CM1270</td>
<td>Communications in Health Care</td>
<td>3</td>
</tr>
<tr>
<td>RT1140</td>
<td>Airway Management I</td>
<td>4</td>
</tr>
<tr>
<td>RT1150</td>
<td>Clinical Application I</td>
<td>1</td>
</tr>
<tr>
<td>PS1420</td>
<td>Health Care Organization and Structure</td>
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# Respiratory Therapy

## 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>RT2110</td>
<td>Airway Management II</td>
<td>4</td>
</tr>
<tr>
<td>RT2120</td>
<td>Mechanical Ventilation I</td>
<td>4</td>
</tr>
<tr>
<td>RT2470</td>
<td>Neonatal Respiratory Care</td>
<td>4</td>
</tr>
<tr>
<td>RT2130</td>
<td>Clinical Application II</td>
<td>1</td>
</tr>
<tr>
<td>RT2140</td>
<td>Cardiac Diagnostics</td>
<td>4</td>
</tr>
<tr>
<td>RT2150</td>
<td>Cardiopulmonary Patho II</td>
<td>3</td>
</tr>
<tr>
<td>RT2320</td>
<td>Anesthesia</td>
<td>4</td>
</tr>
<tr>
<td>RT2160</td>
<td>Mechanical Ventilation II</td>
<td>4</td>
</tr>
<tr>
<td>RT2170</td>
<td>Pulmonary Diagnostics</td>
<td>4</td>
</tr>
<tr>
<td>RT3430</td>
<td>Clinical Application III</td>
<td>1</td>
</tr>
<tr>
<td>RT2180</td>
<td>Neonatal Clinical Application</td>
<td>1</td>
</tr>
<tr>
<td>HG1680</td>
<td>Ethics in Healthcare</td>
<td>3</td>
</tr>
<tr>
<td>RT2190</td>
<td>Mechanical Ventilation III</td>
<td>2</td>
</tr>
<tr>
<td>RT2240</td>
<td>Cardiopulmonary Resuscitation</td>
<td>3</td>
</tr>
<tr>
<td>RT2250</td>
<td>Clinical Application IV</td>
<td>2</td>
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</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></td>
<td></td>
<td>CR</td>
</tr>
<tr>
<td>RT3000</td>
<td>Practicum I</td>
<td>15</td>
</tr>
<tr>
<td>RT3010</td>
<td>Practicum II</td>
<td>15</td>
</tr>
<tr>
<td>RT3020</td>
<td>Practicum III</td>
<td>7</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) and Aspetar Orthopedic and Sports Medicine Hospital. 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. Obtaining 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, and 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.

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 71 or greater on the Oxford Online Placement Test (OOPT), as administered and validated by the CNA-Q Testing Centre.
2. 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.
3. Successfully complete FL1090, a pass/fail language development course, where the final examination is the OOPT. A score of 71 or greater is required on the OOPT.

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>CM1400</td>
<td>Technical Report Writing I</td>
<td>CR 3, LEC 3, LAB 0</td>
</tr>
<tr>
<td>SD1570</td>
<td>Effective Learning</td>
<td>CR 4, LEC 4, LAB 0</td>
</tr>
<tr>
<td>EP1131</td>
<td>Business for Information Systems</td>
<td>CR 3, LEC 3, LAB 0</td>
</tr>
<tr>
<td>MA1900</td>
<td>Problem Solving for Information Technology</td>
<td>CR 4, LEC 4, LAB 1</td>
</tr>
<tr>
<td>CP1360</td>
<td>Programming for Computer Systems and Networking</td>
<td>CR 4, LEC 3, LAB 2</td>
</tr>
<tr>
<td>MC1820</td>
<td>Computer Applications</td>
<td>CR 3, LEC 2, LAB 4</td>
</tr>
<tr>
<td>CM1401</td>
<td>Technical Report Writing II</td>
<td>CR 3, LEC 3, LAB 0</td>
</tr>
<tr>
<td>CP1880</td>
<td>Computer Systems Architecture</td>
<td>CR 4, LEC 4, LAB 1</td>
</tr>
<tr>
<td>CP1810</td>
<td>Fundamental Programming Constructs</td>
<td>CR 5, LEC 4, LAB 4</td>
</tr>
<tr>
<td>CP1932</td>
<td>Systems Analysis</td>
<td>CR 5, LEC 4, LAB 3</td>
</tr>
<tr>
<td>MA1910</td>
<td>Introduction to Numerical Problem Solving</td>
<td>CR 4, LEC 3, LAB 2</td>
</tr>
<tr>
<td>CR1260</td>
<td>Client Service for the Computer Industry</td>
<td>CR 2, LEC 2, LAB 1</td>
</tr>
<tr>
<td>CM2200</td>
<td>Oral Communications</td>
<td>CR 2, LEC 2, LAB 0</td>
</tr>
<tr>
<td>EP1141</td>
<td>Business Operations in Information Systems</td>
<td>CR 3, LEC 3, LAB 1</td>
</tr>
<tr>
<td>MM1950</td>
<td>Workplace Professionalism</td>
<td>CR 3, LEC 3, LAB 0</td>
</tr>
</tbody>
</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>
</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>CMZ2300</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. 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 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. Obtaining 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, and 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.

Further Studies
Graduates of the Information Systems – Web Developer (IS-WD) 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 – Web Developer (IS-WD) program must meet English language proficiency requirements by obtaining one of the following:
1. An overall score of 71 or greater on the Oxford Online Placement Test (OOPT), as administered and validated by the CNA-Q Testing Centre.
2. 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.
3. Successfully complete FL1090, a pass/fail language development course, where the final examination is the OOPT. A score of 71 or greater is required on the OOPT.

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></td>
</tr>
<tr>
<td>CP1360</td>
<td>Programming for Computer Systems and Networking</td>
<td>CR 3</td>
</tr>
<tr>
<td>MC1820</td>
<td>Computer Applications</td>
<td>LEC 2</td>
</tr>
<tr>
<td>CM1401</td>
<td>Technical Report Writing II</td>
<td>LAB 0</td>
</tr>
<tr>
<td>CP1880</td>
<td>Computer Systems Architecture</td>
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<tr>
<td>CP1810</td>
<td>Fundamental Programming Constructs</td>
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</tr>
<tr>
<td>CP1932</td>
<td>Systems Analysis</td>
<td></td>
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<tr>
<td>MA1910</td>
<td>Introduction to Numerical Problem Solving</td>
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</tr>
<tr>
<td>CR1260</td>
<td>Client Service for the Computer Industry</td>
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</tr>
<tr>
<td>CM2200</td>
<td>Oral Communications</td>
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</tr>
<tr>
<td>EP1141</td>
<td>Business Operations in Information Systems</td>
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<tr>
<td>MM1950</td>
<td>Workplace Professionalism</td>
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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</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>
</tr>
<tr>
<td>CP4480</td>
<td>Emerging Trends in Web Development</td>
<td>3 2 2</td>
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<tr>
<td>CP3271</td>
<td>Web Security</td>
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<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>
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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 – 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>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>60%</td>
</tr>
<tr>
<td>Academic Mathematics (Grade 12 level)</td>
<td>60%</td>
</tr>
<tr>
<td>Three additional courses at the Grade 12 level</td>
<td></td>
</tr>
</tbody>
</table>

2. Obtaining 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 – 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 71 or greater on the Oxford Online Placement Test (OOPT), as administered and validated by the CNA-Q Testing Centre.
2. 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.
3. Successfully complete FL1090, a pass/fail language development course, where the final examination is the OOPT. A score of 71 or greater is required on the OOPT.

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>
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</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 Computer Industry</td>
<td>2</td>
</tr>
<tr>
<td>CM2200</td>
<td>Oral Communications</td>
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<tr>
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<td>Website Development</td>
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## Information Systems – Hardware (IS-H)

### Level 2 (Year 2)

<table>
<thead>
<tr>
<th>COURSE NUMBER</th>
<th>COURSE TITLE</th>
<th>HOURS/WEEK</th>
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<tbody>
<tr>
<td>CR2700</td>
<td>Network Operating System Administration</td>
<td>4 3 3</td>
</tr>
<tr>
<td>CR2470</td>
<td>Wireless Networks</td>
<td>4 3 3</td>
</tr>
<tr>
<td>CP2921</td>
<td>Hardware and Software Troubleshooting</td>
<td>5 4 2</td>
</tr>
<tr>
<td>PR2155</td>
<td>Project Management</td>
<td>4 3 2</td>
</tr>
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<td>CM2300</td>
<td>Report Writing</td>
<td>2 2 0</td>
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<td>Network Implementation</td>
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<td>Hardware Security</td>
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<td>CR2950</td>
<td>Emerging Trends in IT Infrastructure</td>
<td>3 2 2</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:

<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>60%</td>
</tr>
<tr>
<td>Academic Math-</td>
<td>60%</td>
</tr>
<tr>
<td>ematics</td>
<td></td>
</tr>
<tr>
<td>(Grade 12 level)</td>
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<tr>
<td>Three additional</td>
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<tr>
<td>courses at the</td>
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<tr>
<td>Grade 12 level</td>
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</table>

2. Obtaining 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 band score (reading, writing, speaking, and 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.

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 71 or greater on the Oxford Online Placement Test (OOPT), as administered and validated by the CNA-Q Testing Centre.
2. 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.
3. Successfully complete FL1090, a pass/fail language development course, where the final examination is the OOPT. A score of 71 or greater is required on the OOPT.

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 – 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>
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<tr>
<td>MA1900</td>
<td>Problem Solving for Information Technology</td>
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<tr>
<td>MC1820</td>
<td>Computer Applications</td>
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<td>Technical Report Writing II</td>
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<tr>
<td>CR2350</td>
<td>Intro to Systems Analysis</td>
<td>4</td>
</tr>
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<td>CP1360</td>
<td>Programming for Computer Systems and Networking</td>
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</tr>
<tr>
<td>CR2510</td>
<td>Linux Server Administration I</td>
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</tr>
<tr>
<td>CR1260</td>
<td>Client Service for the Computer Industry</td>
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</tr>
<tr>
<td>CM2200</td>
<td>Oral Communications</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)**

<table>
<thead>
<tr>
<th>COURSE NUMBER</th>
<th>COURSE TITLE</th>
<th>HOURS/WEEK</th>
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<th>LEC</th>
<th>LAB</th>
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</thead>
<tbody>
<tr>
<td>CR2700</td>
<td>Network Operating System Administration</td>
<td>3</td>
<td>3</td>
<td>3</td>
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<tr>
<td>CR2470</td>
<td>Wireless Networks</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td></td>
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<tr>
<td>CP2921</td>
<td>Hardware and Software Troubleshooting</td>
<td>2</td>
<td>2</td>
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</tr>
<tr>
<td>PR2155</td>
<td>Project Management</td>
<td>2</td>
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</tr>
<tr>
<td>CM2300</td>
<td>Report Writing</td>
<td>3</td>
<td>3</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>MM1950</td>
<td>Workplace Professionalism</td>
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<td>3</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>CR2210</td>
<td>Enterprise Mail Systems</td>
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<td>4</td>
<td>2</td>
<td></td>
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<tr>
<td>CR2440</td>
<td>Network Implementation</td>
<td>5</td>
<td>4</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>CR1270</td>
<td>Hardware Security</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>CR2950</td>
<td>Emerging Trends in IT Infrastructure</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>WT1160</td>
<td>Work Term</td>
<td>Pass/Fail</td>
<td>8</td>
<td>8 weeks (280-300 Hours)</td>
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</table>

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>
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<tr>
<td>CR3100</td>
<td>Advanced Networking I</td>
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</tr>
<tr>
<td>CR3230</td>
<td>Enterprise Technology I</td>
<td>4</td>
</tr>
<tr>
<td>CR3320</td>
<td>Advanced IT Hardware</td>
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</tr>
<tr>
<td>CR3420</td>
<td>Infrastructure Security</td>
<td>4</td>
</tr>
<tr>
<td>CR3450</td>
<td>Scripting</td>
<td>2</td>
</tr>
<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>
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<tr>
<td>Elective</td>
<td>(minimum 3 credits)</td>
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</tr>
<tr>
<td>PR3530</td>
<td>Network and Systems Administration Capstone</td>
<td>6</td>
</tr>
</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.
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 credit towards a diploma in Engineering Technology.

Program Options:
• Electrical Technician
• Instrumentation Technician
• Mechanical Technician
• Process Operator Technician
Technician Certificate - Electrical

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, Electrical Drawings, as well as discipline specific electives.

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

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>
<th>COURSE TITLE</th>
<th>HOURS</th>
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<tbody>
<tr>
<td></td>
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<td>CR</td>
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<tr>
<td>SE1035</td>
<td>Workplace Safety</td>
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<tr>
<td>ET1175</td>
<td>Fabrication Hand Tools</td>
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</tr>
<tr>
<td>ET1180</td>
<td>Power Tools</td>
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#### Semester 2 - 12 weeks

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<th>COURSE TITLE</th>
<th>HOURS</th>
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</thead>
<tbody>
<tr>
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<tr>
<td>ET1190</td>
<td>Basic DC Theory</td>
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<td>ET1195</td>
<td>Single-Phase Electricity</td>
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**WORKPLACE ORIENTATION**

<table>
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<th>COURSE NUMBER</th>
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<tbody>
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## Technician Certificate - Electrical

### Semester 3 - 12 weeks

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<tr>
<td></td>
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</tr>
<tr>
<td>SEMESTER 3</td>
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<tr>
<td>ET1200</td>
<td>Three-Phase Electricity</td>
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<tr>
<td>ET1210</td>
<td>Conductors and Cables</td>
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<td>ET1215</td>
<td>Electrical Drawings</td>
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<td>ET1220</td>
<td>Power Supply and Rectifiers</td>
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<td>ET1225</td>
<td>Electrical Transformers</td>
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<td>ET1230</td>
<td>Three-Phase Induction Motors</td>
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<td>ET1235</td>
<td>Single-Phase Induction Motors</td>
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### Semester 4 - 12 weeks

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<td>CR</td>
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<tr>
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<td>ET1240</td>
<td>Alternating Current Generators</td>
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<td>Motorized Valve Actuators</td>
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<td>ET1255</td>
<td>Hazardous Areas</td>
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<tr>
<td>ET1260</td>
<td>Circuit Breakers and Fuses</td>
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<td>ET1265</td>
<td>Relays and Contactors</td>
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<td>ET1270</td>
<td>UPS and Inverters</td>
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**WORKPLACE EXPERIENCE**

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<tbody>
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<td></td>
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**TOTAL**

<table>
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</table>
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.

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.

Careers
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>
<thead>
<tr>
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<th>COURSE TITLE</th>
<th>HOURS</th>
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<tr>
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<td>Hand Tools</td>
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<tr>
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## Semester 2 - 12 weeks

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### WORKPLACE ORIENTATION

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## Technician Certificate - Instrumentation

### Semester 3 - 12 weeks

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### Semester 4 - 12 weeks

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**WORKPLACE EXPERIENCE**

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**TOTAL**

|                    | 49                  |
|                    | 960 HOURS + 4 WEEKS WORKPLACE ORIENTATION + 24 WEEKS PRACTICUM |
TECHNICIAN CERTIFICATE PROGRAM

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.

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

<table>
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<td>LAB</td>
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### Semester 2 - 12 weeks

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<td>ME1135</td>
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<tr>
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<td>Machine Tools</td>
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<tr>
<td>ME1155</td>
<td>Technical Drawings</td>
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<td>WORKPLACE ORIENTATION</td>
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<td>ME1160</td>
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<td></td>
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<td>4 weeks</td>
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**Semester 1 - 12 weeks**
- SE1035 Workplace Safety: 1 CR, 30 LEC/LAB
- ME1125 Hand Tools: 2 CR, 60 LEC/LAB

**Semester 2 - 12 weeks**
- ME1130 Limits, Fits, and Tolerances: 1 CR, 30 LEC/LAB
- ME1135 Precision Measuring Tools: 1 CR, 50 LEC/LAB
- ME1140 Machine Tools: 1 CR, 50 LEC/LAB
- ME1155 Technical Drawings: 2 CR, 80 LEC/LAB
- ME1160 Workplace Orientation: 0 CR, 4 weeks
## Technician Certificate - Mechanical

### Semester 3 - 12 weeks

<table>
<thead>
<tr>
<th>COURSE NUMBER</th>
<th>COURSE TITLE</th>
<th>HOURS</th>
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<td>ME1145</td>
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<td>ME1150</td>
<td>Threading Techniques</td>
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<tr>
<td>ME1165</td>
<td>Flanges, Gaskets, &amp; Fittings</td>
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<tr>
<td>ME1170</td>
<td>Valve Maintenance</td>
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<tr>
<td>ME1175</td>
<td>Heat Exchanger Maintenance</td>
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<tr>
<td>ME1180</td>
<td>Filter &amp; Strainer Maintenance</td>
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<td>ME1185</td>
<td>Coupling Maintenance</td>
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<tr>
<td>ME1195</td>
<td>Bearing Maintenance &amp; Lubrication</td>
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### Semester 4 - 12 weeks

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<tr>
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<td>ME1190</td>
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<td>ME1210</td>
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<td>ME1215</td>
<td>Compressor Maintenance</td>
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<td>ME1220</td>
<td>IC Engine Maintenance</td>
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<td>ME1225</td>
<td>Maintenance Procedures</td>
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**WORKPLACE EXPERIENCE**

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<th>COURSE NUMBER</th>
<th>COURSE TITLE</th>
<th>HOURS</th>
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<tbody>
<tr>
<td>ME1230</td>
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**TOTAL**

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<th>51</th>
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<tbody>
<tr>
<td></td>
<td><strong>960 HOURS + 4 WEEKS WORKPLACE ORIENTATION + 24 WEEKS PRACTICUM</strong></td>
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</tbody>
</table>
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.

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.

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. 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.
## Technician Certificate - Process Operations

### Semester 1 - 12 weeks

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### Semester 2 - 12 weeks

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|               | WORKPLACE ORIENTATION        |       |
| PT1175        | Workplace Orientation        | 0     |
|               |                               | -     | 4 weeks |
## Technician Certificate - Process Operations

### Semester 3 - 12 weeks

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### Semester 4 - 12 weeks

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<td>PT1250</td>
<td>Refrigeration &amp; Liquefaction</td>
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**WORKPLACE EXPERIENCE**

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<tr>
<th>COURSE NUMBER</th>
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<th>HOURS</th>
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<td>PT1255</td>
<td>Worksite Practicum</td>
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<td>24 weeks</td>
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**TOTAL**

48

960 HOURS + 4 WEEKS WORKPLACE ORIENTATION + 24 WEEKS PRACTICUM
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
Prerequisite: 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
Prerequisite: 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
Prerequisite: 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
Prerequisite: 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
Prerequisite: AC2220
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.

AC2540 OIL AND GAS PRODUCTION ACCOUNTING
Prerequisite: 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
Courses Descriptions

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**  
**Prerequisite:** AC2260  
This course introduces the student to the accounting techniques needed for 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**  
**Prerequisite:** 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.

**AC3230 COMPUTERIZED ACCOUNTING II**  
**Prerequisites:** AC2100 or AC1260 and CPI1450 or equivalent  
This is a more advanced computerized accounting course. Students will be introduced to a computerized accounting package such as Accpac, NewViews or System II.

**AC3250 MANAGERIAL ACCOUNTING II**  
**Prerequisite:** 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**  
**Prerequisite:** 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**  
**Prerequisite:** 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**  
**Prerequisite:** 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 reinforces the fundamental concepts, skills and the behaviors required to make sound commercial lending recommendations and decisions. Students will demonstrate their knowledge of commercial lending through guided discussion, case studies, practical

**BK1101 BANKING OPERATIONS II**  
**Prerequisite:** BK1100  
This course is a continuation of BK1100, Banking Operations I, and is designed to familiarize students with the main principles and guidelines which characterize the banking industry and provide them with a basic understanding of the operations and transactions conducted in a bank setting. Students will be introduced to credit facilities and trade finance products as well as other banking products not covered in Banking Operations I.

**BK1110 BANKING OPERATIONS III**  
This course is designed as an integration learning activity where students practically apply the banking knowledge and skills learned in Banking Operations I and II. Working in a simulated retail bank environment as frontline financial services providers participants learn and employ critical professional skills. Students are prepared to perform routine teller and customer service agent tasks with proper business etiquette, customer service skills and selling skills. In a simulated environment, through demonstrations, exercises, role plays and problem solving situations, students will acquire the knowledge and skills related to executing transactions like handling cash, opening accounts and effectively serving customers while complying to Qatar Central Bank regulations.

**BK2200 CONSUMER LENDING**  
This course examines different types of credit with a focus on consumer loans, credit cards and lines of credit, residential mortgages, pros and cons of credit, personal financial statement analysis utilizing electronic spreadsheet templates for banking, what factors to consider when making the decision to lend and other components of credit.

**BK2210 COMMERCIAL LENDING**  
This course familiarizes students with the main principles and guidelines which characterize the banking industry and then provide them with a basic understanding of the operations and transactions conducted in a bank setting.
Courses Descriptions

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.

BL1200 BIOLOGY
Prerequisite: 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
Prerequisite: 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 tissues; an introduction to anatomical and medical terminology; and a study of the skeletal system.

BL1501 BIOLOGY
Prerequisite: 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
Prerequisite: 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.

BL2330 CARDIOPULMONARY PHYSIOLOGY
Prerequisite: Successful completion of Semester 3
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.

BL2340 CARDIOPULMONARY PATHOPHYSIOLOGY
Prerequisite: Successful completion of Semester 3
This course will enable the student to describe the pathophysiologic manifestations, clinical signs, symptoms and therapeutic management of the major cardiopulmonary diseases, in order to facilitate the development of treatment protocols.

BL2410 MICROBIOLOGY
Prerequisite: Successful completion of 3rd semester
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.
Courses Descriptions

CE1140 NETWORK COMPUTER ESSENTIALS
This course introduces students to the fundamentals of computer hardware and software with an emphasis on the requirements for a networked environment. The early course covers the hardware (HW) of network computing systems (PC), servers, remote computing devices and peripherals. As the course develops, students are introduced to the operating systems (OS) that are installed on these devices. Students will be able to describe the internal components of a computer, assemble a computer system, install an operating system and troubleshoot using system tools and diagnostic software. Students will also be able to connect the Internet and share resources in a network environment. In addition, students will look at PC security and the role of good communications in the troubleshooting process. Essential knowledge and skills will be developed using a combination of classroom instruction and hands-on practical experience.

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. 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.

CE1230 - TROUBLESHOOTING COMMUNICATION SYSTEMS
Pre-requisites: CE2220, AE2370
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 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
Prerequisite: 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.

CE2300 TELECOMMUNICATIONS NETWORKS
Prerequisite: AE2350
Co-requisite: CE2130
This course provides 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 signaling systems and networks. 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.

CE2310 - TELECOM NETWORKS OVERVIEW
Prerequisite: AE2340
Co-requisite: 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 signaling systems and networks. 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.

CE2500 ACCESSING THE WAN
Prerequisites: CE2130, CE2400
This course provides integrated and comprehensive instruction on Wide Area Network (WAN) technologies and network services required by converged applications in enterprise networks. The student is also introduced to other WAN technologies such as Digital Subscriber Line (DSL) and virtual private networks (VPNs) as well as network addressing using IPv6. Throughout the course the student is presented with practical labs to apply the covered concepts and construct converged network solutions. The student will also learn how to assess the impact of advanced service on the WAN, like Data and VoIP and then create the required design to meet these requirements. Additionally
Courses Descriptions

students use the layered model approach to isolate, identify and correct common network problems at layers 1, 2, 3 and 7.

CE2720 RF TRANSMISSION AND ANTENNAS
Prerequisites: MA1101, MP2140 or ET2100 or ET1151 (Qatar Only)
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.

CE3140 RF COMMUNICATION SYSTEMS
Prerequisites: CE2270, CE2730
This is an advanced electronic communications course. It provides a solid background for understanding and analyzing the modern communications systems.

CE3150 - MICROWAVE AND RF SYSTEMS
Prerequisites: CE22XX, CE27XX
This is an advanced electronic communications course. It provides a solid background for understanding and analyzing the modern communications systems.

CE3120 IP NETWORK SECURITY
Prerequisite: CE3270
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.

CE3220 - WANS AND SP OPERATIONS
Prerequisite: 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.

CE3240 BROADCASTING ENGINEERING TECHNOLOGY
Prerequisite: CE2500
Co-requisite: CE3140
This course provides students with a basic understanding of broadcast technology and systems. The course first introduces the student to the capture of video and audio media as it applies to broadcast signals using analog technology as well as the regional standards required. This is followed with a comprehensive understanding of the transition to digital broadcast and the new standards required. Students will be able to explain the difference between analogue and digital broadcast technology and systems. They will also understand the transport solutions for broadcast media using satellite technology, cable technology and Internet protocol technology and the important similarities and differences for each in the distribution of the broadcast content. Students will acquire a comprehensive understanding through the use of course materials, broadcast industry reference materials and practical laboratory skills training.

CE3371 SWITCHING AND ROUTING
Prerequisite: CE1210
This course continues the students’ education in Internet Protocol (IP)-based communications. 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
Prerequisite: CE1210
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 INFRASTRUCTURE CABLING
Prerequisite: 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 trouble-shoot 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.

CE3510 MICROWAVE CIRCUIT DESIGN
Prerequisites: AE2321, AE2351 and CE2270, CE2730
This course involves design and simulation of RF amplifier circuits. It provides students with the analytical and modelling skills to analyze and assist in the development of RF microwave communications subsystems.

CE3640 UNIFIED COMMUNICATIONS
Prerequisites: CE3160 and CE1210 or CE2130 and CE2400
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.
Courses Descriptions

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  
**Prerequisite:** CH1120  
This introductory course characterizes 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.

CF2520 STRENGTH OF MATERIALS  
**Prerequisites:** PH1101, MA1101  
This course is included in the Petroleum Technology program curriculum as an engineering science. It forms part of the core of courses introducing students to the fundamentals of applied problem solving.

CF3200 MATERIALS AND CORROSION  
**Prerequisite:** 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.

CH1010 PREPARATORY CHEMISTRY I  
**Co-requisite:** 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  
**Prerequisite:** CH1010  
This course furthers the student’s knowledge and understanding of the fundamental concepts of chemistry. Major topics include stoichiometry, bonding concepts, solution chemistry and acids and bases.

CH1070 APPLIED PETROLEUM CHEMISTRY  
**Prerequisite:** CH1120  
This course will further develop 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.

CH1120 CHEMISTRY  
This course is designed to develop knowledge and understanding of the fundamental concepts of chemistry which will form the basis for further studies in science and technology.

CH1121 CHEMISTRY  
**Prerequisite:** CH1120  
This course will further develop the fundamental concepts of chemistry, with emphasis on those relevant to the chemistry of materials and to the processes of polymer chemistry, thermochemistry, chemical reaction rates and equilibrium, electrochemistry, metals and alloys.

CH1200 CHEMISTRY  
This is an introductory course in chemistry, the nature of matter, the structure of the atom, the periodic table, chemical bonding, stoichiometry, and the physical states of matter and solutions. The quantitative aspects of chemistry are the focus of this course.

CH1201 CHEMISTRY  
**Prerequisite:** 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  
**Prerequisite:** CH1200  
This course is designed as a continuation of CH1200. Major topics include gas laws, chemical kinetics, equilibrium, acid-base chemistry and as well as introductions to organic, descriptive chemistry.

CH2200 CHEMISTRY  
**Prerequisite:** CH2200  
This is a continuation of the second semester course. Major topics include various types of chemical equilibria; such as gaseous equilibria, solubility equilibria and acid/base equilibria. The quantitative aspects are stressed.

CH2380 ORGANIC CHEMISTRY II  
**Prerequisite:** 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 the several major classes of organic compounds including organic halides, amines, aldehydes, ketones, carboxylic acids, esters, amides, acid halides and acid anhydrides.

CH2410 INDUSTRIAL CHEMISTRY  
**Prerequisite:** 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.
Courses Descriptions

CH2420 APPLIED HYDROCARBON CHEMISTRY
Prerequisite: 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
This course will introduce 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.

CH2750 ENVIRONMENTAL MONITORING
Prerequisites: CH1120, CH1142, CH2730, CH2705
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.

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
This course provides students the 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
Prerequisite: ET1135
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 AsBuilt 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.

CI1180 BASIC INSTRUMENTATION
Prerequisite: 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: ET1101 or 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.

CI1320 ELECTRICAL/ELECTRONIC FABRICATION TECHNIQUES
Prerequisites: ET1101, ET1131 or ET1151
This is a practical electrical/electronics course for students entering their program discipline. 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
Prerequisites: CM1190, CI1140
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.

CI1660 INTRODUCTION TO PROCESS CONTROL SYSTEMS
Prerequisite: CI1180
This is an introduction to process control systems, designed to provide the students with the basics of PID Control as well as an overview of more advanced systems and strategies. An overview of programmable logic controllers (PLCs) and distributed control systems (DCSs) will also be provided. Fire and gas detection/ emergency shutdown will also be covered.

CI2100 PRESSURE AND LEVEL MEASUREMENT AND CONTROL
Prerequisite: 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
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
Prerequisite: 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.
Courses Descriptions

CI2300 ADVANCED CONTROL STRATEGIES
Prerequisite: CI2230
This course covers advanced proportional-integral-derivative (PID) control strategies with an emphasis on boiler control.

CI2560 PROCESS ANALYZERS
Prerequisites: CI1180, CI1120
This course provides basic instrumenta tion techniques for chemical analysis in the chemical process industries; analytical equipment in a process laboratory setting using on-line equipment. Techniques include: ultraviolet/visible and infra-red spectrophotometry; gas and liquid chromatography; mass spectrometry; conductivity and potentiometry.

CI3110 SAFETY SHUTDOWN AND MACHINE MONITORING SYSTEMS
Prerequisite: 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
Prerequisite: 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
Prerequisite: 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
Prerequisite: CI2300
This course provides students with the knowledge that allows them to maximize process unit productivity while minimizing operating costs.

CI3310 PROCESS OPTIMIZATION AND ASSET MANAGEMENT
Prerequisite: 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
Prerequisite: 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
Prerequisite: CI3160
This course provides basic instrumenta tion 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.

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
Prerequisite: 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.
Courses Descriptions

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
Prerequisite: 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.

CM2110 BUSINESS WRITING FUNDAMENTALS
Prerequisite: CM1100
Business Writing Fundamentals gives students the opportunity to apply the principles of effective business writing.

CM2110 BUSINESS WRITING FUNDAMENTALS
Prerequisite: CM1100
Business Writing Fundamentals gives students the opportunity to apply the principles of effective business writing.

Applications include letters, memos, e-mail and informal business report writing. This course also allows students to explore job search techniques.

CM2180 TECHNICAL REPORTING I
Prerequisite: CM2180
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
Prerequisite: 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.

CP1120 FUNDAMENTALS OF PROGRAMMING I
Co-requisite: MA1900
This course gives the student the logic involved in the computing process and the ability to develop an algorithm to describe the solution to a given problem. The student will analyze, design, choose an algorithm, code, test and debug applications. Algorithms will be implemented using an object-oriented programming language.

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
Prerequisite: 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.
Courses Descriptions

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-requisite: 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-Requisite: 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.

CP3170 MULTIMEDIA FOR THE WEB
Co-requisite: 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
Prerequisite: CP1810
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: CP3300, CP3230
Co-Requisite: 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
Courses Descriptions

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**  
**Prerequisite: 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**  
**Prerequisite: CP3230**  
**Co-requisite: 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-requisite: 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**  
**Prerequisite: CP3320**  
This course introduces students to multi-tier web application development. The focus is on developing single-page web apps (SPAs) 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 teach how to add business logic to the application tier for large-scale application development.

**CP3360 WEB APPLICATION DEVELOPMENT WITH ASP.NET**  
**Prerequisite: CP3320**  
**Co-Requisite: 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**  
**Prerequisite: 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.

**CP3700 WEB APPLICATION ARCHITECTURE AND DESIGN**  
**Prerequisite: 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-requisite: 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**  
**Prerequisite: 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.
Courses Descriptions

**CP4490 EMERGING TRENDS IN NETWORK AND SYSTEMS ADMINISTRATION**

*Prerequisite: 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 COMPUTER 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**

*Prerequisite: 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**

*Prerequisite: 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**

*Prerequisite: 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**

*Prerequisite: 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.

**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**

*Prerequisite: 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**

*Prerequisite: Depends on the topic(s) selected*

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
Prerequisite: 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
Prerequisite: 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
Prerequisite: CR1260
This course gives students the necessary skills to provide service and resource management to a multi-user, multi-server local area network environment. Students will perform job functions and responsibilities at the different levels in these systems. Using a hands-on approach, students will work with a wide variety of hardware to complete learning objectives.

CR3230 ENTERPRISE TECHNOLOGY I
Prerequisite: 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.

CR3231 ENTERPRISE TECHNOLOGY II
Prerequisite: CR3230
This course provides the students with the knowledge and the skills to implement, manage and maintain remote access, to configure web servers and to secure internet access and data transmissions.

CR3320 ADVANCED IT HARDWARE
Prerequisite: 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, photocopierns and projectors). This will be a very hands-on approach using a wide variety of hardware to complete learning objectives.

CR3420 INFRASTRUCTURE SECURITY
Prerequisite: 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.

CT2300 APPLIED PROGRAMMING
Prerequisites: MA1101 or CE1140, ET1151
This is a course designed to introduce the technology learner to the concepts of problem solving using computer programming. The course will be taught using a high level language such as C or C++. Students will write programs to solve problems within their related disciplines and will learn the concepts of troubleshooting and problem solving. The course covers the following topics: structured programming concepts, data types, decision statements, loop and iteration procedures, Input/Output procedures and files.

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.
Courses Descriptions

DE2010 DIABETES IN SPECIAL POPULATIONS
Prerequisite: 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
Prerequisite: 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
Prerequisite: 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
Prerequisite: 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
Prerequisite: 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
Prerequisite: 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.

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-requisite: 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-requisite: 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-requisite: 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
Courses Descriptions

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 1 Dental Hygiene courses, DH1250, DH1260, First Aid/CPR certification (maintained throughout the course).
Co-requisite: 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
Prerequisite: 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
Prerequisite: DH1310
This course builds on and applies the learning from Periodontology I. Topics discussed in this course include: microbiological 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.

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
Prerequisite: 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-radiation 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
Prerequisite: 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.
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DH2150 COMMUNITY ORAL HEALTH I
Prerequisite: 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
Prerequisite: DH2150, Successful completion of Year 1 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
Prerequisite: 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
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
Prerequisite: Successful completion of Year 1 and Year 2 Dental Hygiene courses, DH2250, DH2260
Co-requisite: 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, First Aid/CPR certification (maintained throughout the course)
Co-requisite: 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 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-requisite: 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
Prerequisite: 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
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course 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-requisite: DH3260
This course is a continuation of the previous Clinical Theory series. Assessment, dental hygiene health care planning, implementation, 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-requisite: 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-requisite: 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.

**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-requisite: 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.

Note: In order to be eligible for graduation with an Office Administration Certificate, students must achieve a typing speed of 30 net words per minute at the end of DM1201.

**DM1200 DOCUMENT PRODUCTION I**
Prerequisite: 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.

Note: Students must achieve a typing speed of 30 net words per minute for five minutes in order to pass KB1150.

**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.
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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
Prerequisite: DM1201
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.

Note: Students must achieve a typing speed of 40 net words per minute for five minutes in order to pass KB1151.

DM2240 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.

Note: Students must achieve a typing speed of 40 net words per minute for five minutes in order to pass KB1151.

DP1120 DIGITAL MICROPROCESSORS
Prerequisite: DP1130
Co-requisite: AE2350, AE2370
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, ET1150
This course introduces students to the field of digital electronics. They will be taught design and diagnosis techniques applicable to digital electronics.

DP1170 DIGITAL MICROPROCESSORS
Prerequisite: DP1130
Co-requisite: AE2350
This course introduces the student to the microprocessor programming techniques using assemblers and debuggers and provides training in computer interfacing techniques.

DP2230 MICROCONTROLLERS
Prerequisite: DP1170
Co-requisite: 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
Prerequisite: 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: DP2230
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 telecommunications 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 and off 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
Prerequisite: 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
Prerequisite: 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.

DR2440 ELECTRONIC CAD
Prerequisites: DP1130, AE2350
This course is designed to give the student a basic knowledge of Printed Circuit Board design techniques required in the electronics industry through the use of CAD software. It introduces the student
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EM1120 PREPAREDNESS AND PLANNING
This course is designed to provide the student with a practical and theoretical introduction to the concepts of emergency management through instruction, individual and group activities, presentations and case studies. Emphasis will be on the historical and current practice of emergency management. Students will also discuss the essential terminologies, concepts, theories and approaches to the rapidly expanding study and practice of emergency management.

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.

EG1430 AUTOCAD ESSENTIALS
Prerequisite: 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.

EG1140 ELECTRICAL CIRCUIT SIMULATION
Prerequisite: ET1150
Co-requisites: ET1151, DP1130
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.

EG1230 ELECTRICAL AND INSTRUMENTATION CAD
Prerequisite: CII140
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.

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 macroeconomics, 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 qualifications 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.
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This course is designed to introduce students to the principles of planning, the preparedness planning cycle and the concepts of risk assessment and risk mapping. Students will evaluate sample emergency management plans and will start their own emergency management plans at the beginning of the course for submission as a final project.

**EM1130 EMERGENCY MANAGEMENT PARTNERS**

This course is designed to introduce students to the specific roles of various emergency management partners, as well as potential benefits and challenges of working with each type of partner. Emphasis will be on partnerships with first and second responders, government agencies, non-governmental organizations, volunteer agencies, businesses, community groups, individuals and professional associations. Students will also discuss best practices in fostering effective emergency management partnerships. Whenever possible, selected topics will be presented by members of the emergency community.

**EM1140 EM LEGISLATION AND FRAMEWORKS**

This course is designed to provide the student with a practical and theoretical introduction to legislation and guidance pertaining to emergency management at the local, national and international levels. Emphasis will be on various aspects of emergency management that are covered under legislation, regulations and guidelines. Students will also discuss the role of government agencies and non-governmental organizations with respect to emergency management legislation and frameworks.

**EM1160 EMERGENCY MANAGEMENT SYSTEMS**

*Prerequisites: EM1110, EM1130*

This course provides an overview of different approaches to emergency management with an emphasis on the National Incident Management System (NIMS) and Incident Command System (ICS) frameworks. Students will also examine the purpose of an Emergency Operation Centre (EOC) and Emergency Site Management (ESM). Students will have the opportunity to take part in a simulated exercise and perform the various functions and roles required in emergency management systems.

**EM1170 EM PROFESSIONALISM**

*Prerequisite: EM1110*

Emergency management is a service-oriented career that demands the highest level of professionalism from all members. This course will examine the key elements required to become an emergency management professional. Emphasis will be on professionalism, culture and the importance of providing quality customer service. Students will also discuss professional ethics and standards related to emergency management. The course will also cover professional development (PD) and students will have an opportunity to develop individual PD plans.

**EM1180 EMERGENCY RESPONSE**

*Prerequisite: EM1110*

The initial response to any critical incident can have far reaching consequences. By properly understanding the process and issues that surround an emergency response, students will be able to clearly articulate factors that affect emergency response decisions. This course is designed to provide an overview of decision making, as well as the logistical issues surrounding an emergency response with a particular focus on in-house activities. Emphasis will also be placed on communication and reporting.

**EM1190 EMERGENCY STUDIES CAPSTONE**

*Prerequisites: All Semester 1 and Semester 2 courses.*

*Credit Value: Four (4)*

The capstone project is designed to enable students to demonstrate the application of skills and knowledge developed throughout Semesters 1 and 2. Students taking this course will work with minimal supervision under the guidance of a faculty member. When possible, students will have the opportunity to consult with industry representatives on course deliverables. Students can work independently or in teams of two or three to carry out an in-depth study of a problem, design, or 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.

**EM1200 MITIGATION AND PREVENTION**

*Prerequisites: EM1110 or EM 1100, EM1130 or EM1150*

This course is designed to provide an in-depth introduction to mitigation and risk assessment. Mitigation actions modify, deflect, stop, or reduce the impact of a disaster. Mitigation is considered the cornerstone of emergency management. Emphasis will be on the types and categories of mitigation, steps in mitigation planning and pre- and post-disaster mitigation activities. Students will also discuss the characteristics of resilient and sustainable communities.

**EM1210 EM INVESTIGATIONS**

A major goal of emergency management professionals is preventing negative incidents from occurring. As not all incidents can be avoided, a skilled emergency response organization must be able to conduct a professional investigation. The ultimate goal of an investigation is to prevent a similar or perhaps more disastrous sequence of events from occurring in the future. This course is designed to provide students with an introduction to the systematic process involved in conducting a thorough investigation from pre-incident preparation to the final report.

**EM1220 RESILIENCE AND SUSTAINABILITY**

*Prerequisites: EM1110 or EM 1100, EM1130 or EM1150*

A disaster resilient community has the capacity to absorb stress (physical and psychological) through adaptation. It can manage or maintain certain basic functions and structures during disastrous events and can recover or “bounce back”
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EM1230 LEADERSHIP AND MANAGEMENT
This course is designed to introduce students to key concepts related to leadership and management. Emphasis will be on interpersonal skills, motivation and power and key elements of management and leadership. Students will review different styles of leadership, as well as challenges and best practices when leading teams. The course will also cover coaching principles and students will have the opportunity to demonstrate coaching techniques.

EM1250 THE FUTURE OF EM
The field of emergency management is evolving. This course will provide an overview of how changes in technology and increasing collaboration with academia and other partners could impact the future of emergency management. Emphasis will be placed on emerging and heightened types of threats, as well as the impact of politics on emergency management. Students will also discuss the use of a holistic approach to emergency management.

EM1260 BUSINESS CONTINUITY
This course is designed to provide an overview of business continuity management (BCM), including the primary purpose and benefits of having an established BCM program. Emphasis will be on business impact analysis, as well as best practices in identifying response options and developing effective response plans. The course will also cover best practices in carrying out BCM awareness training and in exercising and maintaining BCM plans.

EM1270 MEDIA AND EMERGENCY MANAGEMENT
The public is increasingly demanding a continual, up-to-date stream of information during emergencies and this makes the sharing of information even more critical. This course is designed to introduce students to best practices in incorporating traditional and social media into emergency management activities. Emphasis will also be on crisis communication and the future of media in emergency management.

EM1280 EM ACROSS INDUSTRIES
While the basic concepts of emergency management are similar across all industries, it is important to understand that different industries have unique characteristics that must be considered when creating an emergency management plan. This course will examine how the classification of buildings and the characteristics of a business can impact emergency management activities. Emphasis will be on range of issues from various risks and vulnerabilities to social impact. This course will provide students the opportunity to interact with emergency management practitioners from many local industries and businesses.

EM1290 TOXICOLOGY AND HAZARDS
This course is designed to provide an introduction to environmental hazards and toxicity. Emphasis will be on environmental sustainability, ecosystems and resources in the context of emergency management. Students will also discuss environmental hazards, toxicology and hazardous materials management.

EM1320 PHYSICAL SECURITY PLANNING
This course is designed to provide students with an introduction to security design principles, threat and risk assessment and application of technology. Students will also discuss site security and active or personnel security. Emphasis will be placed on practical application of lecture and lab work.

EM1330 THE RECOVERY PROCESS
Prerequisites: EM1110 or EM 1100, EM1130 or EM1150
The discipline of recovery in emergency management often begins in the initial hours and days following an emergency or a disaster and can continue for months and in some cases years, depending on the severity of the event. This course introduces principles and guidelines for managing short and long-term recovery.

EM1340 EM PRACTICUM
Prerequisites: EM1110 or EM 1100, EM1130 or EM1150
This practicum is designed to enable students to apply the fundamental principles of emergency management in a workplace environment 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 emergency management issue for all practicum activities. As part of their duties, students will be required to participate in, plan and evaluate emergency management 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 an emergency management 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. Students will formally present a summary of their work term experience, including an overview of lessons learned. This presentation will be given to invited government, industry and faculty guests.

EM1350 EXERCISE DESIGN
Prerequisites: EM1110 or EM 1100, EM1130 or EM1150
Conducting exercises supports personnel training and improves the organization’s effectiveness and capability. This course examines the different types of exercises that the emergency manager can use to evaluate one or more aspects of the organization’s emergency management program and the design process to conduct an exercise.

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...
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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
Prerequisite: 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
Prerequisite: 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
Prerequisite: 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
Prerequisite: 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.

EN2470 ENVIRONMENTAL AWARENESS
Prerequisite: CM1400
Co-requisite: CM1190
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.

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 provide students with 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.

EP1131 BUSINESS FOR INFORMATION SYSTEMS
Prerequisites: EP1130, EP1150
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.

EP1141 BUSINESS OPERATIONS IN INFORMATION SYSTEMS
Prerequisites: EP1130, EP1150
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.

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.

EP1170 BUSINESS INFORMATION FUNDAMENTALS
This is an introductory course in business information. It will build upon a basic knowledge of common business practices, processes and systems with emphasis placed upon the data and information needs of each functional area and how data is interrelated across business functions. This discussion will be extended to include electronic commerce.
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#### 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
**Prerequisite: 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.

#### ET1101 ELECTROTECHNOLOGY
**Prerequisite: ET1100**
This is a continuation of the Electro-technology course taken in the first semester. It covers the basics of Alternate Current (AC) theory and the application of this to solve circuits containing resistance, capacitance and inductance. An introduction to transformers and polyphase AC circuits is also included.

#### ET1130 FUNDAMENTALS OF ELECTRICITY I
**Co-prerequisite: 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
**Prerequisite: 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.

#### ET1151 CIRCUIT ANALYSIS LL
**Prerequisites: ET1150, MA1700, PH1140**
This is a continuation of the Circuit Analysis course. It covers the basics of AC theory and the application of this to solve circuits containing resistance, capacitance and inductance. An introduction to transformers is also included.

#### ET1160 ELECTRONIC CIRCUITS AND DEVICES
**Prerequisite: 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
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.

#### ET2150 ADVANCED CIRCUIT ANALYSIS
**Prerequisites: MA2100, ET1151, MP2140**
In this course, students will learn 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.
Courses Descriptions

ET1180 POWER TOOLS
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
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
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
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.

ET1205 WORKPLACE ORIENTATION
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, 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.

ET1210 CONDUCTORS AND CABLES
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
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.

ET1220 POWER SUPPLY AND RECTIFIERS
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
This module introduces the components, characteristics, applications, and operation of electrical transformers. Provides information on single and three phase transformers and their connections and their basic maintenance checks.

ET1230 THREE-PHASE INDUCTION MOTORS
This course introduces the components, characteristics, applications, and operation of three-phase induction 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.

ET1235 SINGLE-PHASE INDUCTION MOTORS
This course introduces the components, characteristics, applications, and operation of single-phase motors using fuses and circuit breakers. Working with bearings, students will also disassemble, change and re-assemble a single-phase motor.

ET1240 ALTERNATING CURRENT GENERATORS
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
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
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
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.
Courses Descriptions

ET1265 RELAYS AND CONTACTORS
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
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.

ET1275 WORKSITE PRACTICUM
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).

ET1300 SWITCHGEARS
Prerequisites: ET1260, ET1265
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).

ET1305 VERIFIABLE 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.

EV1710 INDOOR AIR QUALITY
Prerequisite: 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
Prerequisite: 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.

FY2120 BASIC ECOLOGY
Prerequisite: 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.

FL1380 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 FOUNDATION 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
Courses Descriptions

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 FOUNDATION 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, familiar and 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 Basic User - Breakthrough level (CEFR A1.2).

**FL1060 COMMON LANGUAGE**
**PLATFORM: ENGLISH FOUNDATION III**
**Prerequisites: Successful completion of FL1050, or a FL1060-level score on the placement test**
This course is designed for students with English proficiency in the upper Basic User – Breakthrough level (CEFR A1.2). 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, technology, and the eventual workplace are embedded in the course. Upon course completion, students will have attained English proficiency at the lower Independent User – Threshold level (CEFR B1.1).

**FL1070 ENGLISH FOR ACADEMIC**
**PURPOSE: 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. This 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, technology, and the eventual workplace, are embedded in the course. This course prepares students for success in their program studies and on the Oxford Online Placement Test (OOPT). Students will be working towards an upper Independent User – Vantage level in English (CEFR B1.2).

**FL1080 ENGLISH FOR ACADEMIC**
**PURPOSE: 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, technology, and the eventual workplace are embedded in the course. Upon completion, students will have attained English proficiency at the Independent User – Threshold level (CEFR B1).

**FL1090 ENGLISH FOR ACADEMIC**
**PURPOSE: ACADEMIC ENGLISH III**
**Prerequisites: Successful completion of FL1080, or an FL1090-level score on the placement test**
This course is designed for students with English proficiency at the Independent User – Threshold level (CEFR B1.2). It aims to improve English skills in listening, speaking, reading, writing, vocabulary, and grammar through an integrated and communicative approach. This 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, technology, and the eventual workplace, are embedded in the course. This course prepares students for success in their program studies and on the Oxford Online Placement Test (OOPT). Students will be working towards an upper Independent User – Vantage level in English (CEFR B1.2).

**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.

**FM2430 APPLIED FLUID MECHANICS**
**Prerequisites: MA1700, PH1100, PO1120**
This course introduces the laws and principles that govern incompressible fluid flow. To support theoretical studies, students 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.
Courses Descriptions

FM3200 MACHINE DESIGN
Prerequisite: CF2540
This course is an introduction to the primary considerations in the design of machines as they relate to each other, to their operators and to the environment. Machines will be seen as converters of energy and as the extension of human power. The composition and characteristics of machines will be presented. The underlying principles of mechanics of machines and strength of materials will be demonstrated, enabling the student to participate in the design of machinery. The student will gain practical manufacturing exposure and experience.

FM3230 MACHINE DESIGN
Prerequisite: 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.

FN1100 PERSONAL FINANCE
This course is an introduction to the basic principles and concepts of personal finance. The course is organized into three parts: financial planning, financial security and credit. In part one, financial planning, the student learns how to make financial plans for saving and spending, the functions of wills and the basics of the taxation system. In part two, financial security, the student examines economic risks and ways to minimize them. In part three, credit, the student explores the complexities of consumer credit.

FN1140 INTRODUCTION TO FINANCE
Prerequisite: CF2540
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.

FN1110 BUSINESS FINANCE
Prerequisite: 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.

FN2110 BUSINESS FINANCE II
Prerequisite: 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. The student will conduct an in-depth study of issues and tools that financial managers use in financial planning and strategic management. The course will use real-world cases to teach the material.

FN2120 INVESTMENTS FOR BANKING
Students are expected to be familiar with the different investment avenues available to investors who are interested in optimizing their return on their investments. This course will address the concept of risk management and its application to the average investor and will provide an overview of the different investment strategies and their potential risks and returns.

FN2130 FINANCIAL PLANNING AND INV MGMT
Prerequisite: PE1170
Students will evaluate investment objectives; discuss the trade-off between risk and return; understand financial statements; analyze interest bearing securities, equities and mutual funds; and analyze products.

GE1510 PETROLEUM GEOLOGY I
Prerequisite: PE1130
This course introduces the concepts of geology that are important to petroleum exploration and exploitation. Topics include; the make-up of the Earth, plate tectonics, rocks and minerals, formation of sediments and sedimentary rocks, stratigraphy, geologic structures, oil and gas sources, reservoir properties, exploration techniques and reservoir development.

GE1511 PETROLEUM GEOLOGY II
Prerequisites: GE1510, PE1170
This course introduces the concepts of geology and applied to generating a drilling prospect.

GS1320 PRINCIPLES OF GIS
This course will enable students to explore the principles and fundamental concepts and types of Geographic Information Systems (GIS) and apply them in simple projects. Students will be introduced to the five main technical components of a GIS, namely, input, storage, pre-processing, analysis and output using both the raster and vector spatial data models. A series of laboratory exercises provide students with hands-on experience using current software applications.

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HD1100 PATIENT EDUCATION PRINCIPLES
This course is designed to provide students with an overview of the principles of patient education. Students will be introduced to different approaches to patient education and models of behavior change. This course will focus on the importance of creating a positive learning environment, involving patients in the learning process and motivating patients to take an active role in their own health care. Emphasis will be placed on how individual patient characteristics can influence the overall patient education experience. Students will also discuss the role of patient rights and legislation in protecting patients and their personal health information. The role of patient education professionals in patient advocacy will also be explored.

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 behavior. 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 BOPPPS 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.

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 related to educator-patient interactions, instruction and learning needs assessments. 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.

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
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
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
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
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 health care 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
Prerequisite: 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: HM1360, 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.

HL1430 FS INSPECTION AND INVESTIGATION
Prerequisites: EN2310, HL1310, HM1301
This course introduces the student to inspection/investigation procedures undertaken by a food safety inspector/officer in the public sector that are important to public health protection. Inspection, investigation and auditing techniques common to the food safety field will be practiced, in addition to health promotion, negotiation, persuasion and progressive enforcement skills and their relationships to applicable law. The application of these skills by food safety inspectors/officers towards a successful food safety protection program will be emphasized. The fundamentals of risk assessment, risk management and communication will also be discussed with particular emphasis on the Hazard Analysis Critical Control Point (HACCP) principles to successfully manage a food safety prevention program at the local, community or national level. Where possible, a considerable portion of this course will be spent in the field conducting inspections and investigations of public food service settings including restaurants, cafeterias/ juice stalls, supermarkets, long-term care facilities, institutions, schools, butcher shops and food and water processors.

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
Prerequisite: 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
Prerequisite: 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.

HL1800 ENVIRONMENTAL HEALTH RESEARCH
Prerequisite: 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.

HL1900 OHS PRACTICUM
Prerequisite: Successful completion of all program-related courses prior to practicum (end of Semester 5)
This 7-week practicum is designed to enable the student to apply the fundamental principles of occupational health and safety to the field. It will ensure that a graduating student has had the opportunity of functioning within a real world employment setting while under close instructional supervision. Students are placed with one of the many occupational health and safety related agencies and their performance is evaluated by the employer. As part of their duties, students will be required to research and write pre-approved professional reports pertinent to their employer’s research interests.

HL1910 FSI PRACTICUM I
Prerequisite: HL1140
This part-time, seven week practicum is designed to introduce students to the workplace and enable them to apply the fundamental principles of food safety and inspection. The course is designed to ensure the student is mentored through job shadowing and assessed by both employer and practicum instructor. The structure and organizational hierarchy of the workplace will be documented through report writing activities. Where applicable, the student will be given the opportunity to participate in the maintenance and development of current and future food safety and inspection program plans by assisting and participating in special projects as assigned. The student will be expected to job shadow with a designated food safety inspector in their field inspections to retail outlets and document experiences relevant to food safety in a daily log journal. These site visits may include the following: compliance inspections, re-inspections, food complaints, Hazard Analysis Critical Control Program (HACCP) compliance, health promotion and educational campaigns and food recalls.
Courses Descriptions

HL1911 FSI PRACTICUM II
Prerequisite: Successful completion of all program-related courses prior to practicum (end of Semester 5)
This seven-week practicum is designed to enable the student to apply the fundamental principles of food safety and inspection to the field. It will ensure that a graduating student has had the opportunity to practice competencies in a work environment while under close instructional supervision. Students are placed with the appropriate legislative authority who oversees food safety and inspection within their jurisdiction and their performance is evaluated by both the employer and practicum instructor. As part of their duties, students will be required to conduct independent food safety inspections and/or investigations and write detailed professional field reports to evaluate the compliance and non-compliance items observed during the inspection. Students will be expected to utilize sound report writing skills to communicate the findings of the inspection/investigation. Paper-based and electronically-generated field reports will be utilized.

HL1920 PUBLIC HEALTH PRACTICUM I
Prerequisite: 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 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.

HL1921 PUBLIC HEALTH PRACTICUM II
Prerequisite: 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.

HM1300 FOOD SAFETY I
Prerequisite: BL1130
This course will examine the introductory aspects of food microbiology and its relationship to food quality and food safety protection. An examination of the major types of food products will take place and the rationale for food safety protection will be presented in great depth. There is special emphasis on the factors contributing to the growth of spoilage and pathogenic microorganisms and the means through which they can be controlled. The student will examine the microbiology criteria important in promoting safe food. The student will receive training in basic food safety. Students must complete all aspects of the course to receive FoodSafe Certification (FoodSafe Level 1). 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

HM1301 FOOD SAFETY II
Prerequisites: HM1300, BL1130,
This course will further examine the aspects of food safety and a successful food safety program from a community and global health perspective. The Hazard Analysis Critical Control Program (HACCP) system is examined and used to demonstrate how food safety risks can be minimized in all areas of food handling from “field to fork”. Case studies and current literature provide an up-to-date study of the pathogens that can be acquired through food and the modern day mitigation strategies. Emerging issues current to the food safety industry will be examined. Lab sessions will familiarize students with various food safety procedures, including outbreak investigations and the types of field testing equipment used in the field. In addition, field trips will take place to provide live examples of food safety inspection practices and interventions. Students must successfully complete all aspects of the course to receive FoodSafe Certification (Food Safe Level 2).

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
Courses Descriptions

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).

HM2310 INTRO TO FOOD PROCESSING
Prerequisites: BL1130, HM1301
This course will introduce the student to the history and importance of the food industry in modern day society together with the evolution of food processing and food preservation practices. The fundamental principles and characteristics of food science and food processing practices will be explained together with the various methods employed in the commercial food industry to process food. The chemical, physical and biological properties of food will be explained in the context of food processing practices and food science. Students will gain an understanding of correct processing procedures and the impact of processing on food safety, nutritional quality, sensory perception, aesthetic quality and shelf life. Furthermore, the student will gain an understanding of the importance of food security to global and national sustainability.

HN1100 INTRODUCTION TO INDUSTRIAL RELATIONS
This is an introductory course in the theory and practice of industrial relations in Canada. Practical examples will be explored to reinforce the theoretical concepts and to highlight important industrial relations issues. The course will examine the collective bargaining process, the grievance procedure, related laws and regulations and the administration of collective agreements.

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
Prerequisite: 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.

HN1400 OCCUPATIONAL HEALTH AND SAFETY
This is an introductory course in the fundamental principles and practices of occupational health and safety (OH&S). A solid understanding of OH&S issues, legislation and programs is essential to create an effective OH&S program. The learner will explore development of OH&S; costs of accidents, injuries and workplace illnesses; legislation and regulation; hazards and agents; hazard recognition and assessment; workplace compensation; accident investigation; and OH&S program management. Students will have the opportunity to apply various OH&S practices and techniques using case studies and simulations and to obtain WHMIS certification.

HN2100 COLLECTIVE AGREEMENT ADMINISTRATION
Prerequisite: HN1100
This course will examine in depth the issues involved in the interpretation, application and administration of a collective agreement. The student will explore public service collective bargaining, regulating the collective agreement, collective agreement administration, collective agreement clauses and the legal issues in interpreting and administering collective agreements. Students will have the opportunity to apply and interpret various collective agreement administration techniques, practices and clauses using case studies and application assignments.

HN2110 DISPUTE RESOLUTION
This course will examine the various types of third-party assistance available to both management and unions in resolving disputes. The learner will explore union management cooperation, industrial conflict/disputes, conciliation/mediation, picketing/boycotts, grievances and grievance (rights) arbitration and alternative dispute resolution. Students will have the opportunity to apply and research various dispute resolution techniques and practices.

HN2130 RECRUITMENT AND SELECTION
Prerequisite: 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, HN1400, SE1130
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.
Courses Descriptions

Students will have the opportunity to research various attendance management and disability management practices and procedures.

HN2150 TRAINING AND DEVELOPMENT
Prerequisite: 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
Prerequisite: 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
Prerequisite: 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
Prerequisite: 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.

HR2400 PROFESSIONAL DEVELOPMENT
This course is designed to prepare students for the workplace. The focus is on acquiring the skills of a successful professional employee. Students will learn how to assess and refine their own skills and to match these skills with employment opportunities.

HS1270 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.

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.

IN1115 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.

IN1120 PROCESS CONTROL FUNDAMENTALS
This course is designed to provide students with an understanding of process control fundamentals. Topics in
Courses Descriptions

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).

**IN1125 INSTRUMENTATION DRAWINGS**
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**
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**
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**
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**
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**
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**
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**
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.

**IN1165 PRESSURE CONTROL LOOP**
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**
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**
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**
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**
This course is designed to provide 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.

**IN1190 ADVANCED CONTROLS**
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**
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.
Courses Descriptions

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
Prerequisite: 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 MACHINERY VIBRATION
Prerequisite: 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
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
Prerequisite: 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 KB1151.

LS1000 IELTS PREPARATION
This course is for program students who do not have the required IELTS Academic band for graduation. Through a combination of an integrated language learning approach and IELTS Academic test-taking strategies, students will improve their listening, reading, writing and speaking skills in order to obtain the required IELTS Academic band for graduation.

LW1240 QATAR BUSINESS LAW
This course will introduce students to the legal system used in Qatar with the emphasis on those laws affecting business. Students will understand the source(s) of law and how they are applied, especially those laws with the most impact on businesses in Qatar.

MA1025 PREPARATORY MATHEMATICS I
Prerequisite: College Academic Math Placement Test Result
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 first of two preparatory courses designed to provide the fundamentals of mathematics.

MA1026 PREPARATORY MATHEMATICS II
Prerequisite: 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
Prerequisite: 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 designed 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.

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
Prerequisite: 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
Courses Descriptions

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
Prerequisite: 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
Prerequisite: 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
Prerequisite: 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.

MC1120 COMPUTER APPS FOR ENGINEERING
The course is designed to introduce engineering technology students to software packages that can be used to create word processing documents, spreadsheets, technical drawings and presentations. At the end of the course, students will produce a portfolio by integrating projects and work developed throughout the semester.

MC1240 COMPUTER APPLICATIONS I
This course will introduce students to the use of e-mail and the Internet; manipulating files in the Windows operating environment; basic word processing techniques; and basic presentation creation techniques. Students will apply concepts through practical application.

MC1242 COMPUTER APPLICATIONS II
Prerequisite: 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 software packages that can be used to create technical drawings, spreadsheets, database and web sites.

MC1830 FUNDAMENTAL COMPUTER APPLICATIONS
This course will introduce the students to: the fundamental concepts of the Windows operating environment, database applications, basic word processing techniques, the use of e-mail and the internet and basic presentation creation techniques. Students will apply concepts through practical application.

ME1125 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.

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.

ME1135 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.

ME1140 MACHINE TOOLS
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.
Courses Descriptions

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
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
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
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.

ME1160 WORKPLACE ORIENTATION
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
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
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
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.

ME1180 FILTER & STRAINER MAINTENANCE
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
This course provides students with the necessary theoretical knowledge and practical skills to perform basic maintenance procedures on an IC engine. Students will be expected to dismantle, inspect, repair, and assemble positive and non-positive displacement (centrifugal) pumps.

ME1190 SEAL MAINTENANCE
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
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.

ME1210 PUMP MAINTENANCE
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
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
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
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
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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: ME1125, ME1135, 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
Prerequisite: 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, MWXXXX, 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
Prerequisite: PO1100 or equivalent
This course is designed to develop the basic skills needed to operate and maintain steam generation systems.

MH2400 INSTALLATION AND OPERATION OF ROTATING EQUIPMENT
Prerequisites: PF1180, MH1110
This course is designed to provide experience in the installation and operation of rotating machines, flow lines and auxiliary equipment. The emphasis will be on development of practical skills that facilitate independent installation and operation of mechanical equipment.

MH2810 PROCESS PLANT SYSTEMS – PETROLEUM PROCESSING FACILITIES
Prerequisite: MH2310
This course is designed to introduce students to the principles, operation and general maintenance requirements of selected petroleum processing equipment used at onshore refineries. The student will become acquainted with the purpose, operation and maintenance required to operate the common equipment systems and components used in a refinery.

MH3340 POWER PLANT SYSTEMS
Prerequisite: MH1110 or PO1100
This is a course designed to develop the basic skills needed to operate and maintain power plant systems.

MH4425 MAINTENANCE OF ROTATING EQUIPMENT
Prerequisite: MW1710
This hands-on introductory course is designed to provide the student with practical skills in the mechanical maintenance of rotating equipment. Using both non-intrusive and intrusive diagnosis, the student will inspect equipment, perform routine maintenance tasks and disassemble/reassemble various types of rotating machines.

MH4500 PRIME MOVERS
Prerequisite: 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
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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
Prerequisite: 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 business ethical principles/concepts as well as the many ethical issues/dilemmas facing organizations today. The course will also explore the various government regulations and laws impacting and restricting business operations as well as stakeholders and corporate social responsibility/governance, ethical issues in the workplace, business ethics and the law, ethical decision making, ethics program and audits and globalization and emerging trends. Students will have the opportunity to research, analyze and critique various organizational practices and policies, particularly codes of conduct and codes of ethics.

MN3200 PERFORMANCE MANAGEMENT
Prerequisites: HN1240, 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
This course covers the characteristics and application of AC and DC motors. The course begins with a review of electromechanical fundamentals and progresses on to the major types of DC and AC motors commonly found in industry.

MP2160 ELECTROMECHANICAL MOTOR CONTROLS
Prerequisite: MP1200
This course introduces the student to motor control concepts and electromechanical 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
Prerequisite: 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.

MP22230 POWER SYSTEM HARMONICS
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.

MP2250 ELECTRIC POWER GENERATION FACILITIES
Prerequisite: MP2370
This course familiarizes the student with the electrical equipment and systems found in a typical Gulf electrical generation/desalination plant. Prime movers, generators, transformers and buses are covered primarily from the standpoint of construction and operational characteristics. Extensive use will be made of the TERCO simulator in developing student awareness in the operation of bulk power plant generation systems.

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
Prerequisite: PE3120
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
Prerequisite: 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.
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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
Prerequisite: 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
Prerequisite: 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
PREREQUISITE: 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
Prerequisite: MR2100
Co-Prerequisite: 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.

MR2350 E-BUSINESS
Prerequisites: MR2100, MC1241
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, MC1241
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 and application assignments and a major project.
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MR2450 SERVICES MARKETING
Prerequisite: MR2100
This course is designed to enable the student to apply the concepts and strategies 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
Prerequisite: 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
Prerequisite: 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
Prerequisite: 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.

MR3100 CURRENT TOPICS IN MARKETING
Prerequisites: MR1500, MR2300, MR2200, MR2350, MR2400, MR2450, MR2800
Co-requisites: MR2620, MR2700
This student-led, seminar-based course will examine issues, topics and trends in the area of marketing that are of recent and current concern to marketing 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 consumer behavior; professional selling; sales management; retailing; E-Business; marketing communications; services marketing; business to business marketing; and international marketing. In addition students will have the opportunity to research and critique a current journal article.

MW1700 INDUSTRIAL MECHANICS: POWER TRANSMISSIONS, SEALS AND BEARINGS
Prerequisite: 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. Transmissions will be aligned to their prime movers using dial and laser alignment technology. The student will also determine proper maintenance and selection of components and lubricants from manufacturers’ specifications and catalogues.

MW1710 CONDITION MONITORING
Prerequisite: MW1700
This course in industrial mechanics involves vibration and alignment of industrial machinery. In the alignment area the student will be involved with installing, maintaining and replacing motors and aligning shafts using dial indicators, levelling and optical laser alignment equipment. Alignment is a key factor in machinery vibration and the student will be using dynamic vibration testing equipment to analyze vibration sources and corrective actions. The vibration analyses will also form part of the preventative and predictive maintenance scheduling for plant equipment.

MW1720 CONVEYOR SYSTEMS
Prerequisite: MW1700
This is an introductory course that provides the student with the fundamentals of conveyor system design, operation and maintenance. The student will use industrial catalogues to select conveyor systems for particular industrial applications. The shop work is designed to apply the skills learned in mechanical studies to the maintenance of conveyor systems.

MW2240 INDUSTRIAL MECHANICS
Prerequisite: 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
Prerequisite: 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.

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in professional practice. Throughout the entire clinical component of the Medical Radiography program (48 weeks total), students will maintain documentation which demonstrates both the quality and quantity of clinical experience acquired, thus ensuring on-going maintenance of competencies acquired.

MX1620 CLINICAL ORIENTATION
Prerequisite: Successful completion of semester three
Co-requisite: 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
Prerequisite: Successful completion of Semester four
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 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.

MX2102 RADIOGRAPHIC ANATOMY AND PATHOLOGY
Prerequisite: Successful completion of 3rd semester
In order for a technologist to competently perform any diagnostic radiographic examination, a complete and thorough knowledge of human anatomy is required. It is also essential that he/she be able to identify anatomical structures on the radiograph; differentiate between the normal and abnormal radiographic images; use his/her knowledge of tissue densities, either normal or pathological, be able to accurately locate hidden structures by relating to surface landmarks. In addition, the pathologies relevant to the skeletal, respiratory systems and their radiological significance will be discussed.

MX2103 RADIOGRAPHIC ANATOMY AND PATHOLOGY
Prerequisite: MX2102
This course is a continuation of MX2102, where the student will continue to learn a complete and thorough knowledge of human anatomy. Anatomical structures will be located by relating to surface landmarks. Identification of anatomical structures on the radiographic image as well as the ability to differentiate between normal and abnormal anatomical appearance is required.

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: Digestive, Respiratory, Urinary, Reproductive, Nervous and Endocrine Systems. Associated pathologies, in particular those which may be demonstrated radiographically, are studied, as well as cross-sectional anatomy of the skull, chest, abdomen and spine as related to CT imaging.

MX2110 RADIOGRAPHIC TECHNIQUE
Prerequisite: BL2100
Co-requisites: MX2102, MX2410, MX2310, MX2200
This course is designed to introduce the student to the fundamental practices involved in the performance of radiographic imaging. Instructional areas include: terminology, IR identification, patient/technologist relationship, examination protocol, radiation protection and technologist responsibility. Emphasis will be placed on basic, alternate and specialized imaging of the appendicular and axial skeleton and respiratory system.

MX2120 RADIOGRAPHIC TECHNIQUE
Prerequisite: MX2110
Co-requisite: MX1621, MX2103, MX2201, MX2301
This course will consist of instruction in the basic, alternate and special positioning required to radiographically demonstrate the skull and facial bones, 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 radiography and CT imaging.

MX2200 IMAGE RECORDING
Prerequisite: 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 diagnostic 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-requisite: MX2301
This course is a continuation of MX2200. It is designed to provide the student with comprehensive knowledge of quality assurance processes associated with
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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: MX2200, MX2310
This course is developed to 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 basic and present-day sophisticated equipment safely, effectively and efficiently. The student will be taught the physics of operation of advanced imaging modalities such as computed tomography and digital fluorographic units, as well as mammographic and bone mineral densitometry units.

MX2310 APPARATUS AND ACCESSORIES
Prerequisite: 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
Prerequisite: Successful completion of 3rd semester
Co-requisites: MX2110, MX2102
This course provides students 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-requisite: 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.

MX3250 CLINICAL RADIOGRAPHY
Prerequisite: 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 (48 weeks total), students will maintain documentation which demonstrates both the quality and quantity of clinical experience acquired, thus ensuring on-going maintenance of competencies acquired.

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 penetrant, 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 communication methods, the use of reference resources and the need to enhance desirable personality traits and attitudes.
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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: OF1100, 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, OF1101
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
Prerequisite: 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.

OJ1010 PETROLEUM WORK EXPOSURE
This course is the comprehensive work exposure for Petroleum Technical Assistant students in a setting within the oil and gas sector. 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 Petroleum Technical Assistant Diploma program and gain an appreciation of the real work environment directly related to the area of training. 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.

OJ1030 BANKING WORK EXPOSURE I
Prerequisites: Successful completion of all courses in the Banking academic semesters 1 to 2
The work exposure is a required portion of the Banking Certificate 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 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 BANKING WORK EXPOSURE (CERTIFICATE)
Prerequisite: 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...
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enhance technical, team-building, problem-solving and customer-service skills; increase accountability; and strengthen positive attitudes and work ethic.

OJ1130 WORK EXPOSURE (CERTIFICATE)
Prerequisite: 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.

OJ1520 WORK EXPOSURE
Prerequisite: Successful completion of all courses with a minimum GPA of 2.0
Students are expected to complete four weeks of work exposure for completion of the diploma requirements.

OJ1550 WORK EXPOSURE - HRM
Prerequisite: 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 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.

OJ1560 WORK EXPOSURE - MARKETING
Prerequisite: 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
Prerequisite: 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)
Prerequisite: Successful completion of all courses in semester 1 – 5 of the Office Administration (Executive) Diploma program with a minimum Grade Point Average of 2.00.
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.

PA1125 EMS BASICS
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 disinfecting equipment and utilizing basic equipment commonly found in emergency vehicles.

PA1210 HEALTH AND FITNESS I
This course introduces students to the concepts of physical fitness and the importance of developing and maintaining a healthy lifestyle. This course also
Courses Descriptions

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
Prerequisite: 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
Prerequisite: 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
Prerequisite: 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 I
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: 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.

PA1415 INTERAGENCY RELATIONS
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.

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 PLACEMENT
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.
### Courses Descriptions

**PA1515 SPECIAL POPULATIONS**  
*Prerequisites: PA1430, PA1440*  
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**  
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*  
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. A major focus of the course is the identification of conditions that require immediate transport (“load-and-go”) in order to save the patient. Lifesaving techniques are taught or reviewed in practical exercises.

**PA2005 OBSTETRICS AND PEDIATRICS**  
*Prerequisites: PA1430, PA1440*  
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.

**PA2020 SIMULATION LAB**  
*Prerequisites: All Semester 1-3 courses*  
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.

**PA2025 PRACTICUM**  
*Prerequisite: 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 integrate skills learned in previous and concurrent courses. Students will 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 PATIENT ASSESSMENT**  
*Prerequisites: PA2025*  
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 TECHNIQUE**  
*Prerequisites: PA2025*  
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.

**PA2040 ASSESSMENT-BASED MANAGEMENT I**  
*Prerequisites: PA2030, PA2035*  
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*  
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*  
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*  
As the second of two Assessment-based Management courses, this course will give students the knowledge and skills
Courses Descriptions

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
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.

PE1120 WORKPLACE PRODUCTIVITY TOOLS
This course is designed to give students a working knowledge of the software packages commonly utilized by Technical Assistants in the petroleum industry.

Word processing, spreadsheets, Structured Query Language (SQL), project management and presentation packages are among the topics covered in a fundamental manner by this course.

PE1130 UPSTREAM PETROLEUM OVERVIEW
This course will assist students to identify the components of a petroleum reservoir, the drilling equipment and procedures required to explore for oil and gas. They will also understand the steps used to evaluate a well and the procedures and equipment required to complete a well and bring it into production.

PE1150 PETROLEUM PROFESSIONALISM
This course is designed to provide students with the skills and knowledge necessary to effectively work in today’s petroleum environment. Students will be exposed to professional ethics and conduct expectations in the petroleum workplace.

PE1170 FORMATION EVALUATION I
This course will introduce the student to the concepts of formation evaluation and the physical principles of the following: cores and cuttings, mud logging, open hole well logging and drillstem tests.

PE2110 RESERVOIR ENGINEERING I
Prerequisites: GE1510, PH1160, PE1170
This course covers the characteristics of oil and gas reservoirs from fluid and rock characteristics through reservoir definition, delineation and classification. Data collection, integration and application directed toward maximizing recovery will be focused on. Basic reservoir engineering equations will be introduced with emphasis directed to parameter significance and an understanding of the results.

PE2150 BASIC DRILLING OPERATIONS
Co-requisites: PE2160
This course covers all aspects of rig operation and fundamental operations associated with drilling a well for petroleum exploration and production in onshore and offshore environments.

PE2160 COMPLETION AND PRODUCTION OPS
Co-requisites: PE2150
This course gives students an overview and fundamental understanding of equipment and operation procedures for well completions onshore and offshore.

PE2170 FORMATION EVALUATION II
Prerequisites: PE2160, PE1170
This course introduces the student to the concepts of reservoir and production evaluation using cased hole logging tools.

PE2180 PETROLEUM TECHNICAL APPLICATIONS
This course is designed to introduce the student to the basic principles of statistics, purchasing, inventory, accounting and finance used in the oil and gas industry.

PE2190 FIELD PRODUCTION PROCESSING
Prerequisites: CH1070, PE2160
Co-requisites: PE2170
This course provides an overview of the surface equipment, fluids, testing procedures and production problems associated with producing oil and gas.

PE2210 RESERVOIR ENGINEERING II
Prerequisites: PE2110, PE1170
This course builds on the fundamental concepts of reservoir engineering technology and includes: reserves determination, estimation of oil and gas in place, an understanding of the permeability variations in a reservoir, the types of flow regimes in a reservoir, the ongoing need for oil and gas testing and an appreciation of the types of reservoir modeling software used in the petroleum industry.

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.
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PE2300 HV EQUIPMENT TESTING AND MAINTENANCE
Prerequisites: MP2220, MP2250
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.

PE2460 PLANT ELECTRICAL SYSTEMS
Prerequisite: ET1101
This course introduces the student to the plant electrical systems needed to support a modern production process, one that focuses on distributing, converting and controlling electrical energy in an effort to improve product quality and reduce operating costs. Topics include energy sources, power distribution in an industrial plant, energy conversion using motors, motor protection and control requirements and digital controllers used for energy management (demand controller) and motor control (PLC).

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
Prerequisite: 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
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.

PE3120 FACILITIES ELECTRICAL SYSTEMS I
Prerequisite: 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
Prerequisite: 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
Prerequisite: MH1110
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.

PH1101 PHYSICS
Prerequisites: MA1700, PH1100
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.

PH1140 APPLIED PHYSICS
Co-requisite: MA1700
This course introduces students to the physical science concepts applicable to the fields of electrical and instrumentation technology.

PH1160 APPLIED PETROLEUM PHYSICS
This course introduces students to the physical science concepts applicable to the understanding of a petroleum reservoir and the production of oil and gas.

PH1200 PHYSICS
Prerequisites: PH1100 or PH1120
This is a second-semester algebra based 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.

PH1201 PHYSICS
Prerequisite: 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.
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PH2200 RADIATION PHYSICS
Prerequisite: 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.

PM2160 PREVENTIVE AND PREDICTIVE MAINTENANCE I
Co-requisite: MW1710
This is an introductory course emphasizing application of preventive and predictive maintenance (PPM) techniques to industrial equipment and systems. Students will learn about, and practice, work order generation, maintenance and record keeping and methods of performing preventive and predictive maintenance tasks. Students will utilize a computerized maintenance management program as an aid to managing work tasks. This course offers practical experience in the preventive maintenance of a variety of mechanical devices.

PM2161 PREVENTIVE AND PREDICTIVE MAINTENANCE II
Prerequisite: PM2160
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 a comprehensive maintenance program. Students will have opportunity to design and prepare a comprehensive PPM in application of the principles taught.

PM2170 PREVENTIVE MAINTENANCE
Prerequisite: MH2010 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.

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 a comprehensive maintenance program 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.

PO1100 PROCESS EQUIPMENT
Prerequisites: MA1101, PO1120, PO1130
This 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.

PO1110 PROCESS CONTROL SYSTEMS
Prerequisites: CI1180
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 presents the basic concepts, design, operation and maintenance of industrial high pressure boilers such as those found industrial plants and chemical process plants.

PO1150 PROCESS SYSTEMS AND EQUIP II
Prerequisites: PO1140
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.

PO1130 PROCESS CONTROL SYSTEMS INTRODUCTION
Prerequisites: CI1180
This course is designed to introduce students to the principles of design, operation and maintenance of industrial process equipment such as those found in chemical process plants. Safety in the laboratory and plant is emphasized.

PO2100 CHEM PROCESSING CALCULATIONS
Prerequisite: 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.
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**PO2200 PROCESS SYSTEMS: TROUBLESHOOTING**  
Prerequisite: PO2100  
This course provides students with troubleshooting skills required to identify problems and take the necessary actions to operate a processing plant.

**PO2400 PROCESS UNIT DESIGN**  
Prerequisites: PM2561, PO2100  
Co-requisites: EC1700, PM2511  
This course presents the concepts and techniques necessary to design the 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.

**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.

**PO2480 PROCESS SIMULATION**  
Prerequisite: PO2400  
Co-requisite: PR3721  
This is a course develops students’ cold start-up, normal operation, handling of upsets and emergency shutdown capability in a number of processes that are common in local industry. The students will also be required to utilize simulation software to assist in analyzing process dynamics. The course reflects students need to either specialize in a specific career stream or be exposed to a broad overview of industry practices.

**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.

**PO2560 DESALINATION PROCESS**  
Prerequisites: PM2561, PM2511  
This course helps students fully understand the desalination processes used in large-scale industrial settings.

**PR2140 PROJECT MANAGEMENT**  
Prerequisite: MA1101  
The purpose of this course is to learn various techniques used to ensure that a project is completed on time, within budget and with high quality. This is achieved with practice of a variety of techniques to manage the budget, schedule and quality of projects for which the student is responsible.

**PR3150 PROJECT MANAGEMENT AND FINANCIAL ANALYSIS**  
Prerequisite: 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.

**PR3155 PROJECT MANAGEMENT**  
Prerequisite: CM1400  
The course 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 explore various aspects of project management, such as scope, time, cost, quality and communications and will use project management software to manage a project.

**PR3214 CAPSTONE PROJECT I**  
(Chemical Processing)  
Prerequisite: All courses in previous academic semesters and a minimum cumulative GPA of 2.0  
The capstone project enables the student to 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.
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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)  
Prerequisite: 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 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 Center. 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.

PR3245 CAPSTONE PROJECT II (MECHANICAL)  
Prerequisite: 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. 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 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)  
Prerequisite: 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.  

This course will be co-delivered by a technical instructor and a communications instructor.

PR3261 CAPSTONE PROJECT II (TELECOMMUNICATIONS)  
Prerequisite: 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. 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 and it is mandatory that students attend these meetings.  

This course will be co-delivered by a technical instructor and a communications instructor.
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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. 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.

PR3270 CAPSTONE PROJECT I (ELECTRICAL)
Prerequisite: 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 Electrical 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 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.

PR3271 CAPSTONE PROJECT II (ELECTRICAL)
Prerequisite: 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 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)
Prerequisite: 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. 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.

PR3281 CAPSTONE PROJECT II (PROCESS AUTOMATION)
Prerequisite: PR3280 - Capstone Project I (Process Automation)
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 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.
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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.

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
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
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
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
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
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.

PT1145 ELECTRICITY SUPPLY SYSTEMS
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
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
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.

PT1165 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,
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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
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
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.

PT1170 PUMP OPERATION
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
This course is designed to introduce students to prime movers, including their components, features, and operations. Students will be provided with the necessary skills to operate and control different types of prime movers commonly used in the process plant industry. The course covers the basic function and operation of electric motors, diesel engines, steam turbines, and gas turbines.

PT1180 PUMP OPERATION
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 safely operate centrifugal, axial, reciprocating, and rotary compressors.

PT1190 PROCESS INSTRUMENTATION
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
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.

PT1205 COMPRESSORS
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 safely operate centrifugal, axial, reciprocating, and rotary compressors.

PT1210 TURBO EXPANDERS
This course is designed to introduce students to the basic principles and operation of turbo expanders used in the process industry. Topics covered in this course include lube oil and seal oil systems, the operation and monitoring of turbo expanders, as well as hazards associated with their operation.

PT1215 DISTILLATION SYSTEMS
This course is designed to introduce students to the operation, monitoring, and control of distillation columns and their operation, monitoring, and safety aspects related to distillation systems. Students will be provided with the necessary knowledge base and hands-on skills to operate a distillation system.

PT1220 GAS ABSORPTION & LIQUEFACTION
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.

PT1225 HEATING FURNACES
This course is designed to introduce students to the basic principles and features of heating furnaces and their operation, monitoring, and control and safety aspects. Students will be provided with the necessary knowledge base and hands-on skills to operate heating furnaces used in the process industry. The course will also cover safety aspects related to heating furnace operation.

PT1235 REACTORS
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 & LIQUEFACTION
This course is designed to introduce students to the operation and control of distillation columns and systems employed in the process industry. Topics include the main features, components, 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.

PT1245 DISTILLATION SYSTEMS
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
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
This worksite practicum presents an opportunity for Technician Certificate (Process Operations) students to demonstrate competencies acquired on
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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).

PT1300 GAS TURBINES
Prerequisites: PT1150, PT1155, PT1160, PT1165, PT1190, PT1195
This course introduces the student to the operation of gas turbine units used in the natural gas processing and petrochemical industries. Main features, components and functions, operation and monitoring of gas turbine systems are covered in this course. Students will describe gas turbine units and practice operating and monitoring these units.

PT1305 LIQUEFIED NATURAL GAS PLANT OPERATIONS
Prerequisites: PT1150, PT1155, PT1160, PT1165, PT1190, PT1195
This course introduces Liquefied Natural Gas (LNG) processes. LNG unit operation, control, and monitoring are covered in this course. Students will describe the LNG processes and practice operating and monitoring LNG units.

PT1310 GAS TO LIQUID PLANT OPERATIONS
Prerequisites: PT1150, PT1155, PT1160, PT1165, PT1190, PT1195
This course introduces Gas to Liquid (GTL) processes. GTL unit operation, control, and monitoring are covered in this course. Students will describe GTL processes and practice operating and monitoring GTL units.

PT1315 OIL AND GAS SEPARATION SYSTEMS
Prerequisites: PT1150, PT1155, PT1160, PT1165, PT1190, PT1195
This course introduces the operation and monitoring of separator systems in the oil and gas industry. Different types of separators and their components, two-phase and three-phase separators, and their operation and monitoring are covered in this course.

PT1320 ACID GAS REMOVAL AND ENRICHMENT
Prerequisites: PT1190, PT1195, PT1240, PT1245, PT1250
This course introduces the student to Acid Gas Removal (AGR) and Acid Gas Enrichment (AGE) processes in the natural gas processing industry. Processes, operations, control and monitoring of AGR and AGE are covered in this course. Students will describe AGR and AGE units and practice operating and monitoring these units.

RT1100 INTRODUCTION TO RT
Co-requisite: 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-requisite: 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
Prerequisite: 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
Prerequisite: BL1180
This course will enable students 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. Respiratory therapy management of neuromuscular disorders will also be discussed.

RT1140 AIRWAY MANAGEMENT I
Prerequisite: 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
Prerequisite: 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
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
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.
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RT2130 CLINICAL APPLICATION II
The course is a continuation of Clinical Application I and is designed to further assimilate the respiratory therapy student to the clinical setting (adult/pediatric), 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.

RT2140 CARDIAC DIAGNOSTICS
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.

RT2150, CARDIOPULMONARY PATHO II
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. Important topics such as the effects of thermal injury and hypo/hyperbarism will also be discussed.

RT2160, MECHANICAL VENTILATION II
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
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
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
This course focuses on advanced modes and management strategies used in the mechanically ventilated patient.

RT2240 CARDIOPULMONARY RESUSCITATION
This course enables respiratory therapy students to develop the knowledge and skills necessary to better recognize and treat critically ill adults, infants and children. Through integration of laboratory, simulation and classroom presentation, emergency management of adult, neonatal and/or pediatric patients approaching or already in respiratory or cardiac arrest will be discussed. Students will become familiar with the early minutes of resuscitation, through patient stabilization and/or the transport in or out of the hospital.

RT2250 CLINICAL APPLICATION IV
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
Prerequisite: Successful completion of 3rd semester
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
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.

RT2470 NEONATAL RESPIRATORY CARE
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; thermoregulation; neonatal cardiopulmonary pathophysiology, neonatal ventilation.

RT3000 PRACTICUM I
This course is part one of two full-time, fifteen (15) week practicums that will provide the student with the opportunity to apply theoretical knowledge and lab/clinical competencies acquired in Semesters 1 – 6 in selected clinical environments. Learners will be under direct supervision during these rotations but are expected to demonstrate independent critical thinking and assume responsibility for their actions and decisions and to interact positively and effectively with peers, preceptors, faculty and all health care professionals. Students will be assigned to a variety of clinical environments caring for neonatal, pediatric and adult patients. Blended delivery format may include class sessions, discussion, assignments, simulation labs and bedside care. Concepts pertaining to professionalism, communication, analysis and problem-solving and health and safety will be emphasized. It is essential that students be able to apply their “foundation knowledge” to the skills covered in this rotation. To successfully pass this Practicum, students must demonstrate clinical competency at a LEVEL 3 in a minimum of 60% of the Learning Objectives 1-12.
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RT3010 PRACTICUM II
This course is part two of two full-time, fifteen (15) week practicums that will provide the student with the opportunity to further master skills and acquire clinical competency in the remaining skill balance of Practicum I (learning objectives 1-12). Learners may be under indirect supervision during this rotation and are expected to demonstrate independent critical thinking and assume responsibility for their actions and decisions and to interact positively and effectively with peers, preceptors, faculty and all health care professionals. Students will be assigned to a variety of clinical environments caring for neonatal, pediatric and adult patients. Blended delivery format may include class sessions, discussion, assignments, simulation labs and bedside care. Concepts pertaining to time management, prioritization of duties, problem solving and decision making will be highlighted.

To successfully pass this Practicum, students must consistently demonstrate clinical competency throughout this course at a LEVEL 3 (defined below). 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
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
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.

RX1100 PHARMACY REGULATIONS AND PROFESSIONALISM
The student will develop a working knowledge of the various pharmacy regulations related to pharmacy technician practice. The professional role of the pharmacy technician in the workplace will be the focus.

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.

RX1210 PHARMACEUTICAL CALCULATIONS
Prerequisite: MA1730
The student will develop a working knowledge of the various systems of metric and imperial weights as well as measurements encountered in pharmacy. An overview of the apothecary system will be included for historical purposes. 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.

RX1220 PHARMACEUTICAL CALCULATIONS
Prerequisite: 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.

RX1251 PHARMACY COMPUTER SYSTEMS
Prerequisite: 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.
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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.

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.

RX2120 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.

RX2121 PHARMACY FUNDAMENTALS APPLICATION
Prerequisite: RX2120
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.

RX2160 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 action, disease types and body systems. The goal is to provide pharmacy technicians with sufficient background information so that they will be able 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.

RX2161 PHARMACOLOGY II
Prerequisite: RX2160
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-requisites: 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 (OTCs) 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.
Courses Descriptions

RX2300 ASEPTIC TECHNIQUE
**Prerequisite:** 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.

SD1170 TECHNOLOGY AWARENESS I
This course (with Technology Awareness II) raises career awareness levels for engineering technology students by providing information regarding the engineering technology profession. This course will prepare students for the workplace by illustrating how the skills and practices of successful students parallel the skills and practices of successful professionals.

SD1171 TECHNOLOGY AWARENESS II
**Prerequisite:** SD1170
This course (with Technology Awareness I) raises career awareness levels for engineering technology students by providing information regarding the engineering technology profession. This course will prepare students for the workplace by illustrating how the skills and practices of successful students parallel the skills and practices of successful professionals.

SD1420 WORKPLACE SKILLS
This course develops sound customer service skills in the student and assists the student in preparing for job search and the office environment. Practical exercises, cases, and behavioural modelling are conducted to assist the student's skill development and knowledge of customer service and expected work ethic, attitude and skills.

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 Comprehensive Arts and Science 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 a portfolio during this course which should prove to be of value to them throughout their college life.

SD1910 WORKPLACE SUCCESS AND THE ADMINISTRATIVE ASSISTANT
**Prerequisite:** OF2100
This course is designed to provide students with the skills and knowledge necessary to successfully enter the workplace as an Administrative Assistant professional. The purpose of this course is to reinforce many previously-learned office management concepts prior to students entering the workplace.

SE1035 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.

SE1080 PETROLEUM WORKPLACE SAFETY I
This is an introductory course that explores Health, Safety and Environment in the petroleum workplace and the role of both the employer and the employee in the process.

SE1081 PETROLEUM WORKPLACE SAFETY II
This course is designed for students to demonstrate the workplace safety skills desired by the petroleum sector of Qatar industry. The industry certificates awarded as a result of success in this course will allow students to access worksites that may be required for completion of their Industry Work Exposure.

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.

SE1160 PRINCIPLES OF OHS
This course enables students to access worksites that may be required for completion of their Industry Work Exposure.
SE1350 TOXICOLOGY
Prerequisite: 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.

SE1400 AUDITING OHS AND E-MANAGEMENT SYSTEMS
Hazard recognition, evaluation and control and the legislated management responsibilities and accountabilities with respect to this area are of prime importance to the occupational health and safety professional. The course is designed to provide students with a working knowledge of audits as a tool to ensure that organizations’ practices/ procedures/policies are aligned with corporate standards and in compliance with legislative requirements. The course will focus on audit preparation, conducting and reporting on the audit and post-audit activities.

SE1520 FIRE PROTECTION
Prerequisite: CH1200
This course gives students an in-depth understanding of how to prevent fires and how to minimize loss in the event of a fire. A foundation is given to participants in the chemistry of combustion, basic fire science and sources of ignition before moving on to topics such as fire investigation, fire protection building design and automatic fire protection equipment and systems. Throughout the course students will become familiar with international codes and standards related to fire protection.

SE1610 WORKPLACE HAZARDS AND CONTROLS
This course covers the foundational principles of occupational health and safety: hazard identification, assessment and control. Students learn methods of identifying hazards, assessing the risk of hazards and minimizing the risk of hazards by implementing effective controls. These fundamental principles are applied to specific examples in the construction, manufacturing, health care and oil and gas industries.

SE2350 MEASUREMENT AND ANALYSIS I
This course explores the basic concepts of industrial hygiene (measurement and analysis). In addition to introductory concepts, such as the basic tenets of industrial hygiene and the categories of occupational hazards, students will learn how to measure and analyze the risk of air contaminants, heat, noise and lighting. Participants become familiar with the instruments used to measure these hazards and the methods used to compare the measurement results with internationally recognized standards of safe exposure.

SE2351 MEASUREMENT AND ANALYSIS II
Prerequisite: SE2350
This course is a continuation of Measurement and Analysis I. Major topics include: the principles, applications and use of direct reading instruments; basic applications of data evaluation; ventilation systems; biological monitoring; and radiation. Using their knowledge and experience from Measurement and Analysis I and II, the students are expected to complete an occupational hygiene survey of the chemical, biological, physical and ergonomic hazards associated with the School of Health Science.

SE2360 HAZARDOUS MATERIAL MANAGEMENT
This course explores the four aspects of hazardous materials management: transport, storage, use and disposal. It is largely based on the Globally Harmonized System (GHS), 2009, developed by the United Nations. An emphasis on classification of hazardous substances and mixtures focuses on physical hazards, health hazards and environmental hazards, as defined by the GHS. Further, hazard communication in the form of labeling and Safety Data Sheets is covered. The course supplements the requirements of the GHS with other national and international laws and standards concerning the safe transport, use, storage and disposal of hazardous materials.

SE2420 INSPECTION AND INVESTIGATION
Prerequisite: SE160
This course explores two key components of an effective occupational health and safety management system: workplace inspections and incident investigations. Students will learn the principles of how to develop, prepare and conduct workplace inspections. Canadian laws and international standards will be used to demonstrate best practices with respect to workplace inspections. Students will also learn the principles of how to carry out an effective incident investigation. A Canadian national standard on incident investigations will be used to demonstrate how to collect and analyze evidence and how to develop effective recommendations in order to prevent recurrence.

SE2450 ERGONOMICS
This course emphasizes the strategies and techniques involved in assessing the interface between workers and their machines, tasks, tools and equipment. Ten ergonomic principles will be reviewed and applied to various work examples. Students will develop and conduct an ergonomic assessment in an office environment. In addition, ergonomics in the design and engineering of workplaces will be discussed.
Courses Descriptions

SE2520 OHS MANAGEMENT SYSTEMS  
Prerequisite: SE1160  
This course introduces students to occupational health and safety management systems (OHSMS). The most recent versions of OHSAS 18001 and 18002 are reviewed, three elements of which are analyzed. The tools necessary to conform to each element of the standard are addressed. Participants will gain experience in the efforts involved in developing, implementing and maintaining an effective OHSMS in accordance with an internationally recognized standard. Because OHSAS 18001 is compatible with ISO14001 (environmental management system) and ISO9011 (quality management system), students will experience the framework of integrated management systems.

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  
Prerequisite: 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.

SP1730 CNC MACHINES 1  
Prerequisites: SP1200  
This is an introductory course in Computer Numerical Control (CNC). Programming concepts learned through the lecture time will be applied using both a CNC Milling Machine.

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.

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.

SP2700 COMPUTER NUMERICAL CONTROL/ COMPUTER-AIDED MANUFACTURING  
Prerequisites: SP1200, EG3100  
This is an advanced course in mechanical design and manufacture that builds on practical skills acquired in SP1200 and EG3100. This course introduces the student to an automated machining process called computer numerical control (CNC) and integrates CATIA (or other substitute) as a 3-D drafting and computer-aided manufacturing (CAM) package to design and manufacture a product. The student will also be involved in initial setup, design, program generation, drafting and machining of a final product.

TC-AE0001 ACCESS ENGLISH I  
Prerequisite: 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. 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  
Prerequisite: TC-GE1001  
Co-requisite: TC-TE2000  
This course provides trainees in the Technician Certificate program foundational mathematical skills through
Courses Descriptions

an enhanced learning experience that emphasizes the use of contexts and applications, which enables trainees to relate mathematical skills to their discipline.

TC-MA1000 TECHNICIAN CERTIFICATE MATHEMATICS II
Prerequisites: TC-MA1000 Technician Certificate Mathematics I, TC-TE2000 Technical English I
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
Prerequisite: A placement score of CEFR A1.2 on the CNA-Q TCP placement rubric or successful completion of TC-GE1000.
Co-requisite: TC-GE1000
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
Prerequisite: 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).

TC-TE2001 TECHNICAL ENGLISH II
Prerequisite: Successful completion of TC-TE2000
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
Prerequisite: Successful completion of 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.

TD3130 APPLIED THERMODYNAMICS
Prerequisite: MA1101
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.

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.

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.
Courses Descriptions

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 behavior 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.

WT1170 WORK TERM
Prerequisite: 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 behavior 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.

WT1460 WORK PLACEMENT
Prerequisite: Completion of all courses in the first five semesters and a minimum cumulative GPA of 2.00
A minimum seven-week placement is a required portion of the program. The Work Placement Study Program provides students with the opportunity to gain practical experience in the working environment of a power plant and with the life and work of a power engineer. Employers are provided the opportunity to train and assess students for possible future employment. The program builds on the range of tasks laid down in the Occupational Analysis of power engineers and familiarizes the student with all the machinery and systems that power engineers are required to maintain and operate. The course is mainly concerned with safety, operation and maintenance of plant and equipment. The plant in which the engineer is serving acts as a real-life teaching aid, augments knowledge already acquired and assists students with studies leading to a Certificate of Competency, Third Class.

WT1660 COMMUNITY PHARMACY CLINICAL PLACEMENT
Prerequisite: Successful completion of all previous program courses
This four-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 are placed with a pharmacy health-related agency and their performance is evaluated by the employer. As part of their duties, students will be required to prepare outpatient medicines, intravenous admixtures and unit dose medication carts, as well as maintain inventory, receive payments, complete records and perform other duties related to their work term under the supervision and direction of a pharmacist.

WT1670 HOSPITAL PHARMACY CLINICAL PLACEMENT
Prerequisite: Successful completion of all previous program courses
This eight-week clinical placement is designed to enable the student to apply the fundamental principles of the pharmacy technician learned within the program to the workplace. It will ensure that a graduating student has the opportunity to practice in the hospital setting while under close supervision. Students are placed with a pharmacy health-related agency and their performance is evaluated by the employer. As part of their duties, students will be required to prepare outpatient medicines, intravenous admixtures and unit dose medication carts, as well as maintain inventory, receive payments, complete records and perform other duties related to their program under the supervision and direction of a pharmacist.

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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<tbody>
<tr>
<td></td>
<td>OVERALL</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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<td>BL1180 Anatomy &amp; Physiology</td>
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<td>PA1210 Health &amp; Fitness I</td>
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<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>PA1230 Airway Management</td>
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<td>PA1280 Cardiovascular Emergencies</td>
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<td>PA1371 Pharmacology II</td>
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<td>PA1520 Mental Health</td>
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<td>HG1680 Ethics in Healthcare</td>
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<td>PA1290 Community Paramedicine</td>
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<td>PA1430 Medical Emergencies</td>
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<td>PA1440 Clinical</td>
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<tr>
<td>PA1415 Interagency Relations</td>
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<td>PA1515 Special Populations</td>
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<tr>
<td>PA2000 Traumatology</td>
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</tr>
<tr>
<td>PA2005 Obstetrics &amp; Paediatrics</td>
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</tr>
<tr>
<td>PA2020 Simulation Lab</td>
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<tr>
<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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<tr>
<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

<table>
<thead>
<tr>
<th>COURSE NUMBER</th>
<th>COURSE NAME</th>
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<td>PA2040</td>
<td>Assessment-based Management I</td>
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<td>All practical skill sheets</td>
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<td>PA2045</td>
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<td>PA2050</td>
<td>Clinical Skills Development I</td>
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<td>70% Scenario Exam, competencies</td>
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<td>PA2055</td>
<td>Evidence-based Practice</td>
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<td>Clinical Skills Development II</td>
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<td>Final Practicum</td>
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<td>Clinical Core Values, competencies</td>
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### Dental Hygiene

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<td>DH1100</td>
<td>General pathophysiology</td>
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<td>DH1120</td>
<td>Head and Neck anatomy</td>
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<td>DH1140</td>
<td>Dental Anatomy</td>
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<td>DH1450</td>
<td>Oral embryology &amp; histology</td>
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<td>Microbiology for dental hygiene</td>
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<td>DH1420</td>
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<td>DH1310</td>
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<td>DH1201</td>
<td>Principles and Issues II</td>
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<td>DH1300</td>
<td>General Dentistry introduction</td>
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<td>DH1311</td>
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<td>DH2100</td>
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<td>DH2150</td>
<td>Community Oral health I</td>
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<td>DH2310</td>
<td>Periodontology III</td>
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## Minimum requirements for course completion for Advanced Care Paramedicine and Dental Hygiene diploma courses

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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
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