<table>
<thead>
<tr>
<th>Item</th>
<th>Topic</th>
<th>Time</th>
<th>Speaker</th>
<th>Pre-reading materials</th>
<th>Action</th>
<th>Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Call to Order</td>
<td>1 min</td>
<td>Elle Ting</td>
<td></td>
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<tr>
<td>2.</td>
<td>Acknowledgement</td>
<td>1 min</td>
<td>Elle Ting</td>
<td></td>
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<tr>
<td>3.</td>
<td>Adopt Agenda</td>
<td>1 min</td>
<td>Elle Ting</td>
<td>January 8, 2019 Agenda</td>
<td>Approval</td>
<td>1-2</td>
</tr>
<tr>
<td>4.</td>
<td>Approve Past Minutes</td>
<td>1 min</td>
<td>Elle Ting</td>
<td>December 11, 2019 Minutes</td>
<td>Approval</td>
<td>3-10</td>
</tr>
<tr>
<td>5.</td>
<td>Enquiries &amp; Correspondence</td>
<td>1 min</td>
<td>Elle Ting</td>
<td></td>
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<td>6.</td>
<td>Business Arising</td>
<td></td>
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</tr>
<tr>
<td></td>
<td>a) Enrolment Plan Update</td>
<td>15 min</td>
<td>Brian Beacham</td>
<td></td>
<td>Information</td>
<td></td>
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<tr>
<td></td>
<td>b) ILO Update</td>
<td>15 min</td>
<td>Andy Sellwood</td>
<td></td>
<td>Information</td>
<td></td>
</tr>
<tr>
<td>7.</td>
<td>Committee Reports</td>
<td></td>
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<tr>
<td></td>
<td>a) Curriculum Standing Committee</td>
<td>15 min</td>
<td>Todd Rowlatt</td>
<td></td>
<td>Approval</td>
<td>24-331</td>
</tr>
<tr>
<td></td>
<td>i) Program Update: Heavy Mechanical</td>
<td></td>
<td>Rick Cyr</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Technology Certificate</td>
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<td></td>
<td>b) Policy Standing Committee</td>
<td>5 min</td>
<td>John Demeulemeester</td>
<td>Verbal Report</td>
<td>Information</td>
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<tr>
<td></td>
<td>c) Appeals Oversight Committee</td>
<td>5 min</td>
<td>Andrew Candela</td>
<td>Verbal Report</td>
<td>Information</td>
<td></td>
</tr>
<tr>
<td></td>
<td>d) Program Review and Renewal Committee</td>
<td>5 min</td>
<td>Todd Rowlatt</td>
<td>Verbal Report</td>
<td>Information</td>
<td></td>
</tr>
<tr>
<td>8.</td>
<td>Research Report</td>
<td>5 min</td>
<td>Elle Ting</td>
<td>Verbal Report</td>
<td>Information</td>
<td></td>
</tr>
<tr>
<td>9.</td>
<td>Chair Report</td>
<td>5 min</td>
<td>Elle Ting</td>
<td>Verbal Report</td>
<td>Information</td>
<td></td>
</tr>
<tr>
<td>10.</td>
<td>Student Report</td>
<td>5 min</td>
<td>Ilyes Belhacene,</td>
<td>Verbal Report</td>
<td>Information</td>
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<td></td>
<td></td>
<td></td>
<td>Dharuv Puri</td>
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</tr>
<tr>
<td>11.</td>
<td>Next Meeting: February 12, 2019 3:30-5:30pm</td>
<td>1 min</td>
<td>Elle Ting</td>
<td></td>
<td>Information</td>
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</tr>
<tr>
<td>12.</td>
<td>Adjournment</td>
<td>1 min</td>
<td>Elle Ting</td>
<td></td>
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<tr>
<td>Item</td>
<td>Topic</td>
<td>Discussion</td>
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<tr>
<td>1.</td>
<td>Call to Order</td>
<td>The meeting was called to order at 3:30 p.m.</td>
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<td>2.</td>
<td>Acknowledgement</td>
<td>T. Rowlatt acknowledged that the meeting is being held on the traditional unceded territory of the Sḵwx̱wú7mesh Úxwumixw (Squamish), x̱w̱məθkʷxʷ (Musqueam) and Tsleil-Waututh peoples.</td>
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<td>3.</td>
<td>Adopt Agenda</td>
<td><strong>Motion:</strong> Moved by P. Yeung and seconded THAT Education Council adopt the December 11, 2018 agenda as presented. All in favour. <strong>Motion carried.</strong> K. McNaughton to talk about points 6c) and 6d).</td>
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<td>4.</td>
<td>Approve Past Minutes</td>
<td><strong>Motion:</strong> Moved by I. Belhacene and seconded THAT Education Council approve the November 13, 2018 minutes as presented. All in favour. <strong>Motion carried.</strong></td>
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<td>5.</td>
<td>Enquiries &amp; Correspondence</td>
<td>There were none.</td>
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<tr>
<td>6.</td>
<td>Business Arising</td>
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</tbody>
</table>
|      | a) Short Certificate Omnibus | T. Rowlatt presented the omnibus motion to change the name of the credential from “Citation” to “Short Certificate” for three programs: Acute Care for Health Care Assistants (next intake April 24, 2019), Renal Dialysis Technician (next intake as needed, probably April 2019), CAD Technician (next intake April 8, 2019). EDCO has previously approved the change of the credential name.  

**Motion:** Moved by T. Rowlatt and seconded THAT Education Council approve the renaming of these three program credentials. All in favour. **Motion carried.** |
|      | b) Program Suspension: Interior Design | G. McIvor reported that the Interior Design program is facing several challenges, including instability due to high turnover of Program Coordinators, difficulty evaluating the program in the market, and lack of facilities for experiential learning. Since BC requires a degree for the Interior Designer designation and VCC does not offer a degree program, he recommended suspending the program and planned to request CD funds to complete a needs assessment. One option would be to offer an Interior Decorating program instead of an Interior Design program.  

J. Demeulemeester asked if the program could be brought back in the form of a degree program. G. McIvor responded that the needs assessment has to take place first, but a degree program is not being contemplated at the moment since BCIT is already offering a degree program. |
<table>
<thead>
<tr>
<th>Item</th>
<th>Topic</th>
<th>Discussion</th>
</tr>
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<tbody>
<tr>
<td></td>
<td></td>
<td>T. Thomson inquired about the steps for suspension. T. Rowlatt explained that after the Board approves the suspension, the department has a two-year window to report a plan for adjusting the program or decide to discontinue it. If the department and Dean are in agreement to suspend a program, the EDCO can recommend suspension to the Board, and an immediate suspension is possible.</td>
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<td></td>
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<td>P. Yeung asked whether the VCC website will refer students to other institutions that offer this program. G. McIvor responded that he will look into options to communicate alternatives in the FAQ section of the VCC website.</td>
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<td>T. Rowlatt asked about student numbers. G. McIvor gave an approximation of about 200. Due to the registration model, the number of students can only be approximated since students may be enrolled but might not have taken classes in several years.</td>
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<td>On January 15, 2019, the end of enrolment will be communicated. G. McIvor stated that courses will still be offered to allow existing students to complete the program.</td>
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<td>Motion: Moved by I. Belhacene and seconded THAT Education Council recommend suspension of the Interior Design Certificate program to Board of Governors. All in favour. Motion carried.</td>
</tr>
<tr>
<td>c)</td>
<td>Budget Update</td>
<td>K. McNaughton reported a healthy budget overall. In some areas domestic numbers are lower than expected, but international students made up for shortfalls. This development needs to be monitored. The budget is only a snapshot. Some changes are based on demographic change, but enrolment is moving in a positive direction.</td>
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<td>Responding to a question from A. Candela, D. Wells explained that a misallocation of Tuition Replacement Funds was corrected in the School of Arts and Sciences, where less than the due funds had been received from the ministry. EAL Pathways growth was around 48 percent above last year.</td>
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<td></td>
<td></td>
<td>K. McNaughton thanked all those involved in enrolment planning for their work.</td>
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</tbody>
</table>
### Item 5. Budget

**J. Demeulemeester** inquired how a surplus would be used by the College. **K. McNaughton** explained that the budget was on the conservative side. If there was a surplus, it would be used for things such as needed maintenance and repairs.

### Item 6. Integrated College Plan

**K. McNaughton** summarized that all departments are doing the most with a minimum of resources. There were no questions.

### Item 7. Committee Reports

<table>
<thead>
<tr>
<th>Topic</th>
<th>Discussion</th>
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</thead>
<tbody>
<tr>
<td>a) Curriculum Committee Reports</td>
<td>D. Innes presented the revisions to the Bachelor of Hospitality Management aligning the PLAR policy for this program with VCC policy. Students will be able to receive up to 75 percent of the credits from PLAR, instead of a maximum of six (6) credits. <strong>Motion</strong>: Moved by P. Yeung and seconded THAT Education Council approve, in the form presented at this meeting, the revisions to the PLAR for the Bachelor of Hospitality Management program. All in favour. <strong>Motion carried</strong>.</td>
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<tr>
<td>i) Program Updates: Bachelor of Hospitality Management</td>
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<tr>
<td>i) Program Update: Hospitality Management Diploma</td>
<td>D. Innes presented the revisions to the Hospitality Management Diploma admission requirements adding Communications 12 as an equivalent to English 12 for domestic students, which is already departmental practice. There was discussion about simplifying the language around English and Math requirements so that not all equivalent internal courses are listed. D. McMullen explained that listing all individual equivalent courses presents a challenge for website updates. D. McMullen stated that there is a person working on equivalencies internally. N. Mandryk asked how equivalencies are communicated to prospective students. D. McMullen recommended having equivalencies listed in one specific section of the website. T. Thomson asked if Communications English is now called Essentials English. D. McMullen will look into this in January. E. Ting noted that the language proficiency level of a C- in Communications 12 is lower than English 12. T. Rowlatt acknowledged that the courses are not truly equivalent and Communications 12 is usually aligned with English 11. However, it has been departmental practice to accept Communications 12, and Curriculum Committee approved. D. Innes will take the feedback back to the department for discussion. He reiterated that the department has been accepting Communications 12 for years with no detriment to students’ success. A. Candela asked if there was a taskforce integrating the RO and Advising to work on how to communicate this change on the website. D. McMullen acknowledged the importance of</td>
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<td>Item</td>
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<tr>
<td>ii)</td>
<td>Program Update: AST Harmonized Foundation Certificate</td>
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<td>iii)</td>
<td>New Course: ATAP 4011 AST Harmonized Apprentice Level 4</td>
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<tr>
<td>iv)</td>
<td>Course Updates: ENGL 0661 &amp; 0662</td>
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<td>Item</td>
<td>Topic</td>
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<tr>
<td>v)</td>
<td>Program Updates: UT Arts Certificate &amp; UT Pathway to Health Sciences</td>
</tr>
<tr>
<td>vi)</td>
<td>New Program: Associate of Arts</td>
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<tr>
<td>vii)</td>
<td>New Program Documents: Trades Instructor Short Certificate</td>
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<tr>
<td>Item</td>
<td>Topic</td>
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<tr>
<td>viii) Program Renewal Documents: Provincial Instructor Diploma</td>
<td>D. Mauger gave a background of the PIDP, which kept the “Diploma” designation at the last renewal. The number of credits is now increased to a total of 30, with students expected to bring in content expertise from prior credentials or experience. The program has added electives, allowing students choices to customize the program for the first time, with more online and inclusive classrooms. There is demand from current students for electives, and alumni of the program can also be approached to take additional elective courses. K. Crossett noted that the hours for PIDP 3310 do not match the number of credits. T. Rowlatt stated that this will be fixed. A. Candela inquired about consultation with Marketing if revisions pass. D. Mauger confirmed that talks with Marketing are on the horizon. <strong>Motion:</strong> Moved by P. Yeung and seconded THAT Education Council approve, in the form presented at this meeting, the revisions to the Provincial Instructor Diploma Program. All in favour. <strong>Motion carried.</strong></td>
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<tr>
<td>b) Policy Standing Committee</td>
<td>J. Demeulemeester presented the proposed revisions to C.1.6 Registration Policy and Procedures, which include the removal of Policy Principle 5 and a change in wording for the Admissions definition. T. Rowlatt explained regarding the removal of Policy Principle 5 that guiding students to services is already included in the C.1.1 Grading, Progression and Withdrawal Policy. <strong>Motion:</strong> Moved by J. Demeulemeester and seconded THAT Education Council recommend the Board of Governors approve the changes to C.1.6 Registration Policy and Procedures. All in favour. <strong>Motion carried.</strong></td>
</tr>
<tr>
<td>c) Appeals Oversight Committee</td>
<td>A. Candela reported that the December meeting was canceled. At the previous meeting, the Committee reviewed the Terms of Reference and considered recommending the inclusion of references to procedural fairness and natural justice. Several recommendations regarding Student Conduct Policies will be worked on. The Committee has also collected several template documents and letters. The next step is to make these accessible to the Deans via the website or the J: drive. Tribunal Training days need to be determined.</td>
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<tr>
<td>d) Program Review and Renewal Committee</td>
<td>E. Ting chaired the meeting on November 27 with J.-E. Zakoor. Tentative adjudication dates for CD funding were set for March. The QAPA visit was debriefed; the feedback was positive. A working group is looking into CD funding guidelines. Feedback surveys were also discussed. There</td>
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<td>8.</td>
<td>Research Report</td>
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<td>9.</td>
<td>Chair Report</td>
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<td>10.</td>
<td>Student Report</td>
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<td>11.</td>
<td>Elections</td>
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<td>a)</td>
<td>Chair</td>
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<td>b)</td>
<td>Vice-Chair</td>
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<td>Item</td>
<td>Topic</td>
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</table>
| c)   | Two Executive Committee Members | **Election of Two Executive Committee Members:**  
|      |       | K. Crossett nominated P. Yeung. Nomination accepted. |
|      |       | A. Candela nominated N. Mandryk. Nomination accepted. |
|      |       | Second call for nominations: |
|      |       | There were none. |
|      |       | Third call for nominations: |
|      |       | There were none. |
|      |       | **By acclamation, P. Yeung and N. Mandryk were announced Executive Committee Members of Education Council.** |
| d)   | Standing Committee Chairs | i) Curriculum Committee  
|      |       | **Election of Curriculum Committee Chair:**  
|      |       | D. Beerwald nominated T. Rowlatt. Nomination accepted. |
|      |       | Second call for nominations: |
|      |       | There were none. |
|      |       | Third call for nominations: |
|      |       | There were none. |
|      |       | **By acclamation, T. Rowlatt was announced Chair of the Curriculum Committee.** |
|      |       | ii) Education Policy Committee  
|      |       | **Election of Education Policy Committee Chair:**  
|      |       | P. Yeung nominated J. Demeulemeester. Nomination accepted. |
|      |       | Second call for nominations: |
|      |       | There were none. |
|      |       | Third call for nominations: |
|      |       | There were none. |
|      |       | **By acclamation, J. Demeulemeester was announced Chair of the Education Policy Committee.** |
|      |       | iii) Program Review & Renewal Committee  
|      |       | **Election of Program Review & Renewal Committee Chair:**  
<p>|      |       | N. Coles nominated T. Rowlatt. Nomination accepted. |
|      |       | P. Yeung nominated E. Ting. Nomination declined. |
|      |       | Second call for nominations: |
|      |       | There were none. |</p>
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<tr>
<th>Item</th>
<th>Topic</th>
<th>Discussion</th>
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<tr>
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<td><strong>Third call for nominations:</strong>&lt;br&gt;There were none. <strong>By acclamation, T. Rowlatt was announced Chair of the Program Review &amp; Renewal Committee.</strong></td>
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<tr>
<td>iv)</td>
<td>Appeals Oversight Committee</td>
<td><strong>Election of Appeals Oversight Committee Chair:</strong>&lt;br&gt;T. Thomson nominated A. Candela. Nomination accepted.&lt;br&gt;D. Puri nominated K. Crossett. Nomination declined.&lt;br&gt;Second call for nominations:&lt;br&gt;There were none.&lt;br&gt;Third call for nominations:&lt;br&gt;There were none. <strong>By acclamation, A. Candela was announced Chair of the Appeals Oversight Committee.</strong></td>
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</table>

T. Rowlatt expressed gratitude for J.-E. Zakoor’s support during his last four years as Chair of EDCO. He thanked N. Degagne and C. Deans for their assistance, initiative, and thoughtfulness and everyone on the Council for their work.

J.-E. Zakoor thanked T. Rowlatt on behalf of EDCO for his leadership, sense of humour, and collegial attitude.

12. **Next Meeting**<br>January 8, 2018 3:30-5:30pm 5025 BWY-A

13. **Adjournment**<br>**Motion:** Moved by J. Demeulemeester and seconded THAT Education Council adjourn the December 11, 2018 meeting. All in favour. **Motion carried.** The meeting was adjourned at 5:03 p.m.

**ATTENDEES:**<br>Todd Rowlatt<br>Dave McMullen<br>Paul Yeung<br>Heidi Parisotto<br>Ilyes Belhacene<br>Jo-Ellen Zakoor<br>Kathryn McNaughton<br>Natasha Mandryk<br>David Wells<br>Dharuv Puri<br>Denise Beerwald<br>Andrew Candela<br>Nona Coles<br>Karen Crossett<br>John Demeulemeester<br>Taryn Thomson<br>Elle Ting<br>Robert Kunka

**GUESTS:**<br>Gordon McIvor<br>Doug Mauger<br>Dennis Innes<br>Nicole Degagne<br>Carlie Deans<br>Sydney Sullivan<br>Claire Sauvé<br>Shirley Lew

**RECORDING SECRETARY:** Darija Rabadzija
VCC 2019-20 Enrolment Plan

Institutional Research has prepared the 2019-20 Budgeted Registration and FTE report, presented in three (3) parts.

Part 1. VCC Enrolment Plan 2019-20 by School
This includes:
- 4 years of Actual FTE, 2014-15, 2015-16, 2016-17, 2017-18
- 2018-19 Forecast FTE
- 2018-19 Budgeted FTE

Part 2. VCC Enrolment Plan by School by Program (ORG Code)
The following detailed reports are included for each of the following Schools:

a) CCS - Centre for Continuing Studies
b) CIN - Centre for International Education
c) SAS - School of Arts and Science
d) SHS - School of Health Sciences
e) SHP - School of Hospitality, Food Studies and Applied Business
f) SIE - School of Instructor Education
g) CTT – Centre of Trades, Technology & Design

This includes:
- 2018-19 Forecast FTE
- 2018-19 Budgeted FTE
### VCC Enrolment Plan 2019-20 by School

Including: Previous 4 year Actual FTE  
Current year 2018-19 Budget and Forecast FTE

#### 2019-20 Enrolment Plan FTE by School by ORG - Draft 1

<table>
<thead>
<tr>
<th>Total Student FTE by School</th>
<th>ACTUAL FTE by School by Year**</th>
<th>2018-19 Forecast and Budget</th>
</tr>
</thead>
<tbody>
<tr>
<td>CCS Centre for Continuing Studies</td>
<td>635.25</td>
<td>655.81</td>
</tr>
<tr>
<td>CIN Center for International Education</td>
<td>342.50</td>
<td>480.16</td>
</tr>
<tr>
<td>SAS School of Arts &amp; Sciences</td>
<td>2,887.22</td>
<td>2,094.26</td>
</tr>
<tr>
<td>SHS School of Health Sciences</td>
<td>844.98</td>
<td>813.28</td>
</tr>
<tr>
<td>SHP School of Hospitality, Food Studies &amp; Applied Business</td>
<td>1,007.83</td>
<td>1,027.47</td>
</tr>
<tr>
<td>SIE School of Instructor Education</td>
<td>281.89</td>
<td>267.80</td>
</tr>
<tr>
<td>CTT School of Trades, Technology &amp; Design</td>
<td>951.54</td>
<td>917.70</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>6,951.20</td>
<td>6,256.46</td>
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* as at December 2018  
** FTE data provided from the VCC Central Data Warehouse (CDW)  
2019-20 Budget for Centre of Continuing Studies is based on the 2018-19 Forecast (Actuals)  
****NOTE: effective 2019-20, CIN includes International Cohorts only with inserts attributed to the home school.
Part 2.

VCC Enrolment Plan by School by Program (ORG Code)

NOTE:

2. Budgeted FTE calculated using projected totals.
3. Projected totals for each School will include International FTE's where sections (CRN's) include inserts.
   CIN School includes International cohorts only.

Sections included in the FTE calculations have census/freeze dates that fall within the specified date selection based on the data provided by Finance. Not all enrolment totals are included in the budgeting process.

a) Centre for Continuing Studies

The Centre of Continuing Studies does not provide “projected” seats per class to Enrolment Planning. However, the Total FTE for 2019-20 is an estimate based on the actual registrations and FTE in 2018-19.

<table>
<thead>
<tr>
<th>School Code</th>
<th>ORG Code</th>
<th>ORG Code Description</th>
<th>Registrations</th>
<th>FTE</th>
<th>Registrations</th>
<th>FTE</th>
</tr>
</thead>
<tbody>
<tr>
<td>CCS</td>
<td>4550</td>
<td>BC Jobs Funding</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CCS</td>
<td>4301</td>
<td>Automotive Collision Repair</td>
<td>121</td>
<td>0.00</td>
<td>121</td>
<td>0.00</td>
</tr>
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### b) CIN - Centre for International Education

****NOTE: effective 2019-20, CIN includes International Cohorts only with inserts attributed to the home school.****

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**Totals**: 9,359 Registrations, 861.80 FTE; 11,006 Registrations, 945.16 FTE
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| Totals      | 6,554    | 701.70 | 11290 | 1,060.60 |
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DECISION NOTE

PREPARED FOR: Education Council

DATE: January 8, 2019

ISSUE: Revisions to the Heavy Mechanical Technology Diploma (International Cohort) program

BACKGROUND:
The HMT program is running its first international cohort in May 2019. The curriculum was previously approved by Education Council. When the curriculum was first prepared, the department did not know what space or training aids would be available; as these are known, the department is proposing a number of changes including time allocations, grading and evaluation and course order. They have also added three weeks of shop simulations to better prepare international student integration into employment after graduation.

DISCUSSION:
Rick Cyr, Department Head of the program, presented this proposal. Mr. Cyr described the competency-based approach in their program. The major changes requested by the Committee are:
- Moving attendance out of the course outline assessment section into the PCG under Evaluation of Student Learning. The department has a well-documented attendance guideline in their department handbook that will be noted in the PCG.
- Topics were adjusted to match standard language.
- Adjustment to the admission requirements to explicitly mention English 10 with a C, not just the IELTS/TOEFL scores as many international students are in the Canadian high school system.
- Adding “(International Cohort)” to the program title to match standard VCC language.

The department requested the ability to use longer Course Titles. The current maximum is 75 characters, and there were 8-10 courses with a longer title. Curriculum Committee did not agree to the request and the department head and committee chair have finalized the shortened course titles.

It was also clear that additional conversations would be needed with International Education and likely the Registrar’s Office to ensure strategies for managing student failures and re-insertion will work in the international student context. Significant discussions have already taken place.

RECOMMENDATION:
THAT Education Council approve, in the form presented at this meeting, the revisions to the Heavy Mechanical Technology Diploma (International Cohort) program.

PREPARED BY: Todd Rowlatt, Chair, Curriculum Committee
DATE: December 19, 2018
**Program Change Request**

**New Program Proposal**

Date Submitted: 11/17/18 11:44 am

**Viewing: Heavy Mechanical Technology Diploma (International Cohort)**

Last edit: 12/20/18 2:54 pm
Changes proposed by: fghesen

<table>
<thead>
<tr>
<th>Program Name:</th>
<th>Heavy Mechanical Technology Diploma (International Cohort)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Credential Level:</td>
<td>Diploma</td>
</tr>
<tr>
<td>Effective Date:</td>
<td>May 2019</td>
</tr>
<tr>
<td>School/Centre:</td>
<td>Trades, Technology &amp; Design</td>
</tr>
<tr>
<td>Department</td>
<td>Heavy Duty/Commercial Transport(4304)</td>
</tr>
</tbody>
</table>

**In Workflow**

1. 4304 Leader
2. CTT Dean
3. Curriculum Committee Chair
4. EDCO Chair
5. Ministry Chair Review
6. Board of Directors

**Approval Path**

1. 12/06/18 11:42 am
   Richard Cyr (rcyr): Approved for 4304 Leader
2. 12/06/18 1:22 pm
   Brett Griffiths (bgriffiths): Approved for CTT Dean
3. 12/20/18 3:03 pm
   Todd Rowlatt (trowlatt): Approved for Curriculum Committee Chair

**Contact(s)**

<table>
<thead>
<tr>
<th>Name</th>
<th>E-mail</th>
<th>Phone/Ext.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rick Cyr</td>
<td><a href="mailto:rcyr@vcc.ca">rcyr@vcc.ca</a></td>
<td>7102</td>
</tr>
</tbody>
</table>

**Program Content Guide**

https://curriculum.vcc.ca/courseleaf/approve/?role=admin
Goal

This program is designed for people who wish to obtain employment in the Mechanical Trades Industry as Heavy Duty Equipment Technicians, Truck and Transport Mechanics, Diesel Engine Mechanics, or Transport Trailer Technicians.

Heavy Duty Equipment Technicians typically work on industrial and construction vehicles, such as mining trucks and bulldozers, and on heavy equipment used in construction, forestry, materials handling, landscaping, and land clearing in a safe and environmentally sound manner. Truck and Transport Mechanics diagnose, repair, and service highway buses and trucks. They work for commercial transport vehicle dealers, garages, and service stations. Diesel Engine Mechanics install, repair, and maintain all internal combustion diesel engines and components used in transport, construction, and marine industries. Transport Trailer Technicians maintain, rebuild, overhaul, recondition, complete diagnostic troubleshooting for, and repair commercial truck trailers.

Upon successful completion of this program, students may be eligible to write Industry Training Authority standardized examinations.

Through practical experience, successful students will be able to integrate the theoretical knowledge gained in the classroom with practical experience of the workplace.

Admission Requirements

English 10 with a C or Academic IELTS 5.0 (no band less than 4.5) or TOEFL iBT 60 or equivalent
Students must possess a high school graduation certificate or equivalent
Apprentice and Workplace Math 10 or equivalent

Prior Learning Assessment & Recognition (PLAR)

PLAR is not available in this program.

Program Duration & Maximum Time for Completion

This full-time program is two years in duration delivered over four terms, and must be completed within 5 years.
Program Learning Outcomes

Upon completion of this program, graduates will be able to:
Apply the skills and knowledge necessary to perform at first-year apprentice level of heavy duty equipment technician, truck and transport mechanics, diesel engine mechanic and transport trailer technician to provincial standards;
Evaluate completed repairs for consistency, accuracy, and quality according to industry specifications and standards;
Adhere to industry health and safety standards in the repair and reconditioning of heavy duty and commercial transport equipment;
Practice professional etiquette and personal hygiene;
Work effectively as a team member.
Communicate effectively and work in a culturally diverse environment.

Instructional Strategies, Design, and Delivery Mode

The Heavy Mechanical Technology diploma provides a wide range of opportunities for student learning in classroom, shop, and workplace settings. In addition to hands-on practical experience at VCC’s own state-of-the-art heavy mechanical and commercial transport facility, instructional activities such as lectures, demonstrations, group work, peer assessment, and project-based learning strategies are used throughout the program. Students progress through courses in four terms, each course requires successful completion for overall completion of the program.

Evaluation of Student Learning

Evaluation involves a combination of assessments: practical assignments, projects, theory exam, and/or practical exam.
Students must complete all courses with a minimum grade of 70%, consistent with ITA standards.
Students will be given the program's Attendance procedures on the first day of the program. Each week is a new course, and attendance has a major role in student success.
Recommended Characteristics of Students

Personal hygiene, grooming and appearance acceptable to a service industry;
Good hand dexterity for operating equipment and machines;
Command of oral and written English;
Ability to understand and follow oral and written instruction;
Good general health and respiratory condition;
Physical strength and stamina compatible with the handling of heavy parts and equipment as required by the program;
Ability to tolerate noise and vibration;
Mechanical aptitude and interest;
Good hand-eye coordination;
Good eyesight and colour vision;
Good line, form, and depth perception.

Courses

Course List

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>HMTD 1101</td>
<td>Workplace Safety &amp; Preparatory Skills</td>
<td>1</td>
</tr>
<tr>
<td>HMTD 1102</td>
<td>Oxy-Acetylene Welding &amp; Cutting</td>
<td>1</td>
</tr>
<tr>
<td>HMTD 1103</td>
<td>Electric Welding &amp; Cutting</td>
<td>1</td>
</tr>
<tr>
<td>HMTD 1104</td>
<td>HMT Tools &amp; Equipment 1</td>
<td>1</td>
</tr>
<tr>
<td>HMTD 1105</td>
<td>HMT Tools &amp; Equipment 2</td>
<td>1</td>
</tr>
<tr>
<td>HMTD 1106</td>
<td>Fittings &amp; Fasteners</td>
<td>1</td>
</tr>
<tr>
<td>HMTD 1107</td>
<td>Truck &amp; Machine Operation 1</td>
<td>1</td>
</tr>
<tr>
<td>HMTD 1108</td>
<td>Truck &amp; Machine Operation 2</td>
<td>1</td>
</tr>
<tr>
<td>HMTD 1109</td>
<td>Lubricants &amp; Bearings</td>
<td>1</td>
</tr>
<tr>
<td>HMTD 1110</td>
<td>Math, Physics &amp; Worksafe Requirements for HMT</td>
<td>1</td>
</tr>
<tr>
<td>HMTD 1111</td>
<td>Final Drives &amp; Undercarriage 1</td>
<td>1</td>
</tr>
<tr>
<td>HMTD 1112</td>
<td>Final Drives &amp; Undercarriage 2</td>
<td>1</td>
</tr>
<tr>
<td>HMTD 1113</td>
<td>Frames &amp; Suspension</td>
<td>1</td>
</tr>
<tr>
<td>HMTD 1114</td>
<td>Tires, Wheels &amp; Hubs</td>
<td>1</td>
</tr>
<tr>
<td>HMTD 1115</td>
<td>Workplace Skills 1</td>
<td>1</td>
</tr>
<tr>
<td>HMTD 1201</td>
<td>Hydraulic Systems 1</td>
<td>1</td>
</tr>
<tr>
<td>HMTD 1202</td>
<td>Hydraulic Systems 2</td>
<td>1</td>
</tr>
<tr>
<td>HMTD 1203</td>
<td>Hydraulic Systems 3</td>
<td>1</td>
</tr>
<tr>
<td>HMTD 1204</td>
<td>Hydraulic Systems 4</td>
<td>1</td>
</tr>
<tr>
<td>HMTD 1205</td>
<td>Electrical Systems 1</td>
<td>1</td>
</tr>
<tr>
<td>HMTD 1206</td>
<td>Electrical Systems 2</td>
<td>1</td>
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<tr>
<td>HMTD 1207</td>
<td>Electrical Systems 3</td>
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<td>Code</td>
<td>Title</td>
<td>Credits</td>
</tr>
<tr>
<td>---------</td>
<td>------------------------------------------------------------</td>
<td>---------</td>
</tr>
<tr>
<td>HMTD 1208</td>
<td>Electrical Systems 4</td>
<td>1</td>
</tr>
<tr>
<td>HMTD 1209</td>
<td>Electrical Systems 5</td>
<td>1</td>
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<td>HMTD 1210</td>
<td>Electrical Systems 6</td>
<td>1</td>
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<tr>
<td>HMTD 1211</td>
<td>Electrical Systems 7</td>
<td>1</td>
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<tr>
<td>HMTD 1212</td>
<td>Shop Simulation 1</td>
<td>1</td>
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<tr>
<td>HMTD 1213</td>
<td>Steering Systems 1</td>
<td>1</td>
</tr>
<tr>
<td>HMTD 1214</td>
<td>Steering Systems 2</td>
<td>1</td>
</tr>
<tr>
<td>HMTD 1215</td>
<td>Workplace Skills 2</td>
<td>1</td>
</tr>
<tr>
<td>HMTD 2101</td>
<td>Cab &amp; Protective Structures</td>
<td>1</td>
</tr>
<tr>
<td>HMTD 2102</td>
<td>Hydraulic Brake Systems 1</td>
<td>1</td>
</tr>
<tr>
<td>HMTD 2103</td>
<td>Hydraulic Brake Systems 2</td>
<td>1</td>
</tr>
<tr>
<td>HMTD 2104</td>
<td>Hydraulic Brake Systems 3</td>
<td>1</td>
</tr>
<tr>
<td>HMTD 2105</td>
<td>Air Brake Systems 1</td>
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</tr>
<tr>
<td>HMTD 2106</td>
<td>Air Brake Systems 2</td>
<td>1</td>
</tr>
<tr>
<td>HMTD 2107</td>
<td>Air Brake Systems 3</td>
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<td>HMTD 2108</td>
<td>Cab Heating, Ventilation &amp; Air Conditioning Systems</td>
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<td>HMTD 2109</td>
<td>Refrigeration Unit Heating, Ventilation &amp; Air Conditioning Systems</td>
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<tr>
<td>HMTD 2110</td>
<td>Trailers 1</td>
<td>1</td>
</tr>
<tr>
<td>HMTD 2111</td>
<td>Trailers 2</td>
<td>1</td>
</tr>
<tr>
<td>HMTD 2112</td>
<td>Powertrain 1</td>
<td>1</td>
</tr>
<tr>
<td>HMTD 2113</td>
<td>Powertrain 2</td>
<td>1</td>
</tr>
<tr>
<td>HMTD 2114</td>
<td>Powertrain 3</td>
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<td>HMTD 2115</td>
<td>Powertrain 4</td>
<td>1</td>
</tr>
<tr>
<td>HMTD 2201</td>
<td>Powertrain 5</td>
<td>1</td>
</tr>
<tr>
<td>HMTD 2202</td>
<td>Powertrain 6</td>
<td>1</td>
</tr>
<tr>
<td>HMTD 2203</td>
<td>Powertrain 7</td>
<td>1</td>
</tr>
<tr>
<td>HMTD 2204</td>
<td>Powertrain 8</td>
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<td>HMTD 2205</td>
<td>Electrical Systems 8</td>
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<td>HMTD 2206</td>
<td>Electrical Systems 9</td>
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<td>HMTD 2207</td>
<td>Electrical Systems 10</td>
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<td>HMTD 2208</td>
<td>Electronic Systems 1</td>
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<td>HMTD 2209</td>
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<tr>
<td>HMTD 2210</td>
<td>Electronic Systems 3</td>
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<td>HMTD 2211</td>
<td>Gasoline Fueled (Automotive) Engine Management Systems 1</td>
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<tr>
<td>HMTD 2212</td>
<td>Gasoline Fueled (Automotive) Engine Management Systems 2</td>
<td>1</td>
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<tr>
<td>HMTD 2213</td>
<td>Shop Simulation 2</td>
<td>1</td>
</tr>
<tr>
<td>HMTD 2214</td>
<td>Shop Simulation 3</td>
<td>1</td>
</tr>
<tr>
<td>HMTD 2215</td>
<td>Employment Skills</td>
<td>1</td>
</tr>
</tbody>
</table>

Total Credits 60
Transcript of Achievement

The evaluation of learning outcomes for each student is prepared by the instructor and reported to the Student Records Department at the completion of semesters.

The transcript typically shows a letter grade for each course. The grade point equivalent for a course is obtained from letter grades as follows:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Percentage</th>
<th>Description</th>
<th>Grade Point Equivalency</th>
</tr>
</thead>
<tbody>
<tr>
<td>96-100</td>
<td></td>
<td></td>
<td>4.33</td>
</tr>
<tr>
<td>91-95</td>
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<td>4.00</td>
</tr>
<tr>
<td>86-90</td>
<td></td>
<td></td>
<td>3.67</td>
</tr>
<tr>
<td>81-85</td>
<td></td>
<td></td>
<td>3.33</td>
</tr>
<tr>
<td>76-80</td>
<td></td>
<td></td>
<td>3.00</td>
</tr>
<tr>
<td>70-75</td>
<td></td>
<td>Minimum Pass</td>
<td>2.67</td>
</tr>
<tr>
<td>0-69</td>
<td></td>
<td>Failing Grade - unable to proceed to next Term</td>
<td>0.00</td>
</tr>
<tr>
<td>I</td>
<td></td>
<td>Incomplete</td>
<td>N/A</td>
</tr>
<tr>
<td>IP</td>
<td></td>
<td>Course In Progress</td>
<td>N/A</td>
</tr>
<tr>
<td>W</td>
<td></td>
<td>Withdrawal</td>
<td>N/A</td>
</tr>
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</table>

Course Standings

<table>
<thead>
<tr>
<th>Grade</th>
<th>Description</th>
<th>Grade Point Equivalency</th>
</tr>
</thead>
<tbody>
<tr>
<td>R</td>
<td>Audit. No Credit</td>
<td>N/A</td>
</tr>
<tr>
<td>EX</td>
<td>Exempt. Credit granted</td>
<td>N/A</td>
</tr>
<tr>
<td>TC</td>
<td>Transfer Credit</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Grade Point Average (GPA)

The course grade points shall be calculated as the product of the course credit value and the grade value. The GPA shall be calculated by dividing the total number of achieved course grade points by the total number of assigned course credit values. This cumulative GPA shall be determined and stated on the Transcript at the end of each Program level or semester.

Grades shall be assigned to repeated courses in the same manner as courses taken only once. For the purpose of GPA calculation of grades for repeated courses, they will be included in the calculation of the cumulative GPA.

Rationale and Consultations

Provide a rationale for this proposal.

Changes have been made from original approved program which includes changes to course titles, course descriptions, time allocations, grading and evaluation descriptions and amounts, and course order (Proposal was originally put through before space and training aids were known/allocated. Training space and training aids are now known which influenced original proposed course delivery) We also added three shop simulation weeks to better align with international student integration into employment.
Are there any expected costs to this proposal.

Consultations

<table>
<thead>
<tr>
<th>Consultated Area</th>
<th>Consultation Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Registrar's Office</td>
<td>Below is the summary of the RO consultation “Please add this to your consultation section in courseleaf”.</td>
</tr>
<tr>
<td></td>
<td>I met with Les Apouchtine and Denis Seremba- December 3rd, 2018 They are fine with the changes and they will review them in courseleaf. The only recommendation is to reconsider the name for some of the courses (ex: 1205, 2202) so the courses title show completely in the transcripts. They will review the changes in courseleaf, and will provide further feedback if needed.</td>
</tr>
</tbody>
</table>
|                                       | Key highlights  
|                                       | • No change to credit  
|                                       | • No change to course number  
|                                       | • Change to course name.  
|                                       | • RO to review courseleaf for the changes made  
|                                       | • Changes to CLO- RO to review                                                                                               |
| Centre for Teaching, Learning, and Research (CTLR) | Sent out to Centre for Teaching, Learning and Research and received no comment.                                                                                     |
| Faculty/Department                    | The Heavy Mechanical Trades department is in support of this international program and the changes that were made. They are also is support of the program's courses and the changes that were made. Faculty are in support of the new course titles and updated course order. The HMT department request that the course titles be allowed to exceed 75 character where required as the course titles are as such for pedagogical reasons in relation to a competency based learning method. |

**Additional Information**

Provide any additional information if necessary.

Supporting documentation:
Course Change Request

Date Submitted: 11/14/18 11:02 pm

Viewing: **HMTD 1101 : Workplace Safety & Prep Skills**

Last approved: 07/04/18 5:00 am

Last edit: 12/20/18 1:20 pm

Changes proposed by: rcyr

Programs referencing this course

- **112: Heavy Mechanical Technology Diploma (International Cohort)**

Course Name:

**Workplace Safety & Preparatory Skills**

Effective Date: May 2019

School/Centre: Trades, Technology & Design

Department: Heavy Mechanical Technology Diploma International(4305)

Contact(s)

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In Workflow

1. 4305 Leader
2. CTT Dean
3. Curriculum Committee Chair
4. EDCO Chair
5. Records
6. Banner

Approval Path

1. 11/14/18 2:12 pm
   Nicole Degagne (ndegagne): Rollback to Initiator
2. 11/15/18 9:15 am
   Richard Cyr (rcyr): Approved for 4305 Leader
3. 11/15/18 9:29 am
   Bre Griffiths (bgriffiths): Approved for CTT Dean
4. 12/04/18 1:52 pm
   Nicole Degagne (ndegagne): Rollback to 4305 Leader for Curriculum Committee Chair
5. 12/05/18 1:35 pm
   Richard Cyr (rcyr): Approved for 4305 Leader
6. 12/05/18 1:59 pm
   Brett Griffiths
Banner Course Name: Workplace Safety & Prep Skills

Subject Code: HMTD - Heavy Mechanical Technician

Course Number: 1101

Year of Study: 1st Year Post-secondary

Credits: 1

Course Description:
This course introduces students to the concepts of safe work practices, occupational health and safety, environmental practices, math, science, and electronic media.

Course Pre-Requisites (if applicable):
Admission to the Heavy Mechanical Technology program.

Course Co-requisites (if applicable):

PLAR (Prior Learning Assessment & Recognition)
No
Course Learning Outcomes (CLO):

Upon successful completion of this course, students will be able to:

<table>
<thead>
<tr>
<th>CLO #</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>#1</td>
<td>Apply personal safety measures. Use safe work practices</td>
</tr>
<tr>
<td>#2</td>
<td>Identify and use shop emergency equipment. Apply occupational health and safety practices</td>
</tr>
<tr>
<td>#3</td>
<td>Prevent, identify, and extinguish various classes of fires. Use environmental practices</td>
</tr>
<tr>
<td>#4</td>
<td>Identify Worksafe BC policies and procedures. Use basic math and science skills</td>
</tr>
<tr>
<td>#5</td>
<td>Describe the purpose of the Workplace Hazardous Materials Information System (WHMIS) regulations. Use electronic media</td>
</tr>
<tr>
<td>#6</td>
<td>Explain the contents of the Material Safety Data Sheets (MSDS).</td>
</tr>
<tr>
<td>#7</td>
<td>Explain the contents of WHMIS labels.</td>
</tr>
<tr>
<td>#8</td>
<td>Apply WHMIS regulations.</td>
</tr>
<tr>
<td>#9</td>
<td>Discuss the application of math and science in the heavy mechanical trades.</td>
</tr>
<tr>
<td>#10</td>
<td>Use electronic imaging equipment.</td>
</tr>
<tr>
<td>#11</td>
<td>Use computers to create documents and conduct research.</td>
</tr>
</tbody>
</table>

Instructional Strategies:
Instructional strategies include classroom lectures, demonstrations, group discussions, computer lab and hands-on practical work.

Evaluation and Grading

Grading System: Percentages
Passing grade:
Evaluation Plan:

<table>
<thead>
<tr>
<th>Type</th>
<th>Percentage</th>
<th>Brief description of assessment activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other Assignments</td>
<td>70%</td>
<td>Theory- includes formative assessments, assignments, and a summative assessment. Quizzes and Assignments (formative—theory)</td>
</tr>
<tr>
<td>Other Exam</td>
<td>30%</td>
<td>Practical- includes shop tasks, active participation and teamwork, workplace behavior, and use of tools and equipment. Theory exam (summative—theory)</td>
</tr>
<tr>
<td>Assignments</td>
<td>30%</td>
<td>Ongoing observations of workplace behavior and use of tools and equipment.</td>
</tr>
<tr>
<td>Participation</td>
<td>25%</td>
<td>Observable active participation and teamwork</td>
</tr>
</tbody>
</table>

Hours by Learning Environment Type

- Lecture, Seminar, Online
  - 17.5
- Lab, Clinical, Shop, Kitchen, Studio, Simulation
  - 7.5
- Practicum
- Self Paced / Individual Learning

Course Topics
Course Topics:

1. Personal safety measures.
2. Shop emergency equipment.
3. Classes of fires.
4. Worksafe BC policies and procedures.
7. WHMIS labels.
8. Math and science in the heavy mechanical trades.
9. Safe Work Practices
10. Occupational Health and Safety
11. Environmental Practices
12. Basic Math and Science
13. Electronic imaging equipment.

Rationale and Consultations

You only have to complete the Rationale and Consultations section once for a group of related proposals (i.e. a number of changes to a PCG and multiple courses). Is this proposal part of a group of related proposals?

Yes

Is this the primary proposal?

No

Primary Proposal

Heavy Mechanical Technology PCG

Provide a rationale for this proposal:

Additional Information
Provide any additional information if necessary.

Changes have been made from original approved program which includes changes to course titles, course descriptions, time allocations, grading and evaluation descriptions and amounts, and course order (Proposal was originally put through before space and training aids were known/allocated. Training space and training aids are now known which influenced original proposed course delivery) We also added three shop simulation weeks to better align with international student integration into employment.

Supporting documentation:

Reviewer

Comments

Nicole Degagne (ndegagne) (11/14/18 2:12 pm): Rollback: revisions not complete
Nicole Degagne (ndegagne) (12/04/18 1:52 pm): Rollback: for further review
Course Change Request

Date Submitted: 11/15/18 8:32 am

Viewing: **HMTD 1102 : Oxy-Acetylene Weld & Cut**

Oxy-Acetylene Welding/Cutting

Last approved: 07/04/18 4:59 am

Last edit: 12/20/18 1:21 pm

Changes proposed by: ebach

Programs referencing this course

*112: Heavy Mechanical Technology Diploma (International Cohort)*

Course Name:

Oxy-Acetylene Welding & Cutting

Effective Date:  May 2019

School/Centre: Trades, Technology & Design

Department: Heavy Mechanical Technology Diploma International(4305)

Contact(s)

---

In Workflow

1. 4305 Leader
2. CTT Dean
3. Curriculum Committee Chair
4. EDCO Chair
5. Records
6. Banner

Approval Path

1. 11/14/18 2:13 pm Nicole Degagne (ndegagne): Rollback to Initiator
2. 11/15/18 9:16 am Richard Cyr (rcyr): Approved for 4305 Leader
3. 11/15/18 9:29 am Brett Griffiths (bgriffiths): Approved for CTT Dean
4. 12/04/18 1:52 pm Nicole Degagne (ndegagne): Rollback to 4305 Leader for Curriculum Committee Chair
5. 12/05/18 1:35 pm Richard Cyr (rcyr): Approved for 4305 Leader
6. 12/05/18 1:59 pm Brett Griffiths
Banner Course Name: Oxy-Acetylene Weld & Cut

Subject Code: HMTD - Heavy Mechanical Technician

Course Number 1102

Year of Study 1st Year Post-secondary

Credits: 1

Course Description:
This course introduces students to welding regulations, metals, oxy-acetylene components and components, equipment, cutting, welding, brazing, and soldering.

Course Pre-Requisites (if applicable):

Admission to the Heavy Mechanical Technology program.

Course Co-requisites (if applicable):

PLAR (Prior Learning Assessment & Recognition)
No
Course Learning Outcomes (CLO):

Upon successful completion of this course, students will be able to:

<table>
<thead>
<tr>
<th>CLO #</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLO #1</td>
<td>Identify metals. Identify regulations with respect to welding</td>
</tr>
<tr>
<td>CLO #2</td>
<td>Describe different welding procedures. Identify metals</td>
</tr>
<tr>
<td>CLO #3</td>
<td>Cut, weld, and braze using oxy-acetylene. Identify oxy-acetylene components</td>
</tr>
<tr>
<td>CLO #4</td>
<td>Solder tubing and sheet metal. Use oxy-acetylene equipment</td>
</tr>
<tr>
<td>CLO #5</td>
<td>Cut mild steel with oxy-acetylene equipment</td>
</tr>
<tr>
<td>CLO #6</td>
<td>Weld mild steel with oxy-acetylene equipment</td>
</tr>
<tr>
<td>CLO #7</td>
<td>Braze lap joints with oxy-acetylene equipment</td>
</tr>
</tbody>
</table>

Instructional Strategies:
Instructional strategies include classroom lectures, demonstrations, group discussions, computer lab and hands-on practical work.

Evaluation and Grading

Grading System: Percentages

Passing grade: 70%

Evaluation Plan:

<table>
<thead>
<tr>
<th>Type</th>
<th>Percentage</th>
<th>Brief description of assessment activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other Assignments</td>
<td>50 25</td>
<td>Theory- includes formative assessments, assignments, and a summative assessment. Quizzes and Assignments (formative—theory)</td>
</tr>
<tr>
<td>Other Exam</td>
<td>50 20</td>
<td>Practical- includes shop tasks, active participation and teamwork, workplace behavior, use of tools and equipment. Theory exam (summative—theory)</td>
</tr>
<tr>
<td>Assignments</td>
<td>20</td>
<td>Ongoing observations of workplace behavior and use of tools and equipment.</td>
</tr>
<tr>
<td>Participation</td>
<td>25</td>
<td>Observable active participation and teamwork</td>
</tr>
</tbody>
</table>

Hours by Learning Environment Type

https://curriculum.vcc.ca/courseleaf/approve/?role=admin
Course Topics

1. **Metals.**
2. Welding **procedures.**
3. **regulations**
2. Cut, weld, and braze using oxy-acetylene.
4. Solder tubing and sheet metal. **Metals**
5. Oxy-acetylene components
6. Oxy-acetylene equipment
5. Mild-steel cutting with oxy-acetylene equipment
6. Mild-steel welding with oxy-acetylene equipment
7. Lap joint brazing with oxy-acetylene equipment

**Rationale and Consultations**

You only have to complete the Rationale and Consultations section once for a group of related proposals (i.e. a number of changes to a PCG and multiple courses). Is this proposal part of a group of related proposals?

Yes

Is this the primary proposal?

No

Primary Proposal

Heavy Mechanical Technology PCG

---

**Additional Information**
Provide any additional information if necessary.

Changes have been made from original approved program which includes changes to course titles, course descriptions, time allocations, grading and evaluation descriptions and amounts, and course order (Proposal was originally put through before space and training aids were known/allocated. Training space and training aids are now known which influenced original proposed course delivery) We also added three shop simulation weeks to better align with international student integration into employment.

Supporting documentation:

Reviewer
Comments

Nicole Degagne (ndegagne) (11/14/18 2:13 pm): Rollback: revisions not complete
Nicole Degagne (ndegagne) (12/04/18 1:52 pm): Rollback: for further review
Course Change Request

Date Submitted: 11/15/18 8:37 am

Viewing: **HMTD 1103 : Electric Welding & Cutting**

**Cutting**

Last approved: 07/04/18 4:59 am

Last edit: 12/20/18 1:21 pm

Changes proposed by: ebach

Programs referencing this course

112: Heavy Mechanical Technology Diploma (International Cohort)

Course Name:

Electric Welding & Cutting

Effective Date: May 2019

School/Centre: Trades, Technology & Design

Department: Heavy Mechanical Technology Diploma International(4305)

Contact(s)

In Workflow

1. 4305 Leader
2. CTT Dean
3. Curriculum Committee Chair
4. EDCO Chair
5. Records
6. Banner

Approval Path

1. 11/14/18 2:13 pm Nicole Degagne (ndegagne): Rollback to Initiator
2. 11/15/18 9:17 am Richard Cyr (rcyr): Approved for 4305 Leader
3. 11/15/18 9:29 am Brett Griffiths (bgriffiths): Approved for CTT Dean
4. 12/04/18 1:52 pm Nicole Degagne (ndegagne): Rollback to 4305 Leader for Curriculum Committee Chair
5. 12/05/18 1:34 pm Richard Cyr (rcyr): Approved for 4305 Leader
6. 12/05/18 1:59 pm Brett Griffiths
Banner Course Name: Electric Welding & Cutting

Subject Code: HMTD - Heavy Mechanical Technician

Course Number 1103

Year of Study 1st Year Post-secondary

Credits: 1

Course Description:
This course introduces students to tubing and sheet metal soldering, the Shielded Metal Arc Welding (SMAW) process, SMAW equipment, mild steel electrodes for SMAW, mild steel welding with SMAW, mild steel welding wire feed processes, and air arc gouging.

Course Pre-Requisites (if applicable):

Admission to the Heavy Mechanical Technology program.

Course Co-requisites (if applicable):

PLAR (Prior Learning Assessment & Recognition)
Course Learning Outcomes (CLO):

Upon successful completion of this course, students will be able to:

<table>
<thead>
<tr>
<th>CLO #1</th>
<th>Describe shielded metal arc welding. Describe the SMAW process</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLO #2</td>
<td>Perform shielded metal arc welding. Identify SMAW equipment</td>
</tr>
<tr>
<td>CLO #3</td>
<td>Describe wire feed process. Identify mild steel electrodes for SMAW</td>
</tr>
<tr>
<td>CLO #4</td>
<td>Weld using wire feed process. Weld mild steel with shielded metal arc</td>
</tr>
<tr>
<td>CLO #5</td>
<td>Weld mild steel using wire feed processes</td>
</tr>
<tr>
<td>CLO #6</td>
<td>Describe air-arc gouging</td>
</tr>
</tbody>
</table>

Instructional Strategies:
Instructional strategies include classroom lectures, demonstrations, group discussions, computer lab and hands-on practical work.

Evaluation and Grading

Grading System: Percentages

Passing grade: 70%

Evaluation Plan:

<table>
<thead>
<tr>
<th>Type</th>
<th>Percentage</th>
<th>Brief description of assessment activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other Assignments</td>
<td>50/25</td>
<td>Theory- includes formative assessments, assignments, and a summative assessment. Quizzes and Assignments (formative–theory)</td>
</tr>
<tr>
<td>Other Exam</td>
<td>50/20</td>
<td>Practical- includes shop tasks, active participation and teamwork, workplace behavior, use of tools and equipment. Theory-exam (summative–theory)</td>
</tr>
<tr>
<td>Assignments</td>
<td>30</td>
<td>Ongoing observations of workplace behavior and use of tools and equipment.</td>
</tr>
<tr>
<td>Participation</td>
<td>25</td>
<td>Observable active participation and teamwork.</td>
</tr>
</tbody>
</table>

Hours by Learning Environment Type
Lecture, Seminar, Online

12.5
17.5

Lab, Clinical, Shop, Kitchen, Studio, Simulation

12.5 7.5

Practicum

Self Paced / Individual Learning

Course Topics

Course Topics:

1. Shielded metal arc welding.
2. The SMAW process
2. SMAW equipment
3. Mild steel electrodes for SMAW
4. Perform Mild steel welding with shielded metal arc welding.
3. arc
5. Wire feed process.
4. Welding Mild steel welding using wire feed process. processes
6. Air arc gouging

Rationale and Consultations

You only have to complete the Rationale and Consultations section once for a group of related proposals (i.e. a number of changes to a PCG and multiple courses). Is this proposal part of a group of related proposals?

Yes

Is this the primary proposal?

No

Primary Proposal

Heavy Mechanical Technology PCG

Additional Information
Provide any additional information if necessary.

Changes have been made from original approved program which includes changes to course titles, course descriptions, time allocations, grading and evaluation descriptions and amounts, and course order (Proposal was originally put through before space and training aids were known/allocated. Training space and training aids are now known which influenced original proposed course delivery) We also added three shop simulation weeks to better align with international student integration into employment.

Supporting documentation:

Reviewer Comments

Nicole Degagne (ndegagne) (11/14/18 2:13 pm): Rollback: revisions not complete
Nicole Degagne (ndegagne) (12/04/18 1:52 pm): Rollback: for further review
Course Change Request

Date Submitted: 11/15/18 8:37 am

Viewing: HMTD 1104 : HMT Tools & Equipment

Equip-1

Last approved: 07/04/18 4:59 am
Last edit: 12/19/18 11:04 am
Changes proposed by: ebach

Programs referencing this course
112: Heavy Mechanical Technology Diploma (International Cohort)

Course Name:
HMT Tools & Equipment Equip-1

Effective Date: May 2019

School/Centre: Trades, Technology & Design

Department: Heavy Mechanical Technology Diploma International(4305)

Contact(s)

In Workflow
1. 4305 Leader
2. CTT Dean
3. Curriculum Committee Chair
4. EDCO Chair
5. Records
6. Banner

Approval Path
1. 11/14/18 2:12 pm
   Nicole Degagne (ndegagne):
   Rollback to Initiator
2. 11/15/18 9:19 am
   Richard Cyr (rcyr):
   Approved for 4305 Leader
3. 11/15/18 9:29 am
   Bre Griffiths (bgriffiths):
   Approved for CTT Dean
4. 12/04/18 1:53 pm
   Nicole Degagne (ndegagne):
   Rollback to 4305 Leader for Curriculum Committee Chair
5. 12/05/18 1:34 pm
   Richard Cyr (rcyr):
   Approved for 4305 Leader
6. 12/05/18 2:00 pm
   Brett Griffiths
Banner Course Name: HMT Tools & Equipment

Subject Code: HMTD - Heavy Mechanical Technician
Course Number: 1104
Year of Study: 1st Year Post-secondary
Credits: 1

Course Description:
This course introduces students to the use of protective equipment, lock out procedures, and the use and maintenance of hand tools.

Course Pre-Requisites (if applicable):
Admission to the Heavy Mechanical Technology program.

Course Co-requisites (if applicable):

PLAR (Prior Learning Assessment & Recognition)
No
Course Learning Outcomes (CLO):

Upon successful completion of this course, students will be able to:

<table>
<thead>
<tr>
<th>CLO #1</th>
<th>Use proper personal protective equipment associated with tools and shop equipment.</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLO #2</td>
<td>Apply lock-out procedures to shop equipment.</td>
</tr>
<tr>
<td>CLO #3</td>
<td>Select, use, use-and maintain hand tools.</td>
</tr>
</tbody>
</table>

Instructional Strategies:
Instructional strategies include classroom lectures, demonstrations, group discussions, computer lab and hands-on practical work.

Evaluation and Grading

Grading System: Percentages
Passing grade: 70%

Evaluation Plan:

<table>
<thead>
<tr>
<th>Type</th>
<th>Percentage</th>
<th>Brief description of assessment activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other Assignments</td>
<td><strong>50</strong> 25</td>
<td>Theory- includes formative assessments, assignments, and a summative assessment. Quizzes and Assignments (formative—theory)</td>
</tr>
<tr>
<td>Other Exam</td>
<td><strong>50</strong> 20</td>
<td>Practical- includes shop tasks, active participation and teamwork, workplace behavior, use of tools and equipment. Theory exam (summative—theory)</td>
</tr>
<tr>
<td>Assignments</td>
<td><strong>30</strong></td>
<td>Ongoing observations of workplace behavior and use of tools and equipment (according to rubric)</td>
</tr>
<tr>
<td>Participation</td>
<td><strong>25</strong></td>
<td>Observable active participation and team work (clear expectations as to how this is evaluated—rubric)</td>
</tr>
</tbody>
</table>

Hours by Learning Environment Type

Lecture, Seminar, Online

<table>
<thead>
<tr>
<th>Subject</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Theory</td>
<td><strong>12.5</strong></td>
</tr>
<tr>
<td>Practical</td>
<td><strong>17.5</strong></td>
</tr>
</tbody>
</table>
Lab, Clinical, Shop, Kitchen, Studio, Simulation

Practicum

Self Paced / Individual Learning

---

### Course Topics

<table>
<thead>
<tr>
<th>Course Topics</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Proper personal protective equipment associated with tools and shop equipment.</td>
</tr>
<tr>
<td>2. Lock-out procedures to shop equipment.</td>
</tr>
<tr>
<td>3. Selecting, using, and maintaining hand tools.</td>
</tr>
</tbody>
</table>

---

### Rationale and Consultations

You only have to complete the Rationale and Consultations section once for a group of related proposals (i.e. a number of changes to a PCG and multiple courses). Is this proposal part of a group of related proposals?

Yes

Is this the primary proposal?

No

Primary Proposal

Heavy Mechanical Technology PCG

---

### Additional Information

Provide any additional information if necessary.

Changes have been made from original approved program which includes changes to course titles, course descriptions, time allocations, grading and evaluation descriptions and amounts, and course order (Proposal was originally put through before space and training aids were known/allocated. Training space and training aids are now known which influenced original proposed course delivery) We also added three shop simulation weeks to better align with international student integration into employment.

Supporting documentation:
Reviewer

Comments

Nicole Degagne (ndegagne) (11/14/18 2:12 pm): Rollback: revisions not complete
Nicole Degagne (ndegagne) (12/04/18 1:53 pm): Rollback: for further review
Course Change Request

Date Submitted: 11/15/18 8:37 am

Viewing: HMTD 1105 : HMT Tools & Equipment 2

Last approved: 07/04/18 4:59 am
Last edit: 12/19/18 11:05 am
Changes proposed by: ebach

Programs referencing this course

112: Heavy Mechanical Technology Diploma (International Cohort)

In Workflow
1. 4305 Leader
2. CTT Dean
3. Curriculum Committee Chair
4. EDCO Chair
5. Records
6. Banner

Approval Path
1. 11/14/18 2:13 pm
   Nicole Degagne (ndegagne):
   Rollback to Initiator
2. 11/15/18 9:20 am
   Richard Cyr (rcyr):
   Approved for 4305 Leader
3. 11/15/18 9:35 am
   Bre Griffiths (bgriffiths):
   Approved for CTT Dean
4. 12/04/18 1:53 pm
   Nicole Degagne (ndegagne):
   Rollback to 4305 Leader for Curriculum Committee Chair
5. 12/05/18 1:34 pm
   Richard Cyr (rcyr):
   Approved for 4305 Leader
6. 12/05/18 2:00 pm
   Brett Griffiths

Course Name:
HMT Tools & Equipment 2

Effective Date: May 2019

School/Centre: Trades, Technology & Design

Department: Heavy Mechanical Technology Diploma International(4305)

Contact(s)
Banner Course Name: HMT Tools & Equipment 2

Subject Code: HMTD - Heavy Mechanical Technician
Course Number: 1105
Year of Study: 1st Year Post-secondary
Credits: 1

Course Description:
This course introduces students to the use of measuring instruments, power tools, drill bits, and shop equipment.

Course Pre-Requisites (if applicable):
Admission to the Heavy Mechanical Technology program.

Course Co-requisites (if applicable):

PLAR (Prior Learning Assessment & Recognition)
No
## Course Learning Outcomes (CLO):

Upon successful completion of this course, students will be able to:

<table>
<thead>
<tr>
<th>CLO #</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>#1</td>
<td>Select, use, use and maintain measuring <strong>tools</strong>, <strong>power tools</strong>, <strong>drill bits</strong>, and <strong>shop equipment</strong>.</td>
</tr>
<tr>
<td>#2</td>
<td>Select, use and maintain <strong>power tools</strong></td>
</tr>
<tr>
<td>#3</td>
<td>Select, use and maintain <strong>drill bits</strong></td>
</tr>
<tr>
<td>#4</td>
<td>Select, use and maintain <strong>shop equipment</strong></td>
</tr>
</tbody>
</table>

**Instructional Strategies:**
Instructional strategies include classroom lectures, demonstrations, group discussions, computer lab and hands-on practical work.

## Evaluation and Grading

### Grading System: Percentages

<table>
<thead>
<tr>
<th>Type</th>
<th>Percentage</th>
<th>Brief description of assessment activity</th>
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</thead>
<tbody>
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<td>Other Assignments</td>
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<td>Theory- includes formative assessments, assignments, and a summative assessment. Quizzes and Assignments (formative—theory)</td>
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<tr>
<td>Other Exam</td>
<td>50 20</td>
<td>Practical- includes shop tasks, active participation and teamwork, workplace behavior, use of tools and equipment. Theory exam (summative—theory)</td>
</tr>
<tr>
<td>Assignments</td>
<td>30</td>
<td>Ongoing observations of workplace behavior and use of tools and equipment.</td>
</tr>
<tr>
<td>Participation</td>
<td>25</td>
<td>Observable active participation and teamwork</td>
</tr>
</tbody>
</table>

### Passing grade: 70%

## Hours by Learning Environment Type

Lecture, Seminar, Online
12.5
17.5

Lab, Clinical, Shop, Kitchen,
Studio, Simulation

12.5 7.5

Practicum

Self Paced / Individual Learning

Course Topics

<table>
<thead>
<tr>
<th>Course Topics:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Measuring <strong>tools</strong>.</td>
</tr>
<tr>
<td>2. <strong>instruments</strong></td>
</tr>
<tr>
<td>2. Power <strong>tools</strong>.</td>
</tr>
<tr>
<td>3. <strong>tools</strong></td>
</tr>
<tr>
<td>3. Drill <strong>bits</strong>.</td>
</tr>
<tr>
<td>4. <strong>bits</strong></td>
</tr>
<tr>
<td>4. Shop <strong>equipment</strong>. <strong>equipment</strong></td>
</tr>
</tbody>
</table>

**Rationale and Consultations**

You only have to complete the Rationale and Consultations section once for a group of related proposals (i.e. a number of changes to a PCG and multiple courses). Is this proposal part of a group of related proposals?

Yes

Is this the primary proposal?

No

Primary Proposal

Heavy Mechanical Technology PCG

**Additional Information**
Provide any additional information if necessary.

Changes have been made from original approved program which includes changes to course titles, course descriptions, time allocations, grading and evaluation descriptions and amounts, and course order (Proposal was originally put through before space and training aids were known/allocated. Training space and training aids are now known which influenced original proposed course delivery) We also added three shop simulation weeks to better align with international student integration into employment.

Supporting documentation:

Reviewer

Comments

Nicole Degagne (ndegagne) (11/14/18 2:13 pm): Rollback: revisions not complete
Nicole Degagne (ndegagne) (12/04/18 1:53 pm): Rollback: for further review
Course Change Request

Date Submitted: 11/27/18 1:52 pm

Viewing: **HMTD 1106 : Fittings & Fasteners**

Last approved: 07/04/18 5:01 am

Last edit: 12/20/18 1:22 pm

Changes proposed by: mwheatley

Programs referencing this course

- **112: Heavy Mechanical Technology Diploma (International Cohort)**

Course Name: **Fittings & Fasteners**

Effective Date: May 2019

School/Centre: Trades, Technology & Design

Department: Heavy Mechanical Technology Diploma International(4305)

Contact(s)

In Workflow

1. 4305 Leader
2. CTT Dean
3. Curriculum Committee Chair
4. EDCO Chair
5. Records
6. Banner

Approval Path

1. 11/14/18 2:13 pm
   Nicole Degagne (ndegagne):
   Rollback to Initiator
2. 11/15/18 9:21 am
   Richard Cyr (rcyr):
   Approved for 4305 Leader
3. 11/15/18 9:35 am
   Bre Griffiths (bgriffiths):
   Approved for CTT Dean
4. 11/26/18 12:58 pm
   Carlie Deans (cdeans):
   Rollback to Initiator
5. 12/03/18 1:39 pm
   Richard Cyr (rcyr):
   Approved for 4305 Leader
6. 12/03/18 2:50 pm
   Brett Griffiths (bgriffiths):
   Approved for CTT Dean

https://curriculum.vcc.ca/courseleaf/approve/?role=admin
Banner Course Name: Fittings & Fasteners

Subject Code: HMTD - Heavy Mechanical Technician

Course Number 1106

Year of Study 1st Year Post-secondary

Credits: 1

Course Description:
This course introduces students to imperial and metric fasteners, internal and external threads, tubing, pipe and fittings, hose and hose fittings.

Course Pre-Requisites (if applicable):

Admission to the Heavy Mechanical Technology program.

Course Co-requisites (if applicable):

PLAR (Prior Learning Assessment & Recognition)

No

Course Learning Outcomes (CLO):
Upon successful completion of this course, students will be able to:

<table>
<thead>
<tr>
<th>CLO #1</th>
<th>Select and use imperial and metric fasteners. fasteners</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLO #2</td>
<td>Cut and repair internal and external threads. threads</td>
</tr>
<tr>
<td>CLO #3</td>
<td>Select use and use repair tubing, pipe, pipe and fittings. fittings</td>
</tr>
<tr>
<td>CLO #4</td>
<td>Select and use hose, hose and hose fittings. fittings</td>
</tr>
</tbody>
</table>

Instructional Strategies:
Instructional strategies include classroom lectures, demonstrations, group discussions, computer lab and hands-on practical work.

Evaluation and Grading

Grading System: Percentages

| Passed grade: | 70% |

Evaluation Plan:

<table>
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<tr>
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<th>Percentage</th>
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<tr>
<td>Assignments</td>
<td></td>
<td>Practical- includes shop tasks, active participation and teamwork, workplace behavior, use of tools and equipment. Theory-exam (summative–theory)</td>
</tr>
<tr>
<td>Other Exam</td>
<td>50</td>
<td>Assignments 30  Ongoing observations of workplace behavior and use of tools and equipment.</td>
</tr>
<tr>
<td>Participation</td>
<td>25</td>
<td>Observable active participation and teamwork</td>
</tr>
</tbody>
</table>

Hours by Learning Environment Type

| Lecture, Seminar, Online | 12.5 |
| Lab, Clinical, Shop, Kitchen, Studio, Simulation | 12.5 7.5 |
Practicum

Self Paced / Individual Learning

Course Topics

<table>
<thead>
<tr>
<th>Course Topics:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Imperial and metric fasteners.</td>
</tr>
<tr>
<td>2. fasteners</td>
</tr>
<tr>
<td>2. Internal and external threads.</td>
</tr>
<tr>
<td>3. threads</td>
</tr>
<tr>
<td>3. Tubing, pipe, pipe and fittings.</td>
</tr>
<tr>
<td>4. fittings</td>
</tr>
<tr>
<td>4. Hose and hose fittings, fittings</td>
</tr>
</tbody>
</table>

Rationale and Consultations

You only have to complete the Rationale and Consultations section once for a group of related proposals (i.e. a number of changes to a PCG and multiple courses). Is this proposal part of a group of related proposals?

Yes

Is this the primary proposal?

No

Primary Proposal

Heavy Mechanical Technology PCG

Additional Information

Provide any additional information if necessary.

Changes have been made from original approved program which includes changes to course titles, course descriptions, time allocations, grading and evaluation descriptions and amounts, and course order (Proposal was originally put through before space and training aids were known/allocated. Training space and training aids are now known which influenced original proposed course delivery) We also added three shop simulation weeks to better align with international student integration into employment.

Supporting documentation:

Reviewer

Comments
Nicole Degagne (ndegagne) (11/14/18 2:13 pm): Rollback: revisions not complete
Course Change Request

Date Submitted: 11/15/18 8:38 am

Viewing: HMTD 1107 : Truck & Machine Operation 1 Operation of Equipment

Last approved: 07/04/18 5:00 am
Last edit: 12/20/18 1:22 pm
Changes proposed by: ebach

Programs referencing this course:

112: Heavy Mechanical Technology Diploma (International Cohort)

Course Name:

Truck & Machine Operation 1 Operation of Equipment

Effective Date: May 2019

School/Centre: Trades, Technology & Design

Department: Heavy Mechanical Technology Diploma International(4305)

Contact(s)

In Workflow

1. 4305 Leader
2. CTT Dean
3. Curriculum Committee Chair
4. EDCO Chair
5. Records
6. Banner

Approval Path

1. 11/14/18 2:13 pm Nicole Degagne (ndegagne): Rollback to Initiator
2. 11/15/18 9:23 am Richard Cyr (rcyr): Approved for 4305 Leader
3. 11/15/18 9:35 am Brett Griffiths (bgriffiths): Approved for CTT Dean
4. 12/04/18 1:53 pm Nicole Degagne (ndegagne): Rollback to 4305 Leader for Curriculum Committee Chair
5. 12/05/18 1:34 pm Richard Cyr (rcyr): Approved for 4305 Leader
6. 12/05/18 2:00 pm Brett Griffiths
Banner Course Name: 

Truck & Machine Operation 1 

Operation of Equipment

Subject Code: 

HMTD - Heavy Mechanical Technician

Course Number: 

1107

Year of Study: 

1st Year Post-secondary

Credits: 

1

Course Description:

This course introduces students to pre-start and walk around inspections, starting aids, start up procedures, emergency shutdown procedures, starting, operating, and lock-out procedures for trucks and shut down of equipment. 

Course Pre-Requisites (if applicable):

Admission to the Heavy Mechanical Technology program.

Course Co-requisites (if applicable):

PLAR (Prior Learning Assessment & Recognition)
Course Learning Outcomes (CLO):

<table>
<thead>
<tr>
<th>CLO #</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>#1</td>
<td>Perform pre-start and walk-around inspections on trucks, wheeled and track equipment, including forklifts. Describe prestart and walk-around inspections</td>
</tr>
<tr>
<td>#2</td>
<td>Start, move, operate, secure, and stop trucks, wheeled and track equipment, including forklifts. Describe starting aids</td>
</tr>
<tr>
<td>#3</td>
<td>Describe start-up procedures</td>
</tr>
<tr>
<td>#4</td>
<td>Describe emergency shut-down procedures</td>
</tr>
<tr>
<td>#5</td>
<td>Start, operate and shut-down selected equipment</td>
</tr>
<tr>
<td>#6</td>
<td>Lock-out heavy duty equipment prior to service</td>
</tr>
<tr>
<td>#7</td>
<td>Operate a forklift</td>
</tr>
</tbody>
</table>

Upon successful completion of this course, students will be able to:

Instructional Strategies:

Instructional strategies include classroom lectures, demonstrations, group discussions, computer lab and hands-on practical work.

Evaluation and Grading

Grading System: Percentages

<table>
<thead>
<tr>
<th>Type</th>
<th>Percentage</th>
<th>Brief description of assessment activity</th>
</tr>
</thead>
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<tr>
<td>Other Assignments</td>
<td>50 25</td>
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<td>-----------------</td>
<td>------------</td>
<td>---------------------------------------------------------------------------------------------------------</td>
</tr>
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</tr>
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<tr>
<td>Participation</td>
<td>25%</td>
<td>Observable active participation and teamwork</td>
</tr>
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</table>

**Course Topics**

1. **Pre-start and walk-around inspections on trucks, wheeled and track equipment, including forklifts.**
2. **Starting and operating trucks, wheeled and track equipment, including forklifts.**
3. **Moving trucks, wheeled and track equipment, including forklifts.**
4. **Securing and stopping trucks, wheeled and track equipment, including forklifts.** **Pre-start and walk-around inspections**
5. **Starting aids**
6. **Start-up procedures**
7. **Emergency shut-down procedures**
8. **Equipment start-up, operation and shut-down**
9. **Heavy duty equipment lock-out**
10. **Forklift operation**

**Rationale and Consultations**
You only have to complete the Rationale and Consultations section once for a group of related proposals (i.e. a number of changes to a PCG and multiple courses). Is this proposal part of a group of related proposals?

Yes

Is this the primary proposal?

No

Primary Proposal

Heavy Mechanical Technology PCG

Provide a rationale

for this proposal:

Additional Information

Provide any additional information if necessary.

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Supporting documentation:

Reviewer Comments

Nicole Degagne (ndegagne) (11/14/18 2:13 pm): Rollback: revisions not complete

Nicole Degagne (ndegagne) (12/04/18 1:53 pm): Rollback: for further review
Course Change Request

Date Submitted: 11/15/18 8:38 am

Viewing: **HMTD 1108 : Truck & Machine Operation 2 Lubricants**

Last approved: 07/04/18 5:00 am

Last edit: 12/20/18 1:23 pm

Changes proposed by: ebach

Programs

referencing this

course

1. **Truck & Machine Operation 2 Lubricants**

Effective Date: May 2019

School/Centre: Trades, Technology & Design

Department: Heavy Mechanical Technology Diploma International(4305)

Contact(s)

In Workflow

1. 4305 Leader
2. CTT Dean
3. Curriculum Committee Chair
4. EDCO Chair
5. Records
6. Banner

Approval Path

1. 11/14/18 2:13 pm Nicole Degagne (ndegagne): Rollback to Initiator
2. 11/15/18 9:23 am Richard Cyr (rcyr): Approved for 4305 Leader
3. 11/15/18 9:35 am Brett Griffiths (bgriffiths): Approved for CTT Dean
4. 12/04/18 1:54 pm Nicole Degagne (ndegagne): Rollback to 4305 Leader for Curriculum Committee Chair
5. 12/05/18 1:34 pm Richard Cyr (rcyr): Approved for 4305 Leader
6. 12/05/18 2:00 pm Brett Griffiths

https://curriculum.vcc.ca/courseleaf/approve/?role=admin
Banner Course Name: **Truck & Machine Operation 2**

**Lubricants**

Subject Code: HMTD - Heavy Mechanical Technician

Course Number: 1108

Year of Study: 1st Year Post-secondary

Credits: 1

Course Description:

This course introduces students to pre-start lubricant identification, use and walk around inspections, start up procedures, emergency shutdown procedures, start, operate, shut down of forklift, and forklift certification (optional). service procedures.

Course Pre-Requisites (if applicable):

Admission to the Heavy Mechanical Technology program.

Course Co-requisites (if applicable):


PLAR (Prior Learning Assessment & Recognition)
Upon successful completion of this course, students will be able to:

<table>
<thead>
<tr>
<th>CLO #1</th>
<th>Operate trucks, wheeled and track equipment, including forklifts. Identify lubricants</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLO #2</td>
<td>Complete forklift operator training (certification optional). Use lubricants</td>
</tr>
<tr>
<td>CLO #3</td>
<td>Describe lubricant service procedures</td>
</tr>
</tbody>
</table>

**Evaluation and Grading**

**Grading System:** Percentages

**Passing grade:** 70%

**Evaluation Plan:**

<table>
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<tr>
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**Hours by Learning Environment Type**

- Lecture, Seminar, Online  
  
  **7.5 17.5**

- Lab, Clinical, Shop, Kitchen, Studio, Simulation
Course Topics

<table>
<thead>
<tr>
<th>Course Topics:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Operating trucks, wheeled and track equipment, including forklifts.</td>
</tr>
<tr>
<td>2. Forklift operator training (certification optional). Lubricants</td>
</tr>
<tr>
<td>2. Service procedures</td>
</tr>
</tbody>
</table>

Rationale and Consultations

You only have to complete the Rationale and Consultations section once for a group of related proposals (i.e. a number of changes to a PCG and multiple courses). Is this proposal part of a group of related proposals?

Yes

Is this the primary proposal?

No

Primary Proposal

Heavy Mechanical Technology PCG

Additional Information

Provide any additional information if necessary.

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Supporting documentation:

Reviewer Comments

Nicole Degagne (ndegagne) (11/14/18 2:13 pm): Rollback: revisions not complete
Nicole Degagne (ndegagne) (12/04/18 1:54 pm): Rollback: for further review
Course Change Request

Date Submitted: 11/15/18 8:38 am

Viewing: HMTD 1109 : Lubricants & Bearings

**Bearing Types and Function**

Last approved: 07/04/18 4:59 am

Last edit: 12/20/18 1:24 pm

Changes proposed by: ebach

Programs referencing this course

112: Heavy Mechanical Technology Diploma (International Cohort)

Course Name:

- **Lubricants & Bearings** Bearing Types and Function

Effective Date: May 2019

School/Centre: Trades, Technology & Design

Department: Heavy Mechanical Technology Diploma International(4305)

Contact(s)

In Workflow

1. 4305 Leader
2. CTT Dean
3. Curriculum Committee Chair
4. EDCO Chair
5. Records
6. Banner

Approval Path

1. 11/14/18 2:13 pm Nicole Degagne (ndegagne):
   Rollback to Initiator
2. 11/15/18 9:24 am Richard Cyr (rcyr):
   Approved for 4305 Leader
3. 11/15/18 9:35 am Brett Griffiths (bgriffiths):
   Approved for CTT Dean
4. 12/04/18 1:54 pm Nicole Degagne (ndegagne):
   Rollback to 4305 Leader for Curriculum Committee Chair
5. 12/05/18 1:33 pm Richard Cyr (rcyr):
   Approved for 4305 Leader
6. 12/05/18 2:00 pm Brett Griffiths
Banner Course Name: **Lubricants & Bearings**

**Bearing Types and Function**

**Subject Code:** HMTD - Heavy Mechanical Technician  
**Course Number:** 1109  
**Year of Study:** 1st Year Post-secondary  
**Credits:** 1

**Course Description:**
This course introduces students to lubricant identification, use types of bearings, and seals as well as related service procedures (including grease job), bearings, and seals. procedures.

**Course Pre-Requisites (if applicable):**

Admission to the Heavy Mechanical Technology program.

**Course Co-requisites (if applicable):**

**PLAR (Prior Learning Assessment & Recognition)**
No
Course Learning Outcomes (CLO):

Upon successful completion of this course, students will be able to:

CLO #1  Identify and select lubricants. Identify bearings

CLO #2  Select and service bearings and seals. Identify seal types

CLO #3  Perform truck grease job. Service bearings and seals

CLO #4  Perform machine grease job.

Instructional Strategies:
Instructional strategies include classroom lectures, demonstrations, group discussions, computer lab and hands-on practical work.

Evaluation and Grading

Grading System:  Percentages
70%

Passing grade:

Evaluation Plan:

<table>
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Hours by Learning Environment Type

Lecture, Seminar, Online

12.5

17.5

Lab, Clinical, Shop, Kitchen, Studio, Simulation
Practicum

Self Paced / Individual Learning

Course Topics

<table>
<thead>
<tr>
<th>Course Topics:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. <strong>Lubricants.</strong></td>
</tr>
<tr>
<td>2. <strong>Bearings and seals.</strong></td>
</tr>
<tr>
<td>3. <strong>Truck grease jobs.</strong></td>
</tr>
</tbody>
</table>
| 4. **Machine grease jobs.**  
  Types of bearings |
| 2. Types of seals |
| 3. Bearing service procedures |
| 4. Seal service procedures |

Rationale and Consultations

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Yes

Is this the primary proposal?

No

Primary Proposal

Heavy Mechanical Technology PCG

Additional Information

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<tr>
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<tr>
<td>Nicole Degagne</td>
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<tr>
<td>ndegagne</td>
<td>(11/14/18 2:13 pm)</td>
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</tr>
<tr>
<td>ndegagne</td>
<td>(12/04/18 1:54 pm)</td>
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</table>
Course Change Request

Date Submitted: 11/15/18 8:38 am

Viewing: HMTD 1110: Math, Physics & Worksafe

HMT Physics and Math

Last approved: 07/04/18 5:01 am
Last edit: 12/20/18 1:25 pm
Changes proposed by: ebach

Programs referencing this course

112: Heavy Mechanical Technology Diploma (International Cohort)

Course Name:

Math, Physics & Worksafe Requirements for HMT Physics and Math

Effective Date: May 2019
School/Centre: Trades, Technology & Design
Department: Heavy Mechanical Technology Diploma International(4305)

Contact(s)

In Workflow

1. 4305 Leader
2. CTT Dean
3. Curriculum Committee Chair
4. EDCO Chair
5. Records
6. Banner

Approval Path

1. 11/14/18 2:14 pm
   Nicole Degagne (ndegagne): Rollback to Initiator
2. 11/15/18 9:26 am
   Richard Cyr (rcyr): Approved for 4305 Leader
3. 11/15/18 9:35 am
   Bre Griffiths (bgriffiths): Approved for CTT Dean
4. 12/04/18 1:54 pm
   Nicole Degagne (ndegagne): Rollback to 4305 Leader for Curriculum Committee Chair
5. 12/05/18 1:33 pm
   Richard Cyr (rcyr): Approved for 4305 Leader
6. 12/05/18 2:00 pm
   Brett Griffiths
Banner Course Name: Math, Physics & Worksafe HMT

Physics and Math

Subject Code: HMTD - Heavy Mechanical Technician

Course Number 1110

Year of Study 1st Year Post-secondary

Credits: 1

Course Description:

**Wire rope, lift, and support loads.** This course introduces students to math and physics for heavy mechanical trades, load supporting and lifting, and servicing winch wire rope.

Course Pre-Requisites (if applicable):

Admission to the Heavy Mechanical Technology program.

Course Co-requisites (if applicable):

PLAR (Prior Learning Assessment & Recognition)

No
Course Learning Outcomes (CLO):

Upon successful completion of this course, students will be able to:

CLO #1 Use mathematics to solve problems involving whole numbers. Apply math and physics to a heavy mechanical trades context.

CLO #2 Describe key terms and concepts for working with fractions, decimals, ratios, proportions, equations, and formulas. Lift and support loads.

CLO #3 Solve problems involving common fractions, decimals, and decimal fractions. Service winch wire rope.

CLO #4 Convert between common decimal fractions.

CLO #5 Describe and convert between metric and imperial measurements.

CLO #6 Solve problems using perimeters, areas, volumes, ratios, and proportions.

CLO #7 Describe and use angles and geometric construction.

CLO #8 Describe wire ropes and their applications.

CLO #9 Inspect and service wire ropes used on winches.

CLO #10 Apply the WorkSafe BC Safety Regulations to lifting and blocking applications.

CLO #11 Select, use and maintain lifting and blocking equipment: lift, move, and support loads on a variety of different machines, trucks, and automobiles (including pick-up trucks).

Instructional Strategies:

Instructional strategies include classroom lectures, demonstrations, group discussions, computer lab and hands-on practical work.

Evaluation and Grading

Grading System: Percentages

Passing grade: 70%
### Evaluation Plan:

<table>
<thead>
<tr>
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<td>Lab, Clinical, Shop, Kitchen,</td>
<td></td>
</tr>
<tr>
<td>Studio, Simulation</td>
<td><strong>17.5</strong> <strong>7.5</strong></td>
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<tr>
<td>Practicum</td>
<td></td>
</tr>
<tr>
<td>Self Paced / Individual Learning</td>
<td></td>
</tr>
</tbody>
</table>

### Course Topics

**Course Topics:**
1. Whole numbers.
2. Fractions, decimals, ratios, proportions, equations, and formulas.
3. Common fractions, decimals, and decimal fractions.
5. Metric and imperial measurements.
6. Perimeters, areas, volumes, ratios, and proportions.
7. Angles and geometric construction.
8. Wire ropes and their applications.
9. Wire ropes used on winches.
10. WorkSafe BC Safety Regulations to lifting and blocking applications.
11. Lifting and blocking equipment for a variety of different machines, trucks, and automobiles (including pick-up trucks).

**Rationale and Consultations**

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Yes

Is this the primary proposal?

No

Primary Proposal

Heavy Mechanical Technology PCG

**Additional Information**

Provide any additional information if necessary.

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Supporting documentation:
Reviewer

Comments

Nicole Degagne (ndegagne) (11/14/18 2:14 pm): Rollback: revisions not complete
Nicole Degagne (ndegagne) (12/04/18 1:54 pm): Rollback: for further review
Course Change Request

Date Submitted: 11/15/18 8:38 am

Viewing: HMTD 1111 : Final Drives & Undercarriage 1 Undercarriages

Last approved: 07/04/18 4:59 am

Last edit: 12/20/18 2:43 pm

Changes proposed by: ebach

Programs referencing this course

112: Heavy Mechanical Technology Diploma (International Cohort)

Course Name:
Final Drives & Undercarriage 1 Undercarriages

Effective Date: May 2019

School/Centre: Trades, Technology & Design

Department: Heavy Mechanical Technology Diploma International(4305)

Contact(s)

In Workflow
1. 4305 Leader
2. CTT Dean
3. Curriculum Committee Chair
4. EDCO Chair
5. Records
6. Banner

Approval Path
1. 11/14/18 2:13 pm Nicole Degagne (ndegagne): Rollback to Initiator
2. 11/15/18 9:29 am Richard Cyr (rcyr): Approved for 4305 Leader
3. 11/15/18 9:35 am Bre Griffiths (bgriffiths): Approved for CTT Dean
4. 12/04/18 1:54 pm Nicole Degagne (ndegagne): Rollback to 4305 Leader for Curriculum Committee Chair
5. 12/05/18 1:33 pm Richard Cyr (rcyr): Approved for 4305 Leader
6. 12/05/18 2:00 pm Brett Griffiths
**Course Description:**

This course introduces students to the principals of load supporting removal and lifting for the installation of track machine undercarriages and final drives.

**Course Pre-Requisites (if applicable):**

Admission to the Heavy Mechanical Technology program.

**Course Co-requisites (if applicable):**

- PLAR (Prior Learning Assessment & Recognition)
  - No
Upon successful completion of this course, students will be able to:

**CLO #1** Describe track machine undercarriages.

**CLO #2** Remove and reinstall track machine undercarriages.

**CLO #3** Remove final drives.

**Instructional Strategies:**
Instructional strategies include classroom lectures, demonstrations, group discussions, computer lab and hands-on practical work.

**Evaluation and Grading**

**Grading System:** Percentages

**Passing grade:** 70%

**Evaluation Plan:**

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**Hours by Learning Environment Type**

Lecture, Seminar, Online

12.5

17.5

Lab, Clinical, Shop, Kitchen, Studio, Simulation

12.5 7.5
Practicum

Self Paced / Individual Learning

Course Topics

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</tr>
<tr>
<td>2. <strong>Removal of track machine undercarriages.</strong></td>
</tr>
<tr>
<td>3. <strong>Removal of final drives.</strong> Undercarriage types</td>
</tr>
<tr>
<td>2. Undercarriage components</td>
</tr>
<tr>
<td>3. Undercarriage operation</td>
</tr>
<tr>
<td>4. Undercarriage removal and installation</td>
</tr>
</tbody>
</table>

**Rationale and Consultations**

You only have to complete the Rationale and Consultations section once for a group of related proposals (i.e. a number of changes to a PCG and multiple courses). Is this proposal part of a group of related proposals?

Yes

Is this the primary proposal?

No

Primary Proposal

Heavy Mechanical Technology PCG

**Additional Information**

Provide any additional information if necessary.

Changes have been made from original approved program which includes changes to course titles, course descriptions, time allocations, grading and evaluation descriptions and amounts, and course order (Proposal was originally put through before space and training aids were known/allocated. Training space and training aids are now known which influenced original proposed course delivery) We also added three shop simulation weeks to better align with international student integration into employment.

Supporting documentation:

Reviewer

Comments
Course Change Request

Date Submitted: 11/15/18 8:39 am

Viewing: **HMTD 1112 : Final Drives & Undercarriage 2**

Last approved: 07/04/18 4:59 am
Last edit: 12/20/18 2:43 pm
Changes proposed by: ebach

Programs referencing this course:
- **112: Heavy Mechanical Technology Diploma (International Cohort)**

Course Name:
- Final Drives & **Undercarriage 2**

Effective Date: May 2019

School/Centre: Trades, Technology & Design

Department: Heavy Mechanical Technology Diploma International(4305)

Contact(s):

In Workflow:
1. 4305 Leader
2. CTT Dean
3. Curriculum Committee Chair
4. EDCO Chair
5. Records
6. Banner

Approval Path:
1. 11/14/18 2:14 pm Nicole Degagne (ndegagne): Rollback to Initiator
2. 11/15/18 9:29 am Richard Cyr (rcyr): Approved for 4305 Leader
3. 11/15/18 9:35 am Bre Griffiths (bgriffiths): Approved for CTT Dean
4. 12/04/18 1:54 pm Nicole Degagne (ndegagne): Rollback to 4305 Leader for Curriculum Committee Chair
5. 12/05/18 1:33 pm Richard Cyr (rcyr): Approved for 4305 Leader
6. 12/05/18 2:00 pm Brett Griffiths
Course Description:

This course introduces students to the principals of load supporting, removal and lifting for the installation of track machine undercarriages, service of final drives, and installation of final drives. Drive service.

Course Pre-Requisites (if applicable):

Admission to the Heavy Mechanical Technology program.

Course Co-requisites (if applicable):

PLAR (Prior Learning Assessment & Recognition)
Course Learning Outcomes (CLO):

Upon successful completion of this course, students will be able to:

<table>
<thead>
<tr>
<th>CLO #1</th>
<th>Install track machine undercarriages.  Remove and install final drives</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLO #2</td>
<td>Install Service-final drives.  drives</td>
</tr>
<tr>
<td>CLO #3</td>
<td>Service final drives.</td>
</tr>
</tbody>
</table>

Instructional Strategies:
Instructional strategies include classroom lectures, demonstrations, group discussions, computer lab and hands-on practical work.

Evaluation and Grading

Grading System: Percentages
Passing grade: 70%

<table>
<thead>
<tr>
<th>Evaluation Plan:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type</td>
</tr>
<tr>
<td>--------------------------------</td>
</tr>
<tr>
<td>Other Assignments</td>
</tr>
<tr>
<td>Other Exam</td>
</tr>
<tr>
<td>Assignments</td>
</tr>
<tr>
<td>Portfolio</td>
</tr>
</tbody>
</table>

Hours by Learning Environment Type

Lecture, Seminar, Online

12.5

17.5

Lab, Clinical, Shop, Kitchen,
Studio, Simulation
Practicum

Self Paced / Individual Learning

Course Topics

<table>
<thead>
<tr>
<th>Course Topics:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Installation of track machine undercarriages.</td>
</tr>
<tr>
<td>2. Installation of final drives.</td>
</tr>
<tr>
<td>3. Servicing final drives. Final drive types</td>
</tr>
<tr>
<td>2: Components</td>
</tr>
<tr>
<td>3: Basic operation</td>
</tr>
<tr>
<td>4: Inspection</td>
</tr>
<tr>
<td>5: Lubrication</td>
</tr>
<tr>
<td>6: Operational tests</td>
</tr>
<tr>
<td>7: Scheduled maintenance</td>
</tr>
</tbody>
</table>

Rationale and Consultations

You only have to complete the Rationale and Consultations section once for a group of related proposals (i.e. a number of changes to a PCG and multiple courses). Is this proposal part of a group of related proposals?

Yes

Is this the primary proposal?

No

Primary Proposal

Heavy Mechanical Technology PCG

Additional Information

Provide any additional information if necessary.

Changes have been made from original approved program which includes changes to course titles, course descriptions, time allocations, grading and evaluation descriptions and amounts, and course order (Proposal was originally put through before space and training aids were known/allocated. Training space and training aids are now known which influenced original proposed course delivery) We also added three shop simulation weeks to better align with international student integration into employment.
Supporting documentation:

Reviewer Comments

Nicole Degagne (ndegagne) (11/14/18 2:14 pm): Rollback: revisions not complete
Nicole Degagne (ndegagne) (12/04/18 1:54 pm): Rollback: for further review
Course Change Request

Date Submitted: 11/27/18 2:01 pm

Viewing: **HMTD 1113 : Frames & Suspension**

Last approved: 07/04/18 5:00 am

Last edit: 12/20/18 1:26 pm

Changes proposed by: mwheatley

Programs referencing this course

- **112: Heavy Mechanical Technology Diploma (International Cohort)**

Course Name:

- Frames & Suspension

Effective Date: May 2019

School/Centre: Trades, Technology & Design

Department: Heavy Mechanical Technology Diploma International(4305)

Approval Path

1. 11/14/18 2:13 pm
   Nicole Degagne (ndegagne): Rollback to Initiator

2. 11/15/18 9:30 am
   Richard Cyr (rcyr): Approved for 4305 Leader

3. 11/15/18 9:35 am
   Bre Griffiths (bgriffiths): Approved for CTT Dean

4. 11/26/18 12:58 pm
   Carlie Deans (cdeans): Rollback to Initiator

5. 12/03/18 1:39 pm
   Richard Cyr (rcyr): Approved for 4305 Leader

6. 12/03/18 2:50 pm
   Brett Griffiths (bgriffiths): Approved for CTT Dean

https://curriculum.vcc.ca/courseleaf/approve/?role=admin
Banner Course Name: Frames & Suspension

Subject Code: HMTD - Heavy Mechanical Technician
Course Number: 1113
Year of Study: 1st Year Post-secondary
Credits: 1

Course Description:
This course introduces students to frame types and the diagnosis, removal, and repair of frames and suspension.

Course Pre-Requisites (if applicable):
Admission to the Heavy Mechanical Technology program.

Course Co-requisites (if applicable):

PLAR (Prior Learning Assessment & Recognition)
No

Course Learning Outcomes (CLO):
Upon successful completion of this course, students will be able to:

<table>
<thead>
<tr>
<th>CLO #1</th>
<th>Describe rail and frame types</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLO #2</td>
<td>Diagnose and repair frames.</td>
</tr>
<tr>
<td>CLO #3</td>
<td>Describe suspension systems.</td>
</tr>
<tr>
<td>CLO #4</td>
<td>Diagnose and repair suspension systems.</td>
</tr>
</tbody>
</table>

Instructional Strategies:
Instructional strategies include classroom lectures, demonstrations, group discussions, computer lab and hands-on practical work.

Evaluation and Grading

Grading System: Percentages
Passing grade: 70%

Evaluation Plan:

<table>
<thead>
<tr>
<th>Type</th>
<th>Percentage</th>
<th>Brief description of assessment activity</th>
</tr>
</thead>
</table>
| Other       | 20         | Theory- includes formative assessments, assignments, and a summative assessment.  
Assignments | 25         | Quizzes and Assignments (formative—theory)                                                 |
| Other Exam  | 80         | Practical- includes shop tasks, active participation and teamwork, workplace behavior,  
Exam       | 20         | use of tools and equipment. Theory exam (summative—theory)                                   |
| Assignments | 30         | Ongoing observations of workplace behavior and use of tools and equipment.                  |
| Participation | 25       | Observable active participation and teamwork                                              |

Hours by Learning Environment Type

Lecture, Seminar, Online

5 17.5

Lab, Clinical, Shop, Kitchen, Studio, Simulation

20 7.5

Practicum

Self Paced / Individual Learning
Course Topics

<table>
<thead>
<tr>
<th>Course Topics:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Rail and frame types.</td>
</tr>
<tr>
<td>2. Diagnosis and repair of frames.</td>
</tr>
<tr>
<td>3. Suspension systems.</td>
</tr>
<tr>
<td>4. Diagnosis and repair of suspension systems. Types of rails</td>
</tr>
<tr>
<td>2. Types of frames</td>
</tr>
<tr>
<td>3. Frame and rail components</td>
</tr>
<tr>
<td>4. Frame component and inspection</td>
</tr>
<tr>
<td>5. Frame alignment</td>
</tr>
<tr>
<td>6. Frame repair</td>
</tr>
</tbody>
</table>

Rationale and Consultations

You only have to complete the Rationale and Consultations section once for a group of related proposals (i.e. a number of changes to a PCG and multiple courses). Is this proposal part of a group of related proposals?

Yes

Is this the primary proposal?

No

Primary Proposal

Heavy Mechanical Technology PCG

Additional Information

Provide any additional information if necessary.

Changes have been made from original approved program which includes changes to course titles, course descriptions, time allocations, grading and evaluation descriptions and amounts, and course order (Proposal was originally put through before space and training aids were known/allocated. Training space and training aids are now known which influenced original proposed course delivery) We also added three shop simulation weeks to better align with international student integration into employment.

Supporting documentation:

Reviewer Comments

https://curriculum.vcc.ca/courseleaf/approve/?role=admin
Nicole Degagne (ndegagne) (11/14/18 2:13 pm): Rollback: revisions not complete

Course Change Request

Date Submitted: 11/15/18 8:39 am

Viewing: HMTD 1114 : Tires, Wheels & Hubs

Last approved: 07/04/18 5:00 am
Last edit: 12/20/18 1:27 pm
Changes proposed by: ebach

Programs referencing this course

112: Heavy Mechanical Technology Diploma (International Cohort)

Course Name:

Tires, Wheels & Hubs

Effective Date: May 2019

School/Centre: Trades, Technology & Design

Department: Heavy Mechanical Technology Diploma International(4305)

Contact(s)

In Workflow

1. 4305 Leader
2. CTT Dean
3. Curriculum Committee Chair
4. EDCO Chair
5. Records
6. Banner

Approval Path

1. 11/14/18 2:14 pm
   Nicole Degagne (ndegagne): Rollback to Initiator

2. 11/15/18 9:35 am
   Richard Cyr (rcyr): Approved for 4305 Leader

3. 11/15/18 11:36 am
   Bre Griffiths (bgriffiths): Approved for CTT Dean

4. 12/04/18 1:55 pm
   Nicole Degagne (ndegagne): Rollback to 4305 Leader for Curriculum Committee Chair

5. 12/05/18 1:33 pm
   Richard Cyr (rcyr): Approved for 4305 Leader

6. 12/05/18 2:00 pm
   Brett Griffiths
Banner Course Name: Tires, Wheels & Hubs

Subject Code: HMTD - Heavy Mechanical Technician
Course Number: 1114
Year of Study: 1st Year Post-secondary
Credits: 1

Course Description:
This course introduces students to the service and diagnosis of wheels, tires, and hubs.

Course Pre-Requisites (if applicable):
Admission to the Heavy Mechanical Technology program.

Course Co-requisites (if applicable):

PLAR (Prior Learning Assessment & Recognition)
No
Course Learning Outcomes (CLO):

Upon successful completion of this course, students will be able to:

<table>
<thead>
<tr>
<th>CLO #1</th>
<th>Describe tires, rims, wheels, and hubs. Service and diagnose tires</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLO #2</td>
<td>Service tires, rims, wheels, and hubs. diagnose-wheels</td>
</tr>
<tr>
<td>CLO #3</td>
<td>Describe external traction devices (chains, studded tires etc.). Service and diagnose hubs</td>
</tr>
</tbody>
</table>

Instructional Strategies:
Instructional strategies include classroom lectures, demonstrations, group discussions, computer lab and hands-on practical work.

Evaluation and Grading

Grading System: Percentages

Passing grade: 70%

Evaluation Plan:

<table>
<thead>
<tr>
<th>Type</th>
<th>Percentage</th>
<th>Brief description of assessment activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other Assignments</td>
<td>20 25</td>
<td>Theory- includes formative assessments, assignments, and a summative assessment. Quizzes and Assignments (formative-theory)</td>
</tr>
<tr>
<td>Other Exam</td>
<td>80 20</td>
<td>Practical- includes shop tasks, active participation and teamwork, workplace behavior, use of tools and equipment. Theory exam (summative-theory)</td>
</tr>
<tr>
<td>Assignments</td>
<td>30</td>
<td>Ongoing observations of workplace behavior and use of tools and equipment.</td>
</tr>
<tr>
<td>Participation</td>
<td>25</td>
<td>Observable active participation and teamwork</td>
</tr>
</tbody>
</table>

Hours by Learning Environment Type

Lecture, Seminar, Online

5 17.5

Lab, Clinical, Shop, Kitchen, Studio, Simulation

20 7.5

Practicum
Course Topics

<table>
<thead>
<tr>
<th>Course Topics:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. <strong>Tires, rims, wheels, and hubs.</strong></td>
</tr>
<tr>
<td>2. <strong>Servicing tires, rims, wheels, and hubs.</strong></td>
</tr>
<tr>
<td>3. <strong>External traction devices (chains, studded tires etc.). Types of tires</strong></td>
</tr>
<tr>
<td>2. Rating</td>
</tr>
<tr>
<td>3. Types of rims</td>
</tr>
<tr>
<td>4. Inspection</td>
</tr>
<tr>
<td>5. Safety precautions</td>
</tr>
<tr>
<td>6. Mounting and balancing</td>
</tr>
<tr>
<td>7. Types of hubs</td>
</tr>
<tr>
<td>8. Components and lubrication</td>
</tr>
<tr>
<td>9. Wheel hub service</td>
</tr>
<tr>
<td>10. Traction devices</td>
</tr>
</tbody>
</table>

**Rationale and Consultations**

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Yes

Is this the primary proposal?

No

Primary Proposal

Heavy Mechanical Technology PCG

**Additional Information**

Provide any additional information if necessary.

Changes have been made from original approved program which includes changes to course titles, course descriptions, time allocations, grading and evaluation descriptions and amounts, and course order (Proposal was originally put through before space and training aids were known/allocated. Training space and training aids are now known which influenced original proposed course delivery) We also added three shop simulation weeks to better align with international student integration into employment.
Supporting documentation:

Reviewer

Comments

Nicole Degagne (ndegagne) (11/14/18 2:14 pm): Rollback: revisions not complete
Nicole Degagne (ndegagne) (12/04/18 1:55 pm): Rollback: for further review
Course Change Request

Date Submitted: 11/27/2018 2:11 pm

Viewing: HMTD 1115 : Workplace Skills 1

Last approved: 07/04/2018 4:58 am

Last edit: 12/19/2018 11:17 am

Changes proposed by: mwheatley

Programs referencing this course

112: Heavy Mechanical Technology Diploma (International Cohort)

In Workflow
1. 4305 Leader
2. CTT Dean
3. Curriculum Committee Chair
4. EDCO Chair
5. Records
6. Banner

Approval Path
1. 11/14/18 2:13 pm Nicole Degagne (ndegagne): Rollback to Initiator
2. 11/15/18 9:36 am Richard Cyr (rcyr): Approved for 4305 Leader
3. 11/15/18 11:36 am Brett Griffiths (bgriffiths): Approved for CTT Dean
4. 11/26/18 12:58 pm Carlie Deans (cdeans): Rollback to Initiator
5. 12/03/18 1:40 pm Richard Cyr (rcyr): Approved for 4305 Leader
6. 12/03/18 2:50 pm Brett Griffiths (bgriffiths): Approved for CTT Dean

Course Name:
Workplace Skills 1

Effective Date: May 2019

School/Centre: Trades, Technology & Design
Department: Heavy Mechanical Technology Diploma International(4305)

Contact(s)
Banner Course: Workplace Skills 1

Name: Workplace Skills 1

Subject Code: HMTD - Heavy Mechanical Technician

Course Number: 1115

Year of Study: 1st Year Post-secondary

Credits: 1

Course Description:
This course introduces learners to vocabulary and pronunciation specific to the concepts of safe work practices, occupational health & safety, environmental practices, electronic media, vocabulary and pronunciation specific to the field of heavy mechanical trades. It provides an introduction to the heavy mechanical repair industry and to the language and communication skills required for success as a technician. Reading, writing, and interactive communication (listening & speaking) skills are practiced in conjunction with topics from the heavy mechanical trades curriculum. Interpersonal and conversational skills are enhanced while working in a shop setting. Sociocultural competencies appropriate to the Canadian workplace will be introduced and practiced.

Course Pre-Requisites (if applicable):

Admission to the Heavy Mechanical Technology program.
PLAR (Prior Learning Assessment & Recognition)

No

Course Learning Outcomes (CLO):

Upon successful completion of this course, students will be able to:

<table>
<thead>
<tr>
<th>CLO #</th>
<th>Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLO #1</td>
<td>Review Worksafe BC policies and procedures. Identify various jobs in the heavy mechanical repair industry</td>
</tr>
<tr>
<td>CLO #2</td>
<td>Communicate using forms and reports. Explain general concepts and professional vocabulary specific to heavy mechanical trades</td>
</tr>
<tr>
<td>CLO #3</td>
<td>Use computers and written media to locate service and maintenance information. Identify repair products, tools and equipment</td>
</tr>
<tr>
<td>CLO #4</td>
<td>Describe the procedures to prepare for an efficient and effective repair (job action). Practice professional etiquette</td>
</tr>
<tr>
<td>CLO #5</td>
<td>Describe vehicles Participate and equipment maintained and repaired. Communicate as a team member</td>
</tr>
<tr>
<td>CLO #6</td>
<td>Describe different business types.</td>
</tr>
<tr>
<td>CLO #7</td>
<td>Describe relationships between business, labour, and government.</td>
</tr>
<tr>
<td>CLO #8</td>
<td>Demonstrate positive employee attributes.</td>
</tr>
<tr>
<td>CLO #9</td>
<td>Describe employer responsibilities.</td>
</tr>
<tr>
<td>CLO #10</td>
<td>Prepare a resume and identify job search resources.</td>
</tr>
<tr>
<td>CLO #11</td>
<td>Prepare for an interview.</td>
</tr>
</tbody>
</table>

Instructional Strategies:
Instructional strategies include classroom lectures, demonstrations, group discussions, computer lab and hands-on practical work.

**Evaluation and Grading**

Grading System: Percentages

Passing grade: 70%

Evaluation Plan:

<table>
<thead>
<tr>
<th>Type</th>
<th>Percentage</th>
<th>Brief description of assessment activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other Participation</td>
<td>50 20</td>
<td>Theory- includes formative assessments, assignments, and a summative assessment. Attendance, punctuality, engagement in class activities</td>
</tr>
<tr>
<td>Other Assignments</td>
<td>50 25</td>
<td>Practical- includes shop tasks, active participation and teamwork, workplace behavior, use of tools and equipment. Reading comprehension, written assignments</td>
</tr>
<tr>
<td>Lab Work</td>
<td>30</td>
<td>Listening comprehension, pronunciation</td>
</tr>
<tr>
<td>Assignments</td>
<td>25</td>
<td>Oral presentations</td>
</tr>
</tbody>
</table>

**Hours by Learning Environment Type**

Lecture, Seminar, Online

12.5 25

Lab, Clinical, Shop, Kitchen, Studio, Simulation

12.5

Practicum

Self Paced / Individual Learning

**Course Topics**

Course Topics:
Course Topics:

1. Worksafe BC policies and procedures.
2. Communication using forms and reports.
3. Computers and written media to locate service and maintenance information.
4. Procedures to prepare for an efficient and effective repair (job action).
5. Vehicles Heavy-mechanical procedures and equipment maintained and repaired.
6. Vocabulary
7. Different business types.
10. Employer responsibilities.
11. Resumes and job search resources.
12. Interview preparation, Giving and receiving direction
13. Seeking and providing clarification
14. Professional and social communication
15. Common Canadian workplace values, beliefs and attitudes

Rationale and Consultations

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Yes

Is this the primary proposal?

No

Primary Proposal

Heavy Mechanical Technology PCG

Additional Information

Provide any additional information if necessary.

Changes have been made from original approved program which includes changes to course titles, course descriptions, time allocations, grading and evaluation descriptions and amounts, and course order (Proposal was originally put through before space and training aids were known/allocated. Training space and training aids are now known which influenced original proposed course delivery) We also added three shop simulation weeks to better align with international student integration into employment.
Supporting documentation:

Reviewer Comments

Nicole Degagne (ndegagne) (11/14/18 2:13 pm): Rollback: revisions not complete
Course Change Request

Date Submitted: 11/27/18 2:13 pm

Viewing: HMTD 1201: Hydraulic Steering Systems

1

Last approved: 07/04/18 5:00 am
Last edit: 12/20/18 1:27 pm
Changes proposed by: mwheatley

In Workflow
1. 4305 Leader
2. CTT Dean
3. Curriculum Committee Chair
4. EDCO Chair
5. Records
6. Banner

Approval Path
1. 11/14/18 2:14 pm Nicole Degagne (ndegagne): Rollback to Initiator
2. 11/15/18 9:37 am Richard Cyr (rcyr): Approved for 4305 Leader
3. 11/15/18 11:36 am Bre Griffiths (bgriffiths): Approved for CTT Dean
4. 11/26/18 12:58 pm Carlie Deans (cdeans): Rollback to Initiator
5. 12/03/18 1:40 pm Richard Cyr (rcyr): Approved for 4305 Leader
6. 12/03/18 2:50 pm Brett Griffiths (bgriffiths): Approved for CTT Dean

Programs referencing this course
112: Heavy Mechanical Technology Diploma (International Cohort)

Course Name:
Hydraulic Steering Systems 1

Effective Date: May 2019
School/Centre: Trades, Technology & Design
Department: Heavy Mechanical Technology Diploma International (4305)
Contact(s)
Banner Course Name: **Hydraulic Steering Systems 1**
Subject Code: HMTD - Heavy Mechanical Technician
Course Number: 1201
Year of Study: 1st Year Post-secondary
Credits: 1

Course Description:

**Basic Theory.** This course introduces students to the principles of hydraulics, hydraulics safety, wheeled truck and basic operation of hydraulic systems. track steering system fundamentals.

Course Pre-Requisites (if applicable):

Admission to the Heavy Mechanical Technology program.

Course Co-requisites (if applicable):

PLAR (Prior Learning Assessment & Recognition)

No

Course Learning Outcomes (CLO):
Upon successful completion of this course, students will be able to:

<table>
<thead>
<tr>
<th>CLO #</th>
<th>Checkpoints</th>
</tr>
</thead>
<tbody>
<tr>
<td>#1</td>
<td>Describe the principles of hydraulics. Explain wheeled steering systems fundamentals</td>
</tr>
<tr>
<td>#2</td>
<td>Describe basic hydraulic components and systems. Explain truck steering systems fundamentals</td>
</tr>
<tr>
<td>#3</td>
<td>Describe safe work procedures. Explain tracked steering systems fundamentals</td>
</tr>
<tr>
<td>#4</td>
<td>Use hydraulic training boards to enforce concepts. Describe wheeled steering system components and their function</td>
</tr>
<tr>
<td>#5</td>
<td>Describe tracked steering system components and their function</td>
</tr>
<tr>
<td>#6</td>
<td>Describe truck steering system components and their function</td>
</tr>
</tbody>
</table>

Instructional Strategies:
Instructional strategies include classroom lectures, demonstrations, group discussions, computer lab and hands-on practical work.

Evaluation and Grading

Grading System: Percentages

<table>
<thead>
<tr>
<th></th>
<th>Percentage</th>
<th>Brief description of assessment activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other</td>
<td>60 (25)</td>
<td>Theory- includes formative assessments, assignments, and a summative assessment. Quizzes and Assignments (formative—theory)</td>
</tr>
<tr>
<td>Assignments</td>
<td>40 (20)</td>
<td>Practical- includes shop tasks, active participation and teamwork, workplace behavior, use of tools and equipment. Theory exam (summative—theory)</td>
</tr>
<tr>
<td>Assignments</td>
<td>30</td>
<td>Ongoing observations of workplace behavior and use of tools and equipment:</td>
</tr>
<tr>
<td>Participation</td>
<td>25</td>
<td>Observable active participation and team work</td>
</tr>
</tbody>
</table>
Course Topics

1. **Principles of hydraulics.**  
2. **Basic hydraulic components and systems.**  
3. **Safe work procedures.**  
4. **Hydraulic training boards.**  
   
   **Steering types**  
   2. Truck power assist  
   3. Track steering  
   4. Wheeled equipment steering  
   5. Truck system components  
   6. Track system components  
   7. Wheeled system components

**Rationale and Consultations**

You only have to complete the Rationale and Consultations section once for a group of related proposals (i.e. a number of changes to a PCG and multiple courses). Is this proposal part of a group of related proposals?

Yes

Is this the primary proposal?

No

Primary Proposal  
Heavy Mechanical Technology PCG

**Additional Information**
Provide any additional information if necessary.

Changes have been made from original approved program which includes changes to course titles, course descriptions, time allocations, grading and evaluation descriptions and amounts, and course order (Proposal was originally put through before space and training aids were known/allocated. Training space and training aids are now known which influenced original proposed course delivery) We also added three shop simulation weeks to better align with international student integration into employment.

Supporting documentation:

Reviewer
Comments

Nicole Degagne (ndegagne) (11/14/18 2:14 pm): Rollback: revisions not complete

Course Change Request

Date Submitted: 11/27/18 2:16 pm

Viewing: HMTD 1202: Hydraulic Steering Systems 2

Last approved: 07/04/18 4:58 am
Last edit: 12/20/18 1:28 pm
Changes proposed by: mwheatley

Programs referencing this course

112: Heavy Mechanical Technology Diploma (International Cohort)

Course Name:

Hydraulic Steering Systems 2

Effective Date: May 2019

School/Centre: Trades, Technology & Design

Department: Heavy Mechanical Technology Diploma International(4305)

Contact(s)

In Workflow

1. 4305 Leader
2. CTT Dean
3. Curriculum Committee Chair
4. EDCO Chair
5. Records
6. Banner

Approval Path

1. 11/14/18 2:13 pm Nicole Degagne (ndegagne): Rollback to Initiator
2. 11/15/18 9:38 am Richard Cyr (rcyr): Approved for 4305 Leader
3. 11/15/18 11:36 am Bre Griffiths (bgriffiths): Approved for CTT Dean
4. 11/26/18 12:58 pm Carlie Deans (cdeans): Rollback to Initiator
5. 12/03/18 1:40 pm Richard Cyr (rcyr): Approved for 4305 Leader
6. 12/03/18 2:50 pm Brett Griffiths (bgriffiths): Approved for CTT Dean
Banner Course Name: Hydraulic Steering Systems 2

Name: Rick Cyr
E-mail: rcyr@vcc.ca
Phone/Ext.: 778-331-1320

Subject Code: HMTD - Heavy Mechanical Technician
Course Number: 1202
Year of Study: 1st Year Post-secondary
Credits: 1

Course Description:

**Advanced Theory and Identification.** This course introduces students to various types of hydraulic systems, schematics, wheeled, truck and components. Track steering system service.

Course Pre-Requisites (if applicable):

Course Co-requisites (if applicable):

Admission to the Heavy Mechanical Technology program.

PLAR (Prior Learning Assessment & Recognition)

No

Course Learning Outcomes (CLO):
Upon successful completion of this course, students will be able to:

<table>
<thead>
<tr>
<th>CLO #1</th>
<th>Describe advanced types of hydraulic systems. Service and repair wheeled steering systems</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLO #2</td>
<td>Demonstrate safe work procedures. Service and repair truck steering systems</td>
</tr>
<tr>
<td>CLO #3</td>
<td>Interpret hydraulic schematics using hydraulic training boards and equipment in shop. Service and repair track steering systems</td>
</tr>
</tbody>
</table>

Instructional Strategies:
Instructional strategies include classroom lectures, demonstrations, group discussions, computer lab and hands-on practical work.

Evaluation and Grading

Grading System: Percentages
Passing grade: 70%

Evaluation Plan:

<table>
<thead>
<tr>
<th>Type</th>
<th>Percentage</th>
<th>Brief description of assessment activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other</td>
<td>50 25</td>
<td>Theory - includes formative assessments, assignments, and a summative assessment. Quizzes and Assignments (formative—theory)</td>
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<tr>
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<tr>
<td>Other Exam</td>
<td>50 20</td>
<td>Practical - includes shop tasks, active participation and teamwork, workplace behavior, use of tools and equipment. Theory exam (summative—theory)</td>
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<td>Assignments</td>
<td>30</td>
<td>Ongoing observations of workplace behavior and use of tools and equipment.</td>
</tr>
<tr>
<td>Participation</td>
<td>25</td>
<td>Observable active participation and team work</td>
</tr>
</tbody>
</table>

Hours by Learning Environment Type

Lecture, Seminar, Online

12.5
17.5

Lab, Clinical, Shop, Kitchen, Studio, Simulation

12.5 7.5
Course Topics:

1. **Advanced types of hydraulic systems.**
2. **Safe work procedures.**
3. **Hydraulic schematics, hydraulic training boards and equipment in shop.**

**Steering system inspection**
1. **Steering system lubrication**
2. **Scheduled maintenance**
3. **Steering adjustments**
4. **Drag links**
5. **Tie rod ends**
6. **Axle stops**
7. **Steering gears**
8. **Toe**

---

**Rationale and Consultations**

You only have to complete the Rationale and Consultations section once for a group of related proposals (i.e. a number of changes to a PCG and multiple courses). Is this proposal part of a group of related proposals?

Yes

Is this the primary proposal?

No

Primary Proposal

Heavy Mechanical Technology PCG

---

**Additional Information**
Provide any additional information if necessary.

Changes have been made from original approved program which includes changes to course titles, course descriptions, time allocations, grading and evaluation descriptions and amounts, and course order (Proposal was originally put through before space and training aids were known/allocated. Training space and training aids are now known which influenced original proposed course delivery) We also added three shop simulation weeks to better align with international student integration into employment

Supporting documentation:

Reviewer Comments

Nicole Degagne (ndegagne) (11/14/18 2:13 pm): Rollback: revisions not complete

Course Change Request

Date Submitted: 11/15/18 8:40 am

Viewing: HMTD 1203 : Hydraulic Systems 3

Hydraulic System Theory 1

Last approved: 08/02/18 4:48 am

Last edit: 12/20/18 1:28 pm

Changes proposed by: ebach

Programs referencing this course

112: Heavy Mechanical Technology Diploma (International Cohort)

Course Name:

Hydraulic Systems 3 Hydraulic System Theory 1

Effective Date: May 2019

School/Centre: Trades, Technology & Design

Department: Heavy Mechanical Technology Diploma International(4305)

Contact(s)

In Workflow

1. 4305 Leader
2. CTT Dean
3. Curriculum Committee Chair
4. EDCO Chair
5. Records
6. Banner

Approval Path

1. 11/14/18 2:14 pm
   Nicole Degagne (ndegagne):
   Rollback to Initiator

2. 11/15/18 9:38 am
   Richard Cyr (rcyr):
   Approved for 4305 Leader

3. 11/15/18 11:36 am
   Bre Griffiths (bgriffiths):
   Approved for CTT Dean

4. 12/04/18 1:55 pm
   Nicole Degagne (ndegagne):
   Rollback to 4305 Leader for Curriculum Committee Chair

5. 12/05/18 1:32 pm
   Richard Cyr (rcyr):
   Approved for 4305 Leader

6. 12/05/18 2:00 pm
   Brett Griffiths

https://curriculum.vcc.ca/courseleaf/approve/?role=admin
Banner Course Name: Hydraulic Systems 3

Subject Code: HMTD - Heavy Mechanical Technician

Course Number: 1203

Year of Study: 1st Year Post-secondary

Credits: 1

Course Description:

Service. This course introduces the students to performing scheduled maintenance the principles of hydraulics, basic operation of a hydraulic systems, hydraulic fluids and hydraulic hoses and fittings.

Admission to the Heavy Mechanical Technology program.

Course Pre-Requisites (if applicable):

Course Co-requisites (if applicable):
PLAR (Prior Learning Assessment & Recognition)

No

Course Learning Outcomes (CLO):

<table>
<thead>
<tr>
<th>CLO #</th>
<th>Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLO #1</td>
<td>Select hydraulic fluids for applications. Describe the principles of hydraulics</td>
</tr>
<tr>
<td>CLO #2</td>
<td>Select hydraulic hoses and fittings. Describe the basic operation of a hydraulic systems</td>
</tr>
<tr>
<td>CLO #3</td>
<td>Select and assemble hydraulic hoses and fittings.</td>
</tr>
<tr>
<td>CLO #4</td>
<td>Demonstrate safe work procedures for hydraulic system service.</td>
</tr>
<tr>
<td>CLO #5</td>
<td>Perform scheduled maintenance of hydraulic systems including fluid and filter change, and re-pressurizing of system (if applicable).</td>
</tr>
</tbody>
</table>

Instructional Strategies:

Instructional strategies include classroom lectures, demonstrations, group discussions, computer lab and hands-on practical work.

Evaluation and Grading

<table>
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</tr>
<tr>
<td>Assignments</td>
<td>30%</td>
<td>Ongoing observations of workplace behavior and use of tools and equipment.</td>
</tr>
<tr>
<td>Participation</td>
<td>25%</td>
<td>Observable active participation and teamwork</td>
</tr>
</tbody>
</table>
Course Topics:

1. **Hydraulic fluids for applications.**
2. **Hydraulic hoses and fittings.**
3. **Assembling hydraulic hoses and fittings.**
4. **Safe work procedures for hydraulic system service.**
5. **Scheduled maintenance of hydraulic systems including fluid and filter change, and re-pressurizing of system (if applicable).**

|----------------------|-----------------------------|---------------------------|-----------------|-----------------|--------------------------|---------------|---------|------------------|

Rationale and Consultations

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Yes

Is this the primary proposal?

No
Primary Proposal

Heavy Mechanical Technology PCG

Provide a rationale for this proposal:

Are there any Additional Information

Provide any additional information if necessary.

Changes have been made from original approved program which includes changes to course titles, course descriptions, time allocations, grading and evaluation descriptions and amounts, and course order (Proposal was originally put through before space and training aids were known/allocated. Training space and training aids are now known which influenced original proposed course delivery) We also added three shop simulation weeks to better align with international student integration into employment.

Supporting documentation:

Reviewer Comments

Nicole Degagne (ndegagne) (11/14/18 2:14 pm): Rollback: revisions not complete
Nicole Degagne (ndegagne) (12/04/18 1:55 pm): Rollback: for further review
Course Change Request

Date Submitted: 11/27/18 5:54 pm

Viewing: **HMTD 1204: Hydraulic Systems 4**

**Hydraulic System Theory 2**

Last approved: 07/04/18 4:58 am

Last edit: 12/20/18 1:29 pm

Changes proposed by: mwheatley

---

**In Workflow**

1. 4305 Leader
2. CTT Dean
3. Curriculum Committee Chair
4. EDCO Chair
5. Records
6. Banner

---

**Approval Path**

1. 11/14/18 2:14 pm
   Nicole Degagne (ndegagne):
   Rollback to Initiator

2. 11/15/18 9:41 am
   Richard Cyr (rcyr):
   Approved for 4305 Leader

3. 11/15/18 11:36 am
   Bre Griffiths (bgriffiths):
   Approved for CTT Dean

4. 11/27/18 2:59 pm
   Carlie Deans (cdeans): Rollback to Initiator

5. 12/03/18 1:40 pm
   Richard Cyr (rcyr):
   Approved for 4305 Leader

6. 12/03/18 2:51 pm
   Brett Griffiths (bgriffiths):
   Approved for CTT Dean

---

Programs referencing this course

112: Heavy Mechanical Technology Diploma (International Cohort)

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Course Name:

**Hydraulic Systems 4** **Hydraulic System Theory 2**

Effective Date: May 2019

School/Centre: Trades, Technology & Design

Department: Heavy Mechanical Technology Diploma International(4305)

Contact(s)
Banner Course: Hydraulic Systems 4

Name: Hydraulic System Theory

Subject Code: HMTD - Heavy Mechanical Technician

Course Number: 1204

Year of Study: 1st Year Post-secondary

Credits: 1

Course Description:

**Diagnose and Repair.** This course introduces students to types of hydraulic systems, diagnosis, and repair. The interpretation of hydraulic diagrams.

Course Pre-Requisites (if applicable):

Admission to the Heavy Mechanical Technology program.

Course Co-requisites (if applicable):

PLAR (Prior Learning Assessment & Recognition)

No

Course Learning Outcomes (CLO):
Upon successful completion of this course, students will be able to:

| CLO #1 | Diagnose hydraulic systems. Describe types of hydraulic systems |
| CLO #2 | Repair hydraulic systems and components. Interpret basic hydraulic diagrams |

Instructional Strategies:
Instructional strategies include classroom lectures, demonstrations, group discussions, computer lab and hands-on practical work.

Evaluation and Grading

Grading System: Percentages
Passing grade: 70%

Evaluation Plan:

<table>
<thead>
<tr>
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<td>Observable active participation and teamwork</td>
</tr>
</tbody>
</table>

Hours by Learning Environment Type

Lecture, Seminar, Online

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>12.5</td>
<td>17.5</td>
</tr>
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</table>

Lab, Clinical, Shop, Kitchen, Studio, Simulation

<p>| | |</p>
<table>
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<tr>
<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td>12.5</td>
<td>7.5</td>
</tr>
</tbody>
</table>

Practicum

Self Paced / Individual Learning
Course Topics

<table>
<thead>
<tr>
<th>Course Topics:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. <strong>Diagnosis of hydraulic systems.</strong></td>
</tr>
<tr>
<td>2. <strong>Repairing hydraulic systems and components.</strong> <em>Open-centre valves</em></td>
</tr>
<tr>
<td>2.1. Closed-centre valves</td>
</tr>
<tr>
<td>2.2. Vented valves</td>
</tr>
<tr>
<td>2.3. Pressurized valves</td>
</tr>
<tr>
<td>2.4. Ventilated valves</td>
</tr>
<tr>
<td>2.5. Pictorial diagrams</td>
</tr>
<tr>
<td>2.6. Schematic diagrams</td>
</tr>
<tr>
<td>2.7. Symbols</td>
</tr>
</tbody>
</table>

---

**Rationale and Consultations**

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Yes

Is this the primary proposal?

No

Primary Proposal

Heavy Mechanical Technology PCG

---

**Additional Information**

Provide any additional information if necessary.

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Supporting documentation:

Reviewer Comments

Nicole Degagne (ndegagne) (11/14/18 2:14 pm): Rollback: revisions not complete

Course Change Request

Date Submitted: 11/27/18 5:59 pm

Viewing: HMTD 1205: Electrical Systems 1

Effective Date: May 2019

School/Centre: Trades, Technology & Design

Department: Heavy Mechanical Technology Diploma

Contact(s)

Programs referencing this course

112: Heavy Mechanical Technology Diploma (International Cohort)

In Workflow
1. 4305 Leader
2. CTT Dean
3. Curriculum Committee Chair
4. EDCO Chair
5. Records
6. Banner

Approval Path
1. 11/14/18 2:14 pm Nicole Degagne (ndegagne): Rollback to Initiator
2. 11/15/18 9:44 am Richard Cyr (rcyr): Approved for 4305 Leader
3. 11/15/18 11:36 am Bre Griffiths (bgriffiths): Approved for CTT Dean
4. 11/26/18 12:58 pm Carlie Deans (cdeans): Rollback to Initiator
5. 12/05/18 1:32 pm Richard Cyr (rcyr): Approved for 4305 Leader
6. 12/05/18 2:00 pm Brett Griffiths (bgriffiths): Approved for CTT Dean

Course Name:

Electrical Systems 1: Hydraulic System Service 1

Last approved: 07/04/18 5:01 am

Last edit: 12/20/18 2:04 pm

Changes proposed by: mwheatley

https://curriculum.vcc.ca/courseleaf/approve/?role=admin
Banner Course Name: Electrical Systems 1 Hydraulic System Service

Subject Code: HMTD - Heavy Mechanical Technician
Course Number: 1205
Year of Study: 1st Year Post-secondary
Credits: 1

Course Description:
Terminology, Concepts, Calculations, and Magnetic Theory. This course introduces students to electrical terminology, basic theory, concepts, circuit calculations, hydraulic components, and magnetic theory. Hydraulic fluids.

Course Pre-Requisites (if applicable):
Admission to the Heavy Mechanical Technology program.

Course Co-requisites (if applicable):

PLAR (Prior Learning Assessment & Recognition)
No
Course Learning Outcomes (CLO):

Upon successful completion of this course, students will be able to:

<table>
<thead>
<tr>
<th>CLO #1</th>
<th>Define electrical terminology. Describe selected hydraulic components.</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLO #2</td>
<td>Explain basic circuit concepts. Select hydraulic fluids for applications.</td>
</tr>
<tr>
<td>CLO #3</td>
<td>Perform circuit calculations.</td>
</tr>
<tr>
<td>CLO #4</td>
<td>Describe magnetic theory.</td>
</tr>
</tbody>
</table>

Instructional Strategies:
Instructional strategies include classroom lectures, demonstrations, group discussions, computer lab and hands-on practical work.

Evaluation and Grading

Grading System: Percentages

70%

Evaluation Plan:

<table>
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Hours by Learning Environment Type

Lecture, Seminar, Online

15 17.5

Lab, Clinical, Shop, Kitchen, Studio, Simulation

10 7.5
Practicum
Self Paced / Individual Learning

Course Topics

**Course Topics:**

1. Electrical terminology.
2. Basic circuit concepts.
3. Circuit calculations.
4. Magnetic theory. Seals
5. Hoses/lines
6. Fittings
7. Filters
8. Hydraulic fluids requirements
9. SAE viscosity ratings
10. ISO viscosity ratings
11. API-service ratings
12. Manufacturer's specifications
13. Synthetic/non-synthetic (mineral)
14. Component/system compatibility

Rationale and Consultations

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Yes

Is this the primary proposal?

No

Primary Proposal
Heavy Mechanical Technology PCG

Provide a rationale for this proposal:

Are there any...
Additional Information

Provide any additional information if necessary.

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Supporting documentation:

Reviewer Comments

Nicole Degagne (ndegagne) (11/14/18 2:14 pm): Rollback: revisions not complete

Richard Cyr (rcyr) (11/15/18 9:44 am): Course name is "Electrical Systems 1- Terminology, Concepts, Calculations, and Magnetic Theory"

Course Change Request

Date Submitted: 11/15/18 8:41 am

Viewing: HMTD 1206 : Electrical Systems 2

Hydraulic System Service 2

Last approved: 07/04/18 4:59 am

Last edit: 12/20/18 2:12 pm

Changes proposed by: ebach

Programs referencing this course

112: Heavy Mechanical Technology Diploma (International Cohort)

Course Name:

Electrical Systems 2 Hydraulic System Service 2

Effective Date: May 2019

School/Centre: Trades, Technology & Design

Department: Heavy Mechanical Technology Diploma International(4305)

Contact(s)

In Workflow

1. 4305 Leader
2. CTT Dean
3. Curriculum Committee Chair
4. EDCO Chair
5. Records
6. Banner

Approval Path

1. 11/14/18 2:14 pm
   Nicole Degagne (ndegagne): Rollback to Initiator
2. 11/15/18 9:45 am
   Richard Cyr (rcyr): Approved for 4305 Leader
3. 11/15/18 11:36 am
   Bre Griffiths (bgriffiths): Approved for CTT Dean
4. 12/04/18 1:55 pm
   Nicole Degagne (ndegagne): Rollback to 4305 Leader for Curriculum Committee Chair
5. 12/05/18 1:32 pm
   Richard Cyr (rcyr): Approved for 4305 Leader
6. 12/05/18 2:00 pm
   Brett Griffiths

https://curriculum.vcc.ca/courseleaf/approve/?role=admin
Name: Electrical Systems 2

Hydraulic System Service

Subject Code: HMTD - Heavy Mechanical Technician

Course Number: 1206

Year of Study: 1st Year Post-secondary

Credits: 1

Course Description:

**Components, Wiring Diagrams, and Symbols.** This course introduces students to electrical components, wiring diagrams, hydraulic hoses and symbols, fittings, safe work practices, and scheduled maintenance.

Course Pre-Requisites (if applicable):

Admission to the Heavy Mechanical Technology program.

Course Co-requisites (if applicable):

PLAR (Prior Learning Assessment & Recognition)

No
Course Learning Outcomes (CLO):

Upon successful completion of this course, students will be able to:

<table>
<thead>
<tr>
<th>CLO #</th>
<th>Description</th>
</tr>
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<tbody>
<tr>
<td>#1</td>
<td>Identify common electrical Select and electronic components. assemble hydraulic hoses and fittings.</td>
</tr>
<tr>
<td>#2</td>
<td>Interpret wiring diagrams and symbols. Demonstrate safe work procedures for hydraulic systems service.</td>
</tr>
<tr>
<td>#3</td>
<td>Perform scheduled maintenance on hydraulic systems.</td>
</tr>
</tbody>
</table>

Instructional Strategies:
Instructional strategies include classroom lectures, demonstrations, group discussions, computer lab and hands-on practical work.

Evaluation and Grading

Grading System: Percentages

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</tbody>
</table>

Hours by Learning Environment Type

Lecture, Seminar, Online

| 12.5 |
| 17.5 |
Course Topics:

1. **Common electrical and electronic components.**
2. **Wiring diagrams and symbols.** Hose-construction
   - Working pressure
   - Hose ratings
   - Hose compatibility
   - Hose application
   - Fitting types
   - Safety blocking equipment and attachments
   - Relieve pressure
   - Reservoir venting
   - Actuator neutralization
   - Temperature hazards
   - Visual inspection
   - Hose rubs, damage
   - Fluid level check, filters, strainers, and flushes

Rationale and Consultations

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Yes

Is this the primary proposal?

No

Primary Proposal

Heavy Mechanical Technology PCG

Provide a rationale for this proposal:
Additional Information

Provide any additional information if necessary.

Changes have been made from original approved program which includes changes to course titles, course descriptions, time allocations, grading and evaluation descriptions and amounts, and course order (Proposal was originally put through before space and training aids were known/allocated. Training space and training aids are now known which influenced original proposed course delivery) We also added three shop simulation weeks to better align with international student integration into employment.

Supporting documentation:

Reviewer Comments

Nicole Degagne (ndegagne) (11/14/18 2:14 pm): Rollback: revisions not complete
Nicole Degagne (ndegagne) (12/04/18 1:55 pm): Rollback: for further review
Course Change Request

Date Submitted: 11/27/18 2:48 pm

Viewing: HMTD 1207 : Electrical Systems 3 Basic Electricity

Last approved: 07/04/18 4:59 am
Last edit: 12/20/18 2:15 pm
Changes proposed by: mwheatley

Programs referencing this course

112: Heavy Mechanical Technology Diploma (International Cohort)

Course Name:

Electrical Systems 3 Basic Electricity

Effective Date: May 2019
School/Centre: Trades, Technology & Design
Department: Heavy Mechanical Technology Diploma International(4305)

Contact(s)

In Workflow

1. 4305 Leader
2. CTT Dean
3. Curriculum Committee Chair
4. EDCO Chair
5. Records
6. Banner

Approval Path

1. 11/14/18 2:14 pm Nicole Degagne (ndegagne): Rollback to Initiator
2. 11/15/18 9:46 am Richard Cyr (rcyr): Approved for 4305 Leader
3. 11/15/18 11:36 am Bre Griffiths (bgriffiths): Approved for CTT Dean
4. 11/26/18 12:59 pm Carlie Deans (cdeans): Rollback to Initiator
5. 12/03/18 1:40 pm Richard Cyr (rcyr): Approved for 4305 Leader
6. 12/03/18 2:51 pm Brett Griffiths (bgriffiths): Approved for CTT Dean
Electrical Test Instruments and Batteries. This course introduces students to the use of electrical test instruments terminology, basic theory concepts, circuit calculations, and diagnosis of electrical systems.

Course Pre-Requisites (if applicable):

Admission to the Heavy Mechanical Technology program.

Course Co-requisites (if applicable):

PLAR (Prior Learning Assessment & Recognition)

No
Course Learning Outcomes (CLO):

Upon successful completion of this course, students will be able to:

| CLO #1 | Use electrical measuring devices. terminology |
| CLO #2 | Describe battery design and operation. Explain basic circuit concepts |
| CLO #3 | Select, test, and maintain batteries. Perform circuit calculations |
| CLO #4 | Diagnose causes of battery failure. Describe magnetic theory |
| CLO #5 | Remove and replace batteries. |
| CLO #6 | Use booster batteries. |

Instructional Strategies:
Instructional strategies include classroom lectures, demonstrations, group discussions, computer lab and hands-on practical work.

Evaluation and Grading

Grading System: Percentages

<table>
<thead>
<tr>
<th>Type</th>
<th>Percentage</th>
<th>Brief description of assessment activity</th>
</tr>
</thead>
<tbody>
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</tr>
</tbody>
</table>

Hours by Learning Environment Type

Lecture, Seminar, Online

12.5

17.5
Lab, Clinical, Shop, Kitchen, Studio, Simulation

12.5 7.5

Practicum

Self Paced / Individual Learning

### Course Topics

<table>
<thead>
<tr>
<th>Course Topics:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Electrical <strong>measuring devices</strong>.</td>
</tr>
<tr>
<td>2. <strong>terminology</strong></td>
</tr>
<tr>
<td>2. Battery design and operation.</td>
</tr>
<tr>
<td>3. Selecting, testing, and maintaining batteries.</td>
</tr>
<tr>
<td>4. Battery failure.</td>
</tr>
<tr>
<td>5. Removing and replacing batteries.</td>
</tr>
<tr>
<td>6. Booster batteries. <strong>Basic circuit concepts</strong></td>
</tr>
<tr>
<td>3. Circuit calculations</td>
</tr>
<tr>
<td>4. Magnetic theory</td>
</tr>
</tbody>
</table>

---

### Rationale and Consultations

You only have to complete the Rationale and Consultations section once for a group of related proposals (i.e. a number of changes to a PCG and multiple courses). Is this proposal part of a group of related proposals?

Yes

Is this the primary proposal?

No

**Primary Proposal**

Heavy Mechanical Technology PCG

Provide a rationale for this proposal:

---

### Additional Information

---

https://curriculum.vcc.ca/courseleaf/approve/?role=admin
Provide any additional information if necessary.

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Supporting documentation:

Reviewer Comments

*Nicole Degagne (ndegagne) (11/14/18 2:14 pm)*: Rollback: revisions not complete

*Carlie Deans (cdeans) (11/26/18 12:59 pm)*: Rollback: Rollback requested by developer for editing.
Course Change Request

Date Submitted: 11/27/18 2:51 pm

Viewing: **HMTD 1208 : Electrical Systems 4 Basic Electricity-2**

Last approved: 07/04/18 5:00 am
Last edit: 12/20/18 2:16 pm
Changes proposed by: mwheatley

Programs referencing this course

112: Heavy Mechanical Technology Diploma (International Cohort)

---

Course Name:

**Electrical Systems 4 Basic-Electricity-2**

Effective Date: May 2019

School/Centre: Trades, Technology & Design

Department: Heavy Mechanical Technology Diploma International(4305)

Contact(s)

---

In Workflow

1. 4305 Leader
2. CTT Dean
3. Curriculum Committee Chair
4. EDCO Chair
5. Records
6. Banner

Approval Path

1. 11/14/18 2:14 pm Nicole Degagne (ndegagne): Rollback to Initiator
2. 11/15/18 9:47 am Richard Cyr (rcyr): Approved for 4305 Leader
3. 11/15/18 11:36 am Bre Griffiths (bgriffiths): Approved for CTT Dean
4. 11/26/18 12:59 pm Carlie Deans (cdeans): Rollback to Initiator
5. 12/03/18 1:40 pm Richard Cyr (rcyr): Approved for 4305 Leader
6. 12/03/18 2:51 pm Brett Griffiths (bgriffiths): Approved for CTT Dean

https://curriculum.vcc.ca/courseleaf/approve/?role=admin
# Electrical Systems 4: Basic Electricity 2

**Banner Course**

**Name:** Electrical Systems 4 Basic Electricity 2

**Subject Code:** HMTD - Heavy Mechanical Technician

**Course Number:** 1208

**Year of Study:** 1st Year Post-secondary

**Credits:** 1

---

**Course Description:**

*Starting Systems 1: Theory and Service.* This course introduces students to basic starting system service, electrical and electronic components, wiring diagrams and symbols.

---

**Course Pre-Requisites (if applicable):**

Admission to the Heavy Mechanical Technology program.

**Course Co-requisites (if applicable):**

---

**PLAR (Prior Learning Assessment & Recognition)**

No

---

**Course Learning Outcomes (CLO):**
Upon successful completion of this course, students will be able to:

- CLO #1 Identify common electrical components of starting circuits.
- CLO #2 Describe the design and operation of starting circuits. Identify electronic components
- CLO #3 Interpret wiring diagrams and symbols
- CLO #3 Perform maintenance on starting circuits.

Instructional Strategies:
Instructional strategies include classroom lectures, demonstrations, group discussions, computer lab and hands-on practical work.

Evaluation and Grading

Grading System: Percentages
Passing grade: 70%

Evaluation Plan:

<table>
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</table>

Hours by Learning Environment Type

Lecture, Seminar, Online

15 17.5

Lab, Clinical, Shop, Kitchen, Studio, Simulation

10 7.5

Practicum

Self Paced / Individual Learning
Course Topics

<table>
<thead>
<tr>
<th>Course Topics:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Components of starting circuits.</td>
</tr>
<tr>
<td>2. Design and operation of starting circuits.</td>
</tr>
<tr>
<td>3. Maintenance on starting circuits. Electrical components</td>
</tr>
<tr>
<td>2. Electronic components</td>
</tr>
<tr>
<td>3. Wiring diagrams and symbols</td>
</tr>
</tbody>
</table>

Rationale and Consultations

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Yes

Is this the primary proposal?

No

Primary Proposal

Heavy Mechanical Technology PCG

Additional Information

Provide any additional information if necessary.

Changes have been made from original approved program which includes changes to course titles, course descriptions, time allocations, grading and evaluation descriptions and amounts, and course order (Proposal was originally put through before space and training aids were known/allocated. Training space and training aids are now known which influenced original proposed course delivery) We also added three shop simulation weeks to better align with international student integration into employment.

Supporting documentation:

Reviewer

Comments

Nicole Degagne (ndegagne) (11/14/18 2:14 pm): Rollback: revisions not complete

Course Change Request

Date Submitted: 11/15/18 8:41 am

Viewing: HMTD 1209: Electrical Systems 5

Instruments

Last approved: 07/04/18 5:00 am

Last edit: 12/20/18 2:16 pm

Changes proposed by: ebach

Programs referencing this course

112: Heavy Mechanical Technology Diploma (International Cohort)

Course Name:

Electrical Systems 5 Instruments

Effective Date: May 2019

School/Centre: Trades, Technology & Design

Department: Heavy Mechanical Technology Diploma International (4305)

Contact(s)

In Workflow

1. 4305 Leader
2. CTT Dean
3. Curriculum Committee Chair
4. EDCO Chair
5. Records
6. Banner

Approval Path

1. 11/14/18 2:14 pm Nicole Degagne (ndegagne): Rollback to Initiator
2. 11/15/18 9:47 am Richard Cyr (rcyr): Approved for 4305 Leader
3. 11/15/18 11:36 am Bre Griffiths (bgriffiths): Approved for CTT Dean
4. 12/04/18 1:55 pm Nicole Degagne (ndegagne): Rollback to 4305 Leader for Curriculum Committee Chair
5. 12/05/18 1:31 pm Richard Cyr (rcyr): Approved for 4305 Leader
6. 12/05/18 2:03 pm Brett Griffiths

https://curriculum.vcc.ca/courseleaf/approve/?role=admin
Banner Course Name: Electrical Systems 5 Test Instruments

Subject Code: HMTD - Heavy Mechanical Technician
Course Number 1209
Year of Study 1st Year Post-secondary
Credits: 1

Course Description:

**Charging Systems 1: Theory and Service.** This course introduces students to basic charging system service, the use of electrical test instruments and diagnosis of electrical circuits.

Course Pre-Requisites (if applicable):

Admission to the Heavy Mechanical Technology program.

Course Co-requisites (if applicable):

PLAR (Prior Learning Assessment & Recognition)

No
Course Learning Outcomes (CLO):

Upon successful completion of this course, students will be able to:

- **CLO #1** Identify charging system components. Describe common electrical measuring devices
- **CLO #2** Describe the purpose of charging circuits. Use electrical measuring devices
- **CLO #3** Perform routine maintenance on charging circuits. Diagnose electrical circuit faults

Instructional Strategies:
Instructional strategies include classroom lectures, demonstrations, group discussions, computer lab and hands-on practical work.

**Evaluation and Grading**

Grading System: Percentages  
Passing grade: 70%

Evaluation Plan:

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**Hours by Learning Environment Type**

Lecture, Seminar, Online

12.5  
17.5  

Lab, Clinical, Shop, Kitchen, Studio, Simulation

12.5 7.5
Course Topics

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<tr>
<td>1. Charging system components.</td>
</tr>
<tr>
<td>2. Purpose of charging circuits.</td>
</tr>
<tr>
<td>3. Routine maintenance on charging circuits. Analog vs. digital</td>
</tr>
<tr>
<td>2. Voltmeters</td>
</tr>
<tr>
<td>3. Ammeters</td>
</tr>
<tr>
<td>4. Ohmmeters</td>
</tr>
<tr>
<td>5. Multimeters (VOM)</td>
</tr>
<tr>
<td>6. Amp clamp</td>
</tr>
<tr>
<td>7. VAT’s (Volt-amp testers)</td>
</tr>
<tr>
<td>8. Continuity testers</td>
</tr>
<tr>
<td>8. Test lights</td>
</tr>
<tr>
<td>9. Safety precautions</td>
</tr>
<tr>
<td>10. Voltage drops</td>
</tr>
<tr>
<td>11. Shorts</td>
</tr>
<tr>
<td>12. Grounds</td>
</tr>
<tr>
<td>13. Opens</td>
</tr>
<tr>
<td>14. Resistance</td>
</tr>
<tr>
<td>15. Amperage draw</td>
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Rationale and Consultations

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Yes

Is this the primary proposal?

Yes

Primary Proposal

Heavy Mechanical Technology PCG

Additional Information

https://curriculum.vcc.ca/courseleaf/approve/?role=admin
Provide any additional information if necessary.

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Supporting
documentation:

Reviewer
Comments
Nicole Degagne (ndegagne) (11/14/18 2:14 pm): Rollback: revisions not complete
Nicole Degagne (ndegagne) (12/04/18 1:55 pm): Rollback: for further review
Course Change Request

Date Submitted: 11/27/18 2:56 pm

Viewing: **HMTD 1210 : Electrical Systems 6**

**Batteries**

Last approved: 07/04/18 4:59 am

Last edit: 12/20/18 2:16 pm

Changes proposed by: mwheatley

Programs referencing this course

112: Heavy Mechanical Technology Diploma (International Cohort)

---

Course Name:

**Electrical Systems 6 Batteries**

Effective Date: May 2019

School/Centre: Trades, Technology & Design

Department: Heavy Mechanical Technology Diploma International(4305)

Contact(s)

---

In Workflow

1. 4305 Leader
2. CTT Dean
3. Curriculum Committee Chair
4. EDCO Chair
5. Records
6. Banner

Approval Path

1. 11/14/18 2:14 pm
   Nicole Degagne (ndegagne): Rollback to Initiator
2. 11/15/18 9:48 am
   Richard Cyr (rcyr): Approved for 4305 Leader
3. 11/15/18 11:36 am
   Bre Griffiths (bgriffiths): Approved for CTT Dean
4. 11/26/18 12:59 pm
   Carlie Deans (cdeans): Rollback to Initiator
5. 12/03/18 1:40 pm
   Richard Cyr (rcyr): Approved for 4305 Leader
6. 12/03/18 2:51 pm
   Brett Griffths (bgriffiths): Approved for CTT Dean
Banner Course Name: Electrical Systems 6

Subject Code: HMTD - Heavy Mechanical Technician
Course Number 1210
Year of Study 1st Year Post-secondary
Credits: 1

Course Description:

**Basic Electrical Circuit: Service.** This course introduces students to basic electrical circuit service, the diagnosis and service of batteries.

Course Pre-Requisites (if applicable):

Admission to the Heavy Mechanical Technology program.

Course Co-requisites (if applicable):

PLAR (Prior Learning Assessment & Recognition)

No

Course Learning Outcomes (CLO):
Upon successful completion of this course, students will be able to:

- **CLO #1**: Service electrical circuits. Describe battery design and operation
- **CLO #2**: Describe trailer wiring. Select, test, and maintain batteries
- **CLO #3**: Diagnose causes of battery failure
- **CLO #4**: Remove and replace batteries
- **CLO #5**: Use booster batteries

**Instructional Strategies:**
Instructional strategies include classroom lectures, demonstrations, group discussions, computer lab and hands-on practical work.

**Evaluation and Grading**

Grading System: Percentages

- **Passing grade:** 70%

**Evaluation Plan:**

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**Hours by Learning Environment Type**

- **Lecture, Seminar, Online**
  - 12.5
  - 17.5

- **Lab, Clinical, Shop, Kitchen, Studio, Simulation**
  - 12.5 7.5
Course Topics

<table>
<thead>
<tr>
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</tr>
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<tbody>
<tr>
<td>1. Electrical circuits.</td>
</tr>
<tr>
<td>2. Trailer wiring. Safety considerations when working with batteries</td>
</tr>
<tr>
<td>2. Design and construction of the various types of batteries</td>
</tr>
<tr>
<td>3. Battery chemistry</td>
</tr>
<tr>
<td>4. Battery selection</td>
</tr>
<tr>
<td>5. Battery service</td>
</tr>
<tr>
<td>6. Battery diagnosis</td>
</tr>
<tr>
<td>7. Booster batteries</td>
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**Rationale and Consultations**

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Yes

Is this the primary proposal?

No

Primary Proposal

Heavy Mechanical Technology PCG

**Additional Information**

Provide any additional information if necessary.

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<td>Rollback: Rollback requested by developer for editing.</td>
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</table>
Course Change Request

Date Submitted: 11/27/18 2:58 pm

Viewing: **HMTD 1211 : Electrical Basic Starting Systems 7**

Last approved: 07/04/18 5:00 am

Last edit: 12/20/18 2:17 pm

Changes proposed by: mwheatley

Programs referencing this course

112: Heavy Mechanical Technology Diploma (International Cohort)

Course Name: **Electrical Basic Starting-Systems 7**

Effective Date: May 2019

School/Centre: Trades, Technology & Design

Department: Heavy Mechanical Technology Diploma International(4305)

Contact(s)

In Workflow

1. 4305 Leader
2. CTT Dean
3. Curriculum Committee Chair
4. EDCO Chair
5. Records
6. Banner

Approval Path

1. 11/14/18 2:15 pm Nicole Degagne (ndegagne): Rollback to Initiator
2. 11/15/18 9:48 am Richard Cyr (rcyr): Approved for 4305 Leader
3. 11/15/18 11:36 am Bre Griffiths (bgriffiths): Approved for CTT Dean
4. 11/26/18 12:59 pm Carlie Deans (cdeans): Rollback to Initiator
5. 12/03/18 1:41 pm Richard Cyr (rcyr): Approved for 4305 Leader
6. 12/03/18 2:51 pm Brett Griffths (bgriffiths): Approved for CTT Dean

https://curriculum.vcc.ca/courseleaf/approve/?role=admin
Banner Course Name: Electrical Basic Starting Systems 7

Subject Code: HMTD - Heavy Mechanical Technician
Course Number 1211
Year of Study 1st Year Post-secondary
Credits: 1

Course Description:
Basic Electrical Circuit: Diagnose and Repair. This course introduces students to troubleshooting procedures, diagnosis, and repair of electrical circuits and systems.

Course Pre-Requisites (if applicable):
Admission to the Heavy Mechanical Technology program.

Course Co-requisites (if applicable):

PLAR (Prior Learning Assessment & Recognition)
No

Course Learning Outcomes (CLO):
Upon successful completion of this course, students will be able to:

<table>
<thead>
<tr>
<th>CLO</th>
<th>Description</th>
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<tbody>
<tr>
<td>#1</td>
<td>Describe the importance of following a diagnostic process. Identify components of starting circuits</td>
</tr>
<tr>
<td>#2</td>
<td>Describe diagnostic procedures used for troubleshooting. Describe the design and operation of starting circuits</td>
</tr>
<tr>
<td>#3</td>
<td>Diagnose and repair basic electrical systems and components. Inspect starting circuits</td>
</tr>
<tr>
<td>#4</td>
<td>Identify electronic components.</td>
</tr>
<tr>
<td>#5</td>
<td>Identify electronic systems.</td>
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Instructional Strategies:
Instructional strategies include classroom lectures, demonstrations, group discussions, computer lab and hands-on practical work.

Evaluation and Grading

Grading System: Percentages

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Hours by Learning Environment Type

Lecture, Seminar, Online

https://curriculum.vcc.ca/courseleaf/approve/?role=admin
Lab, Clinical, Shop, Kitchen,
Studio, Simulation

Practicum
Self Paced / Individual Learning

Course Topics

<table>
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<tr>
<td>1. Diagnostic process.</td>
</tr>
<tr>
<td>2. Diagnostic procedures used for troubleshooting.</td>
</tr>
<tr>
<td>3. Diagnosis and repair basic electrical systems and components.</td>
</tr>
<tr>
<td>4. Electronic components.</td>
</tr>
<tr>
<td>5. Electronic systems. Battery</td>
</tr>
<tr>
<td>2. Starter motor assembly</td>
</tr>
<tr>
<td>3. Solenoids and relays</td>
</tr>
<tr>
<td>4. Ignition switch</td>
</tr>
<tr>
<td>5. Neutral safety switch/clutch pedal switch-</td>
</tr>
<tr>
<td>6. Cables and terminals</td>
</tr>
<tr>
<td>7. System voltage</td>
</tr>
<tr>
<td>8. Battery configuration</td>
</tr>
<tr>
<td>9. Inspection</td>
</tr>
<tr>
<td>10. Routine maintenance</td>
</tr>
<tr>
<td>11. Component removal and installation</td>
</tr>
</tbody>
</table>

Rationale and Consultations

You only have to complete the Rationale and Consultations section once for a group of related proposals (i.e. a number of changes to a PCG and multiple courses). Is this proposal part of a group of related proposals?

Yes

Is this the primary proposal?

No

Primary Proposal
Heavy Mechanical Technology PCG
Additional Information

Provide any additional information if necessary.

Changes have been made from original approved program which includes changes to course titles, course descriptions, time allocations, grading and evaluation descriptions and amounts, and course order (Proposal was originally put through before space and training aids were known/allocated. Training space and training aids are now known which influenced original proposed course delivery) We also added three shop simulation weeks to better align with international student integration into employment.

Supporting documentation:

Reviewer
Comments

Nicole Degagne (ndegagne) (11/14/18 2:15 pm): Rollback: revisions not complete

Course Change Request

Date Submitted: 11/15/18 8:42 am

Viewing: HMTD 1212 : Shop Simulation 1 Basic Charging Systems

Last approved: 07/04/18 4:58 am
Last edit: 12/19/18 11:34 am
Changes proposed by: ebach

Programs referencing this course
112: Heavy Mechanical Technology Diploma (International Cohort)

Course Name:
Shop Simulation 1 Basic Charging Systems

Effective Date: May 2019
School/Centre: Trades, Technology & Design
Department: Heavy Mechanical Technology Diploma International(4305)

In Workflow
1. 4305 Leader
2. CTT Dean
3. Curriculum Committee Chair
4. EDCO Chair
5. Records
6. Banner

Approval Path
1. 11/14/18 2:14 pm Nicole Degagne (ndegagne): Rollback to Initiator
2. 11/15/18 9:49 am Richard Cyr (rcyr): Approved for 4305 Leader
3. 11/15/18 11:36 am Brett Griffiths (bgriffiths): Approved for CTT Dean
4. 12/04/18 1:55 pm Nicole Degagne (ndegagne): Rollback to 4305 Leader for Curriculum Committee Chair
5. 12/05/18 1:31 pm Richard Cyr (rcyr): Approved for 4305 Leader
6. 12/05/18 2:03 pm Brett Griffiths

https://curriculum.vcc.ca/courseleaf/approve/?role=admin
Banner Course Name: **Shop Simulation 1 Basic Charging Systems**

Subject Code: HMTD - Heavy Mechanical Technician

Course Number: 1212

Year of Study: 1st Year Post-secondary

Credits: 1

Course Description:
This course introduces students to simulated work in a heavy mechanical shop. basic charging system service.

Course Pre-Requisites (if applicable):
- Admission to the Heavy Mechanical Technology program.

Course Co-requisites (if applicable):

PLAR (Prior Learning Assessment & Recognition)
- No
Course Learning Outcomes (CLO):

Upon successful completion of this course, students will be able to:

<table>
<thead>
<tr>
<th>CLO #</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>#1</td>
<td>Populate real-time work orders and job time expectations. Describe charging systems</td>
</tr>
<tr>
<td>#2</td>
<td>Clock in and out on jobs and rest breaks. Perform routine maintenance on charging systems</td>
</tr>
<tr>
<td>#3</td>
<td>Perform pre-lunch and end of shift cleanup.</td>
</tr>
<tr>
<td>#4</td>
<td>Describe parts ordering process.</td>
</tr>
<tr>
<td>#5</td>
<td>Prepare parts requisition.</td>
</tr>
<tr>
<td>#6</td>
<td>Complete mechanics &quot;work performed descriptions&quot; on work orders.</td>
</tr>
<tr>
<td>#7</td>
<td>Describe business profit and costs per work order (business overhead, labour cost, charge-out rate, cost of &quot;come-backs&quot;).</td>
</tr>
</tbody>
</table>

Instructional Strategies:
Instructional strategies include classroom lectures, demonstrations, group discussions, computer lab and hands-on practical work.

Evaluation and Grading

Grading System: Percentages

| Passing grade: | 70% |

Evaluation Plan:

<table>
<thead>
<tr>
<th>Type</th>
<th>Percentage</th>
<th>Brief description of assessment activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other Assignments</td>
<td>30 25</td>
<td>Theory- includes formative assessments, assignments, and a summative assessment. Quizzes and Assignments (formative—theory)</td>
</tr>
<tr>
<td>Other Exam</td>
<td>70 20</td>
<td>Practical- includes shop tasks, active participation and teamwork, workplace behavior, use of tools and equipment. Theory-exam (summative—theory)</td>
</tr>
<tr>
<td>Assignments</td>
<td>30</td>
<td>Ongoing observations of workplace behavior and use of tools and equipment.</td>
</tr>
<tr>
<td>Type</td>
<td>Percentage</td>
<td>Brief description of assessment activity</td>
</tr>
<tr>
<td>----------------------------------</td>
<td>------------</td>
<td>-----------------------------------------------------------</td>
</tr>
<tr>
<td>Participation</td>
<td>25</td>
<td>Observable active participation and team work</td>
</tr>
</tbody>
</table>

**Hours by Learning Environment Type**

Lecture, Seminar, Online

7.5 17.5

Lab, Clinical, Shop, Kitchen, Studio, Simulation

17.5 7.5

Practicum

Self Paced / Individual Learning

**Course Topics**

Course Topics:

1. Real-time work orders and job time expectations.
2. Clocking in and out on jobs and rest breaks.
3. Pre-lunch and end of shift cleanup.
4. Parts ordering process.
5. Parts requisition.
6. "Work performed descriptions" on work orders.
7. Business profit and costs per work order (business overhead, labour cost, charge-out rate, cost of "come-backs"). Charging system purpose
   2. Charging system operation
   3. Charging system connections
   4. Charging system inspection
   5. Output voltage/amperage test
   6. Belt condition and tension
   7. Alternator removal and replacement

**Rationale and Consultations**

You only have to complete the Rationale and Consultations section once for a group of related proposals (i.e. a number of changes to a PCG and multiple courses). Is this proposal part of a group of related proposals?

Yes
Is this the primary proposal?
No

Primary Proposal
Heavy Mechanical Technology PCG

Additional Information

Provide any additional information if necessary.

Changes have been made from original approved program which includes changes to course titles, course descriptions, time allocations, grading and evaluation descriptions and amounts, and course order (Proposal was originally put through before space and training aids were known/allocated. Training space and training aids are now known which influenced original proposed course delivery) We also added three shop simulation weeks to better align with international student integration into employment.

Supporting documentation:

Reviewer

Comments
Nicole Degagne (ndegagne) (11/14/18 2:14 pm): Rollback: revisions not complete
Nicole Degagne (ndegagne) (12/04/18 1:55 pm): Rollback: for further review
Course Change Request

Date Submitted: 11/27/18 3:03 pm

Viewing: **HMTD 1213 : Steering Systems 1**

Electrical Circuit Service 1

Last approved: 07/04/18 4:59 am

Last edit: 12/20/18 2:18 pm

Changes proposed by: mwheatley

Programs referencing this course

112: Heavy Mechanical Technology Diploma (International Cohort)

Course Name:

**Steering Systems 1** Electrical Circuit Service 1

Effective Date: May 2019

School/Centre: Trades, Technology & Design

Department: Heavy Mechanical Technology Diploma International (4305)

Contact(s)

In Workflow

1. 4305 Leader
2. CTT Dean
3. Curriculum Committee Chair
4. EDCO Chair
5. Records
6. Banner

Approval Path

1. 11/14/18 2:15 pm Nicole Degagne (ndegagne): Rollback to Initiator
2. 11/15/18 9:52 am Richard Cyr (rcyr): Approved for 4305 Leader
3. 11/15/18 11:36 am Bre Griffiths (bgriffiths): Approved for CTT Dean
4. 11/26/18 1:03 pm Carlie Deans (cdeans): Rollback to Initiator
5. 12/03/18 1:41 pm Richard Cyr (rcyr): Approved for 4305 Leader
6. 12/03/18 2:51 pm Brett Griffiths (bgriffiths): Approved for CTT Dean

https://curriculum.vcc.ca/courseleaf/approve/?role=admin
Banner Course: Steering Systems 1

Course Description:

Truck Steering. This course introduces students to truck steering systems theory, service, diagnosis, and repair. Basic electrical system service.

Course Pre-Requisites (if applicable):

Admission to the Heavy Mechanical Technology program.

Course Co-requisites (if applicable):

PLAR (Prior Learning Assessment & Recognition)

No

Course Learning Outcomes (CLO):
Upon successful completion of this course, students will be able to:

<table>
<thead>
<tr>
<th>CLO #1</th>
<th>Describe steering systems. Describe and replace electrical components</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLO #2</td>
<td>Service steering systems. Select and install conductors and terminals/ connectors</td>
</tr>
<tr>
<td>CLO #3</td>
<td>Describe the construction and operation of power assisted steering systems.</td>
</tr>
<tr>
<td>CLO #4</td>
<td>Diagnose power assisted steering systems.</td>
</tr>
<tr>
<td>CLO #5</td>
<td>Repair power assisted steering systems.</td>
</tr>
</tbody>
</table>

Instructional Strategies:
Instructional strategies include classroom lectures, demonstrations, group discussions, computer lab and hands-on practical work.

Evaluation and Grading

Grading System: Percentages
Passing grade: 70%

Evaluation Plan:

<table>
<thead>
<tr>
<th>Type</th>
<th>Percentage</th>
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</thead>
<tbody>
<tr>
<td>Other Assignments</td>
<td>50 25</td>
<td>Theory- includes formative assessments, assignments, and a summative assessment. Quizzes and Assignments (formative—theory)</td>
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<td>50 20</td>
<td>Practical- includes shop tasks, active participation and teamwork, workplace behavior, use of tools and equipment. Theory exam (summative—theory)</td>
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<tr>
<td>Assignments</td>
<td>30</td>
<td>Ongoing observations of workplace behavior and use of tools and equipment.</td>
</tr>
<tr>
<td>Participation</td>
<td>25</td>
<td>Observable active participation and teamwork</td>
</tr>
</tbody>
</table>

Hours by Learning Environment Type

Lecture, Seminar, Online

12.5
17.5

Lab, Clinical, Shop, Kitchen, Studio, Simulation

12.5 7.5
Course Topics

<table>
<thead>
<tr>
<th>Course Topics:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. <strong>Steering systems.</strong></td>
</tr>
<tr>
<td>2. <strong>Servicing steering systems.</strong></td>
</tr>
<tr>
<td>3. <strong>Construction and operation of power assisted steering systems.</strong></td>
</tr>
<tr>
<td>4. <strong>Diagnosis of power assisted steering systems.</strong></td>
</tr>
<tr>
<td>5. <strong>Repairing power assisted steering systems.</strong></td>
</tr>
<tr>
<td>6. <strong>Lamps</strong></td>
</tr>
<tr>
<td>7. <strong>Starters</strong></td>
</tr>
<tr>
<td>8. <strong>Alternators</strong></td>
</tr>
<tr>
<td>9. <strong>Batteries</strong></td>
</tr>
<tr>
<td>10. <strong>Switches</strong></td>
</tr>
<tr>
<td>11. <strong>Motors</strong></td>
</tr>
<tr>
<td>12. <strong>Fuses</strong></td>
</tr>
<tr>
<td>13. <strong>Wire-gauge</strong></td>
</tr>
<tr>
<td>14. <strong>Terminals/connectors</strong></td>
</tr>
</tbody>
</table>

---

**Rationale and Consultations**

You only have to complete the Rationale and Consultations section once for a group of related proposals (i.e. a number of changes to a PCG and multiple courses). Is this proposal part of a group of related proposals?

**Yes**

Is this the primary proposal?

**No**

**Primary Proposal**

*Heavy Mechanical Technology PCG*

Provide a rationale for this proposal:

---

**Additional Information**
Provide any additional information if necessary.

Changes have been made from original approved program which includes changes to course titles, course descriptions, time allocations, grading and evaluation descriptions and amounts, and course order (Proposal was originally put through before space and training aids were known/allocated. Training space and training aids are now known which influenced original proposed course delivery) We also added three shop simulation weeks to better align with international student integration into employment.

Supporting
documentation:

Reviewer
Comments

Nicole Degagne (ndegagne) (11/14/18 2:15 pm): Rollback: revisions not complete
Carlie Deans (cdeans) (11/26/18 1:03 pm): Rollback: Rollback requested by developer for editing.
Course Change Request

Date Submitted: 11/27/18 3:06 pm

Viewing: HMTD 1214 : Steering Systems 2

Effective Date: May 2019

School/Centre: Trades, Technology & Design

Department: Heavy Mechanical Technology Diploma (International Cohort)

Contact(s)

Programs referencing this course

112: Heavy Mechanical Technology Diploma (International Cohort)

Approval Path

1. 11/14/18 2:16 pm
   Nicole Degagne (ndegagne): Rollback to Initiator

2. 11/15/18 9:56 am
   Richard Cyr (rcyr): Approved for 4305 Leader

3. 11/15/18 11:36 am
   Bre Griffiths (bgriffiths): Approved for CTT Dean

4. 11/26/18 12:59 pm
   Carlie Deans (cdeans): Rollback to Initiator

5. 12/03/18 1:41 pm
   Richard Cyr (rcyr): Approved for 4305 Leader

6. 12/03/18 2:51 pm
   Brett Griffiths (bgriffiths): Approved for CTT Dean
Banner Course Name: Steering Systems 2 Electrical Circuit Service 2

Name: Rick Cyr
Email: rcyr@vcc.ca
Phone/Ext: 778-331-1320

Subject Code: HMTD - Heavy Mechanical Technician
Course Number: 1214
Year of Study: 1st Year Post-secondary
Credits: 1

Course Description:
Machine Steering. This course introduces students to wheeled and track type equipment steering theory, service, diagnosis, and repair. This course builds on the topics covered in Electrical Circuit Service 1.

Course Pre-Requisites (if applicable):
Admission to the Heavy Mechanical Technology program.

Course Co-requisites (if applicable):

PLAR (Prior Learning Assessment & Recognition)
No

Course Learning Outcomes (CLO):
Upon successful completion of this course, students will be able to:

| CLO #1 | Describe track and wheeled type steering systems (differential steering [bulldozer], skid steer, articulated steering [loader], rear steer [forklift], foot-hand control steering [excavator]). Describe and repair sources of circuit faults |
| CLO #2 | Service selected track and wheel type steering systems (skid steer, forklift, loader). Describe and repair trailer wiring circuits |
| CLO #3 | Diagnose and repair selected wheel type equipment (loader) steering systems. |

Instructional Strategies:
Instructional strategies include classroom lectures, demonstrations, group discussions, computer lab and hands-on practical work.

Evaluation and Grading

Grading System: Percentages
Passing grade: 70%

Evaluation Plan:

<table>
<thead>
<tr>
<th>Type</th>
<th>Percentage</th>
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</tr>
</thead>
<tbody>
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<td>Other Assignments</td>
<td>50 25</td>
<td>Theory- includes formative assessments, assignments, and a summative assessment. Quizzes and Assignments (formative—theory)</td>
</tr>
<tr>
<td>Other Exam</td>
<td>50 20</td>
<td>Practical- includes shop tasks, active participation and teamwork, workplace behavior, use of tools and equipment. Theory exam (summative—theory)</td>
</tr>
<tr>
<td>Assignments</td>
<td>30</td>
<td>Ongoing observations of workplace behavior and use of tools and equipment.</td>
</tr>
<tr>
<td>Participation</td>
<td>25</td>
<td>Observable active participation and teamwork</td>
</tr>
</tbody>
</table>

Hours by Learning Environment Type

Lecture, Seminar, Online

12.5

Lab, Clinical, Shop, Kitchen, Studio, Simulation

17.5
Practicum

Self Paced / Individual Learning

Course Topics

<table>
<thead>
<tr>
<th>Course Topics:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Track and wheeled type steering systems: (differential steering [bulldozer], skid steer, articulated steering [loader], rear steer [forklift], foot-hand control steering [excavator]).</td>
</tr>
<tr>
<td>2. Selected track and wheel type steering systems (skid steer, forklift, loader).</td>
</tr>
</tbody>
</table>

Rationale and Consultations

You only have to complete the Rationale and Consultations section once for a group of related proposals (i.e. a number of changes to a PCG and multiple courses). Is this proposal part of a group of related proposals?

Yes

Is this the primary proposal?

No

Primary Proposal

Heavy Mechanical Technology PCG

Provide a rationale for this proposal:

Are there any constraints?

Additional Information
Provide any additional information if necessary.

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Supporting documentation:

Reviewer Comments

Nicole Degagne (ndegagne) (11/14/18 2:16 pm): Rollback: revisions not complete

Course Change Request

Date Submitted: 11/27/18 3:07 pm

Viewing: HMTD 1215 : Workplace Skills 2

Last approved: 07/04/18 4:58 am

Last edit: 12/19/18 11:39 am

Changes proposed by: mwheatley

Programs referencing this course

112: Heavy Mechanical Technology Diploma (International Cohort)

Course Name:
Workplace Skills 2

Effective Date: May 2019

School/Centre: Trades, Technology & Design

Department: Heavy Mechanical Technology Diploma International(4305)

Contact(s)

In Workflow

1. 4305 Leader
2. CTT Dean
3. Curriculum Committee Chair
4. EDCO Chair
5. Records
6. Banner

Approval Path

1. 11/14/18 2:15 pm
   Nicole Degagne (ndegagne):
   Rollback to Initiator

2. 11/15/18 10:01 am
   Richard Cyr (rcyr):
   Approved for 4305 Leader

3. 11/15/18 11:36 am
   Bre Griffiths (bgriffiths):
   Approved for CTT Dean

4. 11/26/18 12:59 pm
   Carlie Deans (cdeans): Rollback to Initiator

5. 12/03/18 1:41 pm
   Richard Cyr (rcyr):
   Approved for 4305 Leader

6. 12/03/18 2:51 pm
   Brett Griffiths (bgriffiths):
   Approved for CTT Dean
Banner Course Name: Workplace Skills 2

Subject Code: HMTD - Heavy Mechanical Technician

Course Number: 1215

Year of Study: 1st Year Post-secondary

Credits: 1

Course Description:

This course builds on the communication skills and strategies which were developed in Workplace Skills 1. It introduces learners to vocabulary and pronunciation specific to the heavy mechanical industry. It also provides the opportunity to practice more complex language and communication skills required for teamwork and professionalism such as problem-solving and conflict resolution. Using an experiential learning approach with focus on role-rehearsals and coaching, this course will provide learners with the opportunity to work independently and in a cooperative team environment. Learners will practice communication strategies like: clarifying and confirming understanding of client services, following instructions, troubleshooting and problem-solving to a higher level.

Course Pre-Requisites (if applicable):

Admission to the Heavy Mechanical Technology program.

Course Co-requisites (if applicable):
Course Learning Outcomes (CLO):

Upon successful completion of this course, students will be able to:

<table>
<thead>
<tr>
<th>CLO #</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>#1</td>
<td>Describe the current heavy mechanics trade. Identify various services in the heavy mechanical repair industry</td>
</tr>
<tr>
<td>#2</td>
<td>Describe the range of working conditions. Apply general concepts and professional vocabulary specific to heavy mechanical repair</td>
</tr>
<tr>
<td>#3</td>
<td>Describe the vehicles and equipment maintained and repaired in the heavy mechanical trade. Choose appropriate repair products, tools and equipment</td>
</tr>
<tr>
<td>#4</td>
<td>Describe legislation affecting employment. Use professional etiquette</td>
</tr>
<tr>
<td>#5</td>
<td>Review the importance of following diagnostic procedures. Work effectively as a team member</td>
</tr>
<tr>
<td>#6</td>
<td>Review the procedures to prepare for an efficient and effective repair (job action). Apply effective study skills to support learning</td>
</tr>
<tr>
<td>#7</td>
<td>Review different business types (retail shops, fleet maintenance etc.).</td>
</tr>
<tr>
<td>#8</td>
<td>Review the relationships between business, labour, and government.</td>
</tr>
<tr>
<td>#9</td>
<td>Review positive employee attributes.</td>
</tr>
<tr>
<td>#10</td>
<td>Review employer and employee responsibilities.</td>
</tr>
<tr>
<td>#11</td>
<td>Update a resume, identify new job search resources, and report findings.</td>
</tr>
<tr>
<td>#12</td>
<td>Update cover letter and report on results.</td>
</tr>
<tr>
<td>#13</td>
<td>Prepare for and perform mock interview.</td>
</tr>
<tr>
<td>#14</td>
<td>Prepare for industry interview.</td>
</tr>
</tbody>
</table>
Upon successful completion of this course, students will be able to:

CLO #15 Follow up on an interview.

Instructional Strategies:
Instructional strategies include classroom lectures, demonstrations, group discussions, computer lab and hands-on practical work.

Evaluation and Grading

Grading System: Percentages
Passing grade: 70%

Evaluation Plan:

<table>
<thead>
<tr>
<th>Type</th>
<th>Percentage</th>
<th>Brief description of assessment activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other Participation</td>
<td>50 20</td>
<td>Theory- includes formative assessments, assignments, and a summative assessment. Attendance, punctuality, engagement in class activities</td>
</tr>
<tr>
<td>Other Assignments</td>
<td>50 25</td>
<td>Practical- includes shop tasks, active participation and teamwork, workplace behavior, use of tools and equipment. Reading comprehension, written assignments</td>
</tr>
<tr>
<td>Lab Work</td>
<td>30</td>
<td>Listening comprehension, pronunciation</td>
</tr>
<tr>
<td>Assignments</td>
<td>25</td>
<td>Oral presentations</td>
</tr>
</tbody>
</table>

Hours by Learning Environment Type

Lecture, Seminar, Online

12.5 25

Lab, Clinical, Shop, Kitchen, Studio, Simulation

12.5

Practicum

Self Paced / Individual Learning
Course Topics:

2. Working conditions.
3. Vehicles Heavy mechanical repair concepts, procedures and equipment maintained and repaired in the heavy mechanical trade.
4. Vocabulary
5. Legislation affecting employment.
6. Diagnostic procedures.
7. Efficient and effective repair (job action).
8. Different business types (retail shops, fleet maintenance etc.).
11. Resumes, cover letters, and new job search resources.
12. Industry interviews and follow-up. Giving and receiving direction
3. Seeking and providing clarification
4. Professional and social communication
5. Common Canadian workplace values, beliefs and attitudes
6. Study skills

Rationale and Consultations

You only have to complete the Rationale and Consultations section once for a group of related proposals (i.e. a number of changes to a PCG and multiple courses). Is this proposal part of a group of related proposals?

Yes

Is this the primary proposal?

No

Primary Proposal

Heavy Mechanical Technology PCG

Additional Information
Provide any additional information if necessary.

Changes have been made from original approved program which includes changes to course titles, course descriptions, time allocations, grading and evaluation descriptions and amounts, and course order (Proposal was originally put through before space and training aids were known/allocated. Training space and training aids are now known which influenced original proposed course delivery) We also added three shop simulation weeks to better align with international student integration into employment.

Supporting documentation:

Reviewer

Comments

Nicole Degagne (ndegagne) (11/14/18 2:15 pm): Rollback: revisions not complete

Course Change Request

Date Submitted: 11/27/18 3:10 pm

Viewing: **HMTD 2101: Cab & Protective Structures**

Last approved: 07/04/18 5:00 am
Last edit: 12/20/18 2:19 pm
Changes proposed by: m wheatley

Programs referencing this course

- 112: Heavy Mechanical Technology Diploma (International Cohort)

Course Name:
- Cab & Protective Structures

Effective Date: May 2019

School/Centre: Trades, Technology & Design

Department: Heavy Mechanical Technology Diploma International(4305)

Contact(s)

In Workflow
1. 4305 Leader
2. CTT Dean
3. Curriculum Committee Chair
4. EDCO Chair
5. Records
6. Banner

Approval Path
1. 11/14/18 2:16 pm
   Nicole Degagne (ndegagne): Rollback to Initiator
2. 11/15/18 10:01 am
   Richard Cyr (rcyr): Approved for 4305 Leader
3. 11/15/18 11:37 am
   Bre Griffiths (bgriffiths): Approved for CTT Dean
4. 11/26/18 12:59 pm
   Carlie Deans (cdeans): Rollback to Initiator
5. 12/03/18 1:41 pm
   Richard Cyr (rcyr): Approved for 4305 Leader
6. 12/03/18 2:51 pm
   Brett Griffiths (bgriffiths): Approved for CTT Dean

https://curriculum.vcc.ca/courseleaf/approve/?role=admin
Banner Course Name: Cab & Protective Structures

Subject Code: HMTD - Heavy Mechanical Technician

Course Number: 2101

Year of Study: 2nd 1st-Year Post-secondary

Credits: 1

Course Description:
This course introduces students to cab and protective structures.

Course Pre-Requisites (if applicable):

Admission to the Heavy Mechanical Technology program.

Course Co-requisites (if applicable):

PLAR (Prior Learning Assessment & Recognition)
No

Course Learning Outcomes (CLO):

History
1. Jul 4, 2018 by Carlie Deans (cdeans)
Upon successful completion of this course, students will be able to:

CLO #1 Describe regulations related to protective structures of equipment. Identify cabs, bodies and structural components.

CLO #2 Perform service and inspection of protective structures on equipment. Service cabs, bodies and structural-components.

CLO #3 Identify cabs, bodies (including service body types, ie: refer van body, mechanics service body, high voltage service body, etc.), and components on truck transport vehicles.

CLO #4 Service cabs, bodies, and components on truck transport vehicles.

Instructional Strategies:
Instructional strategies include classroom lectures, demonstrations, group discussions, computer lab and hands-on practical work.

Evaluation and Grading

Grading System: Percentages
Passing grade: 70%

Evaluation Plan:

<table>
<thead>
<tr>
<th>Type</th>
<th>Percentage</th>
<th>Brief description of assessment activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other Assignments</td>
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Hours by Learning Environment Type

Lecture, Seminar, Online

<p>| | |</p>
<table>
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</table>
|                | 12.5
|                | 17.5
Lab, Clinical, Shop, Kitchen, Studio, Simulation

12.5 7.5

Practicum

Self Paced / Individual Learning

Course Topics

<table>
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<tr>
<td>3. Cabs, bodies (including service body types, ie: refer van body, mechanics service body, high voltage service body, etc.), and components on truck transport vehicles.</td>
</tr>
<tr>
<td>4. Servicing cabs, bodies, and components on truck transport vehicles. Cab types</td>
</tr>
<tr>
<td>2. Cab components</td>
</tr>
<tr>
<td>3. Fixed cabs</td>
</tr>
<tr>
<td>4. Air ride</td>
</tr>
<tr>
<td>5. Doors</td>
</tr>
<tr>
<td>6. Windows</td>
</tr>
<tr>
<td>7. Seats</td>
</tr>
<tr>
<td>8. Supplemental restraint system (air bag)</td>
</tr>
<tr>
<td>9. Sleepers</td>
</tr>
<tr>
<td>10. Ventilation systems</td>
</tr>
<tr>
<td>11. Mounting</td>
</tr>
<tr>
<td>12. Inspection</td>
</tr>
<tr>
<td>13. Replacement</td>
</tr>
<tr>
<td>14. Adjustments</td>
</tr>
<tr>
<td>15. Lubrication</td>
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Rationale and Consultations

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Yes

Is this the primary proposal?

No

Primary Proposal
Heavy Mechanical Technology PCG

Additional Information

Provide any additional information if necessary.

Changes have been made from original approved program which includes changes to course titles, course descriptions, time allocations, grading and evaluation descriptions and amounts, and course order (Proposal was originally put through before space and training aids were known/allocated. Training space and training aids are now known which influenced original proposed course delivery) We also added three shop simulation weeks to better align with international student integration into employment.

Supporting documentation:

Reviewer
Comments

Nicole Degagne (ndegagne) (11/14/18 2:16 pm): Rollback: revisions not complete

Course Change Request

Date Submitted: 11/27/18 3:12 pm

Viewing: **HMTD 2102 : Hydraulic Brake Systems 1**

Last approved: 07/04/18 5:00 am

Last edit: 12/20/18 2:19 pm

Changes proposed by: mwheatley

### Programs referencing this course

**112: Heavy Mechanical Technology Diploma (International Cohort)**

---

**Course Name:**

Hydraulic Brake Systems 1

**Effective Date:**

May 2019

**School/Centre:**

Trades, Technology & Design

**Department:**

Heavy Mechanical Technology Diploma International(4305)

**Contact(s):**
Banner Course Name: Hydraulic Brake Systems 1

Subject Code: HMTD - Heavy Mechanical Technician

Course Number: 2102

Year of Study: 2nd 1st-Year Post-secondary

Credits: 1

Course Description:

Theory and Service. This course introduces students to hydraulic brake systems with a focus on the principles of system operation leading into basic system service procedures.

Course Pre-Requisites (if applicable):

Admission to the Heavy Mechanical Technology program.

Course Co-requisites (if applicable):

PLAR (Prior Learning Assessment & Recognition)

No

Course Learning Outcomes (CLO):
Upon successful completion of this course, students will be able to:

CLO #1 Describe hydraulic brake types and systems: automotive, heavy truck, and machine (including forklift).
Describe the principles of braking

CLO #2 Service Describe hydraulic brakes. principles

CLO #3 Describe the foundation brake

CLO #4 Describe the hydraulics of a brake system

CLO #5 Describe brake fluids

Instructional Strategies:
Instructional strategies include classroom lectures, demonstrations, group discussions, computer lab and hands-on practical work.

Evaluation and Grading

Grading System: Percentages
Passing grade: 70%

Evaluation Plan:

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Hours by Learning Environment Type

Lecture, Seminar, Online

17.5
Lab, Clinical, Shop, Kitchen, Studio, Simulation

7.5

Practicum

Self Paced / Individual Learning

Course Topics:

1. Hydraulic brake types and systems: automotive, heavy truck, and machine (including forklift).
2. Servicing hydraulic brakes. *Principles of friction*
3. Effects of speed and weight
4. Brake fade
5. Foundation brake types
6. Foundation brake operation
7. Brake system hydraulics
8. Brake fluids
9. Parking brake systems

**Rationale and Consultations**

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Yes

Is this the primary proposal?

No

Primary Proposal

Heavy Mechanical Technology PCG

**Additional Information**
Provide any additional information if necessary.

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Supporting documentation:

Reviewer Comments

Nicole Degagne (ndegagne) (11/14/18 2:15 pm): Rollback: revisions not complete

Carlie Deans (cdeans) (11/26/18 1:00 pm): Rollback: Rollback requested by developer for editing.
Course Change Request

Viewing: HMTD 2103: Hydraulic Brake Systems 2

Service-1

Date Submitted: 11/27/18 3:16 pm

Programs referencing this course

112: Heavy Mechanical Technology Diploma (International Cohort)

Course Name: Hydraulic Brake Systems 2 Service-1

Effective Date: May 2019

School/Centre: Trades, Technology & Design

Department: Heavy Mechanical Technology Diploma International (4305)

Contact(s)

1. 4305 Leader
2. CTT Dean
3. Curriculum Committee Chair
4. EDCO Chair
5. Records
6. Banner

Approval Path

1. 11/14/18 2:16 pm
Nicole Degagne (ndegagne): Rollback to Initiator

2. 11/15/18 10:03 am
Richard Cyr (rcyr): Approved for 4305 Leader

3. 11/15/18 11:37 am
Bre Griffiths (bgriffiths): Approved for CTT Dean

4. 11/26/18 1:00 pm
Carlie Deans (cdeans): Rollback to Initiator

5. 12/03/18 1:41 pm
Richard Cyr (rcyr): Approved for 4305 Leader

6. 12/03/18 2:51 pm
Brett Griffiths (bgriffiths): Approved for CTT Dean

Last approved: 07/04/18 4:58 am
Last edit: 12/20/18 2:22 pm
Changes proposed by: mwheatley

https://curriculum.vcc.ca/courseleaf/approve/?role=admin
Banner Course Name: Hydraulic Brake Systems 2 Service 1
Subject Code: HMTD - Heavy Mechanical Technician
Course Number: 2103
Year of Study: 2nd 1st Year Post-secondary
Credits: 1

Course Description:

**Diagnose and Repair.** This course introduces students to hydraulic brake system service.

Course Pre-Requisites (if applicable):

Admission to the Heavy Mechanical Technology program.

Course Co-requisites (if applicable):

PLAR (Prior Learning Assessment & Recognition)

No

Course Learning Outcomes (CLO):

Upon successful completion of this course, students will be able to:
Upon successful completion of this course, students will be able to:

<table>
<thead>
<tr>
<th>CLO #1</th>
<th>Diagnose hydraulic brake systems. Describe hydraulic components</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLO #2</td>
<td>Repair hydraulic brake systems and components. Select hydraulic fluids</td>
</tr>
<tr>
<td>CLO #3</td>
<td>Service, diagnose, and repair parking brake systems. Select hydraulic hoses and fittings</td>
</tr>
<tr>
<td>CLO #4</td>
<td>Describe parking brake systems</td>
</tr>
</tbody>
</table>

Instructional Strategies:
- Instructional strategies include classroom lectures, demonstrations, group discussions, computer lab and hands-on practical work.

Evaluation and Grading

Grading System: Percentages
- Passing grade: 70%

Evaluation Plan:

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Hours by Learning Environment Type

Lecture, Seminar, Online
- 12.5
- 17.5

Lab, Clinical, Shop, Kitchen, Studio, Simulation
- 12.5 7.5

Practicum
Course Topics

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</tr>
<tr>
<td>2. Disc</td>
</tr>
<tr>
<td>2. Drum</td>
</tr>
<tr>
<td>3. Multidisc</td>
</tr>
<tr>
<td>4. Master-cylinder</td>
</tr>
<tr>
<td>5. Metering valve</td>
</tr>
<tr>
<td>6. Proportioning valve</td>
</tr>
<tr>
<td>7. Switches</td>
</tr>
<tr>
<td>8. Brake fluids</td>
</tr>
<tr>
<td>3. Parking brake systems.</td>
</tr>
</tbody>
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Rationale and Consultations

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Yes

Is this the primary proposal?

No

Primary Proposal

Heavy Mechanical Technology PCG

Additional Information

Provide any additional information if necessary.

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Supporting documentation:
Reviewer

Comments

Nicole Degagne (ndegagne) (11/14/18 2:16 pm): Rollback: revisions not complete

Carlie Deans (cdeans) (11/26/18 1:00 pm): Rollback: Rollback requested by developer for editing.
Course Change Request

Date Submitted: 11/27/18 3:17 pm

Viewing: **HMTD 2104 : Hydraulic Brake Systems 3**

**Service 2**

Last approved: 07/04/18 5:00 am

Last edit: 12/20/18 2:22 pm

Changes proposed by: mwheatley

Programs referencing this course

112: **Heavy Mechanical Technology Diploma (International Cohort)**

Course Name:

Hydraulic Brake **Systems 3 Service 2**.

Effective Date: May 2019

School/Centre: Trades, Technology & Design

Department: Heavy Mechanical Technology Diploma International(4305)

Contact(s)
Banner Course Name: **Hydraulic Brake Systems 3 Service 2**

Subject Code: HMTD - Heavy Mechanical Technician

Course Number 2104

Year of Study 2nd 1st Year Post-secondary

Credits: 1

Course Description:

Antilock Braking, Stability Control Systems, and Power Boosters. This course introduces the students to various styles of power assisted hydraulic brake systems and hydraulic anti-lock/stability control braking systems. This course builds on the topics explored in Hydraulic Brake Service 1.

Course Pre-Requisites (if applicable):

Admission to the Heavy Mechanical Technology program.

Course Co-requisites (if applicable):

PLAR (Prior Learning Assessment & Recognition)

No
Course Learning Outcomes (CLO):

Upon successful completion of this course, students will be able to:

CLO #1 Describe vacuum booster types and sources of vacuum. Diagnose hydraulic brake systems

CLO #2 Describe hydraulically boosted/assisted power brakes. Repair hydraulic brake systems

CLO #3 Diagnose and repair hydraulically boosted/assisted power brakes. Service park brake systems

CLO #4 Describe hydraulic anti-lock braking (ABS) systems. Perform preventative maintenance

CLO #5 Diagnose and repair hydraulic anti-lock braking (ABS) systems.

Instructional Strategies:
Instructional strategies include classroom lectures, demonstrations, group discussions, computer lab and hands-on practical work.

Evaluation and Grading

Grading System: Percentages
Passing grade: 70%

Evaluation Plan:

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Hours by Learning Environment Type

Lecture, Seminar, Online

12.5
17.5
Course Topics

<table>
<thead>
<tr>
<th>Course Topics:</th>
</tr>
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<tbody>
<tr>
<td>1. Vacuum booster types and sources of vacuum.</td>
</tr>
<tr>
<td>2. Hydraulically boosted/assisted power brakes.</td>
</tr>
<tr>
<td>3. Diagnosis and repair hydraulically boosted/assisted power brakes.</td>
</tr>
<tr>
<td>4. Hydraulic anti-lock braking (ABS) systems.</td>
</tr>
<tr>
<td>5. Diagnosis and repair hydraulic anti-lock braking (ABS) systems. Diagnostic procedures</td>
</tr>
<tr>
<td>2. Operational checks</td>
</tr>
<tr>
<td>3. Fluid condition and level</td>
</tr>
<tr>
<td>4. Hydraulic component inspection</td>
</tr>
<tr>
<td>5. Hydraulic component repairs</td>
</tr>
<tr>
<td>6. Removal and installation</td>
</tr>
<tr>
<td>7. Fluid flushing</td>
</tr>
<tr>
<td>8. Park brake inspection and repair</td>
</tr>
<tr>
<td>9. Preventative maintenance</td>
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Rationale and Consultations

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Yes

Is this the primary proposal?

No

Primary Proposal

Heavy Mechanical Technology PCG

Additional Information
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Supporting documentation:

Reviewer Comments

Nicole Degagne (ndegagne) (11/14/18 2:15 pm): Rollback: revisions not complete
Carlie Deans (cdeans) (11/26/18 1:00 pm): Rollback: Rollback requested by developer for editing.
Course Change Request

Date Submitted: 11/27/18 3:18 pm

Viewing: HMTD 2105: Air Brake Systems 1 Power Brakes

Last approved: 07/04/18 5:01 am
Last edit: 12/20/18 2:23 pm
Changes proposed by: mwheatley

Programs referencing this course

112: Heavy Mechanical Technology Diploma (International Cohort)

Course Name:

Air Brake Systems 1 Power Brakes

Effective Date: May 2019

School/Centre: Trades, Technology & Design

Department: Heavy Mechanical Technology Diploma International(4305)

Contact(s)

In Workflow

1. 4305 Leader
2. CTT Dean
3. Curriculum Committee Chair
4. EDCO Chair
5. Records
6. Banner

Approval Path

1. 11/14/18 2:16 pm Nicole Degagne (ndegagne): Rollback to Initiator
2. 11/15/18 10:04 am Richard Cyr (rcyr): Approved for 4305 Leader
3. 11/15/18 11:37 am Bre Griffiths (bgriffiths): Approved for CTT Dean
4. 11/26/18 1:00 pm Carlie Deans (cdeans): Rollback to Initiator
5. 12/03/18 1:41 pm Richard Cyr (rcyr): Approved for 4305 Leader
6. 12/03/18 3:03 pm Brett Griffiths (bgriffiths): Approved for CTT Dean

https://curriculum.vcc.ca/courseleaf/approve/?role=admin
Banner Course Name: Air Brake Systems 1

Subject Code: HMTD - Heavy Mechanical Technician
Course Number: 2105
Year of Study: 2nd
Credits: 1

Course Description:

**Theory and Service.** This course introduces students to air power-brake systems principles of operation as well as basic service procedures.

Course Pre-Requisites (if applicable):

Admission to the Heavy Mechanical Technology program.

Course Co-requisites (if applicable):

PLAR (Prior Learning Assessment & Recognition)

No

Course Learning Outcomes (CLO):
Upon successful completion of this course, students will be able to:

<table>
<thead>
<tr>
<th>CLO #1</th>
<th>Describe the principles of braking. power-brake-systems</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLO #2</td>
<td>Describe the principles of pneumatics. Diagnose power-brake-systems</td>
</tr>
<tr>
<td>CLO #3</td>
<td>Describe air brake schedules and components. Repair power-brake-systems</td>
</tr>
<tr>
<td>CLO #4</td>
<td>Service air brake systems.</td>
</tr>
</tbody>
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Instructional Strategies:
Instructional strategies include classroom lectures, demonstrations, group discussions, computer lab and hands-on practical work.

Evaluation and Grading

Grading System: Percentages

- Passing grade: 70%

Evaluation Plan:

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Hours by Learning Environment Type

- Lecture, Seminar, Online: 12.5
  17.5

- Lab, Clinical, Shop, Kitchen, Studio, Simulation: 12.5
  7.5

- Practicum
Course Topics

<table>
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</tr>
<tr>
<td>3. Air brake schedules and components.</td>
</tr>
<tr>
<td>4. Air brake systems. Vacuum-boost</td>
</tr>
<tr>
<td>2. Hydro-boost</td>
</tr>
<tr>
<td>3. Hydro-max</td>
</tr>
<tr>
<td>4. Diagnostic procedures</td>
</tr>
<tr>
<td>5. Component testing and inspection</td>
</tr>
<tr>
<td>6. Repair and replacement</td>
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Rationale and Consultations

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Is this the primary proposal?

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Primary Proposal

Heavy Mechanical Technology PCG

Additional Information

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Supporting documentation:
Reviewer
Comments

Nicole Degagne (ndegagne) (11/14/18 2:16 pm): Rollback: revisions not complete

Carlie Deans (cdeans) (11/26/18 1:00 pm): Rollback: Rollback requested by developer for editing.
Course Change Request

Date Submitted: 11/27/18 3:19 pm

Viewing: HMTD 2106: Air Brake Systems 2

Last approved: 07/14/18 4:33 am
Last edit: 12/20/18 2:23 pm
Changes proposed by: mwheatley

Programs referencing this course
112: Heavy Mechanical Technology Diploma (International Cohort)

Course Name: Air Brake Systems 2

Effective Date: May 2019

School/Centre: Trades, Technology & Design

Department: Heavy Mechanical Technology Diploma International (4305)

Contact(s)

In Workflow
1. 4305 Leader
2. CTT Dean
3. Curriculum Committee Chair
4. EDCO Chair
5. Records
6. Banner

Approval Path
1. 11/14/18 2:16 pm Nicole Degagne (ndegagne): Rollback to Initiator
2. 11/15/18 10:05 am Richard Cyr (rcyr): Approved for 4305 Leader
3. 11/15/18 11:37 am Bre Griffiths (bgriffiths): Approved for CTT Dean
4. 11/26/18 1:00 pm Carlie Deans (cdeans): Rollback to Initiator
5. 12/03/18 1:41 pm Richard Cyr (rcyr): Approved for 4305 Leader
6. 12/03/18 3:03 pm Brett Griffiths (bgriffiths): Approved for CTT Dean

https://curriculum.vcc.ca/courseleaf/approve/?role=admin
Banner Course Name: Air Brake Systems 2

Subject Code: HMTD - Heavy Mechanical Technician
Course Number: 2106
Year of Study: 2nd 1st-Year Post-secondary
Credits: 1

Course Description:

**Inspection and Repair.** This course introduces students to the procedures for inspection and repair of air brake systems.

Course Pre-Requisites (if applicable):

Admission to the Heavy Mechanical Technology program.

Course Co-requisites (if applicable):

PLAR (Prior Learning Assessment & Recognition)

No
Course Learning Outcomes (CLO):

Upon successful completion of this course, students will be able to:

| CLO #1 | Repair foundation brake assemblies. Describe the principles of air brakes |
| CLO #2 | Describe pre-trip brake inspections. Describe the principles of pneumatics |
| CLO #3 | Perform a pre-trip brake inspection. Describe basic air brake systems |
| CLO #4 | Describe the basics of air brake schedules |

Instructional Strategies:
Instructional strategies include classroom lectures, demonstrations, group discussions, computer lab and hands-on practical work.

Evaluation and Grading

Grading System: Percentages
Passing grade: 70%

Evaluation Plan:

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</table>

Hours by Learning Environment Type

Lecture, Seminar, Online
12.5
17.5

Lab, Clinical, Shop, Kitchen, Studio, Simulation
12.5 7.5

Practicum

Self Paced / Individual Learning

## Course Topics

<table>
<thead>
<tr>
<th>Course Topics:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Heat absorption and dissipation</td>
</tr>
<tr>
<td>2. Effects of speed and weight</td>
</tr>
<tr>
<td>3. Brake fade</td>
</tr>
<tr>
<td>4. Water cooling</td>
</tr>
<tr>
<td>5. Characteristics of air</td>
</tr>
<tr>
<td>6. Force, pressure and area</td>
</tr>
<tr>
<td>7. Time lag</td>
</tr>
<tr>
<td>8. Pneumatic balance</td>
</tr>
<tr>
<td>2. Components</td>
</tr>
<tr>
<td>10. Pre-trip Air brake inspections. schedules</td>
</tr>
</tbody>
</table>

## Rationale and Consultations

You only have to complete the Rationale and Consultations section once for a group of related proposals (i.e. a number of changes to a PCG and multiple courses). Is this proposal part of a group of related proposals?

Yes

Is this the primary proposal?

No

Primary Proposal

Heavy Mechanical Technology PCG

Provide a rationale for this proposal:

Are there any

## Additional Information

https://curriculum.vcc.ca/courseleaf/approve/?role=admin
Provide any additional information if necessary.

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Supporting documentation:

Reviewer

Comments

Nicole Degagne (ndegagne) (11/14/18 2:16 pm): Rollback: revisions not complete

Carlie Deans (cdeans) (11/26/18 1:00 pm): Rollback: Rollback requested by developer for editing.
Course Change Request

Date Submitted: 11/27/18 3:43 pm

Viewing: **HMTD 2107 : Air Brake Systems 3**  
Last approved: 07/04/18 5:01 am  
Last edit: 12/20/18 2:24 pm  
Changes proposed by: mwheatley

Programs referencing this course

112: Heavy Mechanical Technology Diploma (International Cohort)

<table>
<thead>
<tr>
<th>Course Name:</th>
<th>Air Brake Systems 3</th>
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<td>Effective Date:</td>
<td>May 2019</td>
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<tr>
<td>School/Centre:</td>
<td>Trades, Technology &amp; Design</td>
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<tr>
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<td>Heavy Mechanical Technology Diploma International(4305)</td>
</tr>
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In Workflow
1. 4305 Leader
2. CTT Dean
3. Curriculum Committee Chair
4. EDCO Chair
5. Records
6. Banner

Approval Path
1. 11/14/18 2:16 pm  
   Nicole Degagne (ndegagne): Rollback to Initiator
2. 11/15/18 10:05 am  
   Richard Cyr (rcyr): Approved for 4305 Leader
3. 11/15/18 11:37 am  
   Bre Griffiths (bgriffiths): Approved for CTT Dean
4. 11/26/18 1:00 pm  
   Carlie Deans (cdeans): Rollback to Initiator
5. 12/03/18 1:41 pm  
   Richard Cyr (rcyr): Approved for 4305 Leader
6. 12/03/18 3:03 pm  
   Brett Griffiths (bgriffiths): Approved for CTT Dean

https://curriculum.vcc.ca/courseleaf/approve/?role=admin
Banner Course Name: Air Brake Systems 3 2

Subject Code: HMTD - Heavy Mechanical Technician

Course Number 2107

Year of Study 2nd 1st Year Post-secondary

Credits: 1

Course Description:

Pneumatic Anti-lock Braking and Stability Control Systems. This course introduces students to basic pneumatic air brake system troubleshooting and pneumatic anti-lock brake and stability systems. This course builds on topics discussed in Air Brake Systems 1.

Course Pre-Requisites (if applicable):

Admission to the Heavy Mechanical Technology program.

Course Co-requisites (if applicable):

PLAR (Prior Learning Assessment & Recognition)

No
Course Learning Outcomes (CLO):

Upon successful completion of this course, students will be able to:

**CLO #1** Describe trailer brakes and their components. Repair foundation brake assemblies

**CLO #2** Describe air over hydraulic systems and their components. Service air brakes

**CLO #3** Describe air anti-lock braking, traction control, and vehicle stability systems. Describe tractor pre-trip brake inspection

**CLO #4** Diagnose and repair air anti-lock braking, traction control, and vehicle stability systems. Perform tractor pre-trip brake inspection

Instructional Strategies:
Instructional strategies include classroom lectures, demonstrations, group discussions, computer lab and hands-on practical work.

**Evaluation and Grading**

Grading System: Percentages

Passing grade: 70%

Evaluation Plan:

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**Hours by Learning Environment Type**

Lecture, Seminar, Online
Lab, Clinical, Shop, Kitchen, 
Studio, Simulation

Practicum

Self Paced / Individual Learning

### Course Topics

<table>
<thead>
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</tr>
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<tbody>
<tr>
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<tr>
<td>2. Air over hydraulic systems and their components.</td>
</tr>
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<td>3. Air anti-lock braking, traction control, and vehicle stability systems.</td>
</tr>
<tr>
<td>4. Diagnosis and repair air anti-lock braking, traction control, and vehicle stability systems.</td>
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- Disassembly
- Replacement
- Measurement
- Adjustment
- Tractor and trailer brakes
- Tractor and trailer pre-trip inspection

### Rationale and Consultations

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Yes

Is this the primary proposal?

No

Primary Proposal

Heavy Mechanical Technology PCG

### Additional Information
Provide any additional information if necessary.

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Supporting documentation:

Reviewer Comments

Nicole Degagne (ndegagne) (11/14/18 2:16 pm): Rollback: revisions not complete

Carlie Deans (cdeans) (11/26/18 1:00 pm): Rollback: Rollback requested by developer for editing.
Course Change Request

Date Submitted: 11/27/18 3:46 pm

Viewing: **HMTD 2108: Cab Heating, Ventilation & AC HVAC Systems-1**

Last approved: 07/04/18 4:59 am

Last edit: 12/20/18 2:27 pm

Changes proposed by: mwheatley

Programs referencing this course

112: **Heavy Mechanical Technology Diploma (International Cohort)**

Course Name:

**Cab Heating, Ventilation & Air Conditioning Systems HVAC Systems-1**

Effective Date: May 2019

School/Centre: Trades, Technology & Design

Department: Heavy Mechanical Technology Diploma International(4305)

Contact(s)

In Workflow

1. 4305 Leader
2. CTT Dean
3. Curriculum Committee Chair
4. EDCO Chair
5. Records
6. Banner

Approval Path

1. 11/14/18 2:16 pm
   Nicole Degagne (ndegagne):
   Rollback to Initiator

2. 11/15/18 10:06 am
   Richard Cyr (rcyr):
   Approved for 4305 Leader

3. 11/15/18 11:37 am
   Bre Griffiths (bgriffiths):
   Approved for CTT Dean

4. 11/26/18 1:00 pm
   Carlie Deans (cdeans):
   Rollback to Initiator

5. 12/03/18 1:41 pm
   Richard Cyr (rcyr):
   Approved for 4305 Leader

6. 12/03/18 3:03 pm
   Brett Griffiths (bgriffiths):
   Approved for CTT Dean
Banner Course Name: **Cab Heating, Ventilation & AC HVAC Systems**

Subject Code: HMTD - Heavy Mechanical Technician

Course Number: 2108

Year of Study: 2nd Year Post-secondary

Credits: 1

Course Description:
This course introduces students to heating, ventilation, and air conditioning (HVAC) systems.

Course Pre-Requisites (if applicable):

- Admission to the Heavy Mechanical Technology program.

Course Co-requisites (if applicable):

PLAR (Prior Learning Assessment & Recognition)

- No

Course Learning Outcomes (CLO):

https://curriculum.vcc.ca/courseleaf/approve/?role=admin
Upon successful completion of this course, students will be able to:

<table>
<thead>
<tr>
<th>CLO #1</th>
<th>Identify heating and air conditioning components.</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLO #2</td>
<td>Describe the construction and operation of heating and air conditioning systems.</td>
</tr>
<tr>
<td>CLO #3</td>
<td>Describe the impact of refrigerants (CFC, HFC, HCFC, etc.) chlorofluorocarbons (CFCs) on the environment.</td>
</tr>
<tr>
<td>CLO #4</td>
<td>Apply legislated procedures when dealing with systems containing refrigerants.</td>
</tr>
<tr>
<td>CLO #5</td>
<td>Diagnose heating and air conditioning systems.</td>
</tr>
<tr>
<td>CLO #6</td>
<td>Repair heating and air conditioning systems.</td>
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</tbody>
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Instructional Strategies:
Instructional strategies include classroom lectures, demonstrations, group discussions, computer lab and hands-on practical work.

**Evaluation and Grading**

Grading System: Percentages
Passing grade: 70%

Evaluation Plan:

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**Hours by Learning Environment Type**

https://curriculum.vcc.ca/courseleaf/approve/?role=admin
Lecture, Seminar, Online

12.5
17.5

Lab, Clinical, Shop, Kitchen,
Studio, Simulation

12.5 7.5

Practicum

Self Paced / Individual Learning

Course Topics

Course Topics:

1. **Heating** Design and operation of heating and air conditioning components.

2. **systems**

4. **Construction** Principles of heating and operation of heating and air conditioning systems.

3. **systems**

2. The impact of refrigerants (CFC, HFC, HCFC, etc.) on the environment.

4. Legislated procedures when dealing with systems containing refrigerants.

5. **Heating** Components of heating and air conditioning systems.

3. Design and operation of heating and air conditioning systems

4. CFCs

5. Diagnosis of heating and air conditioning systems

6. Repair of heating and air conditioning systems

Rationale and Consultations

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Yes

Is this the primary proposal?

No

Primary Proposal

Heavy Mechanical Technology PCG

Additional Information
Provide any additional information if necessary.

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Supporting documentation:

Reviewer Comments

Nicole Degagne (ndegagne) (11/14/18 2:16 pm): Rollback: revisions not complete

Carlie Deans (cdeans) (11/26/18 1:00 pm): Rollback: Rollback requested by developer for editing.
Course Change Request

Date Submitted: 11/27/18 3:54 pm

Viewing: HMTD 2109 : Refrig, Ventilation & AC

HVAC Systems 2

Last approved: 07/04/18 5:00 am
Last edit: 12/20/18 3:04 pm
Changes proposed by: mwheatley

Programs referencing this course
112: Heavy Mechanical Technology Diploma (International Cohort)

Course Name:
Refrigeration Unit Heating, Ventilation & Air Conditioning Systems HVAC Systems 2

Effective Date: May 2019

School/Centre: Trades, Technology & Design

Department: Heavy Mechanical Technology Diploma International(4305)

Contact(s)
Banner Course Name: Refrig, Ventilation & AC HVAC Systems 2

Subject Code: HMTD - Heavy Mechanical Technician

Course Number: 2109

Year of Study: 2nd 1st-Year Post-secondary

Credits: 1

Course Description:

This course introduces students to trailer and service body heating and refrigeration systems. This course builds on topics discussed in HVAC Systems 1.

Course Pre-Requisites (if applicable):

Admission to the Heavy Mechanical Technology program.

Course Co-requisites (if applicable):

PLAR (Prior Learning Assessment & Recognition)

No

Course Learning Outcomes (CLO):
Upon successful completion of this course, students will be able to:

<table>
<thead>
<tr>
<th>CLO</th>
<th>Instruction</th>
</tr>
</thead>
<tbody>
<tr>
<td>#1</td>
<td><strong>Identify heating and refrigeration components. Apply legislated procedures when dealing with systems containing chlorofluorocarbons (CFCs):</strong></td>
</tr>
<tr>
<td>#2</td>
<td><strong>Perform lock-out and fall protection procedures while working on reefers. Diagnose heating and air conditioning systems.</strong></td>
</tr>
<tr>
<td>#3</td>
<td><strong>Describe reefer operation, starting procedure and temperature setting procedure. Repair heating and air conditioning systems.</strong></td>
</tr>
<tr>
<td>#4</td>
<td><strong>Service reefer engine (oil, oil filters, fuel filters, check air filter, check belts).</strong></td>
</tr>
<tr>
<td>#5</td>
<td><strong>Inspect reefer body seal, fan output, water in fuel, refrigerant type and pressures.</strong></td>
</tr>
<tr>
<td>#6</td>
<td><strong>Diagnose and repair refrigeration units.</strong></td>
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**Instructional Strategies:**

Instructional strategies include classroom lectures, demonstrations, group discussions, computer lab and hands-on practical work.

---

**Evaluation and Grading**

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**Hours by Learning Environment Type**

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https://curriculum.vcc.ca/courseleaf/approve/?role=admin
Lecture, Seminar, Online

7.5 17.5

Lab, Clinical, Shop, Kitchen, Studio, Simulation

17.5 7.5

Practicum

Self Paced / Individual Learning

Course Topics

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<td>3. Reefer operation, starting procedure and temperature setting procedure.</td>
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<td>4. Reefer engines (oil, oil filters, fuel filters, check air filter, check belts).</td>
</tr>
<tr>
<td>5. Reefer body seal, fan output, water in fuel, refrigerant type and pressures.</td>
</tr>
<tr>
<td>6. Refrigeration units. CFCs</td>
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</table>

2. Diagnosis of heating and air-conditioning systems

3. Repair of heating and air-conditioning systems

Rationale and Consultations

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Primary Proposal

Heavy Mechanical Technology PCG

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Supporting documentation:

Reviewer
Comments

Nicole Degagne (ndegagne) (11/14/18 2:16 pm): Rollback: revisions not complete
Carlie Deans (cdeans) (11/26/18 1:00 pm): Rollback: Rollback requested by developer for editing.
Course Change Request

Date Submitted: 11/27/18 4:03 pm

Viewing: HMTD 2110 : Trailers 1 Trailers, Couplers and Landing Gear

Landing Gear

Last approved: 07/04/18 4:58 am
Last edit: 12/20/18 2:28 pm
Changes proposed by: mwheatley

Programs
referencing this course
112: Heavy Mechanical Technology Diploma (International Cohort)

Course Name:
Trailers 1 Trailers, Couplers and Landing Gear

Effective Date: May 2019

School/Centre: Trades, Technology & Design

Department: Heavy Mechanical Technology Diploma International(4305)

Contact(s)

In Workflow
1. 4305 Leader
2. CTT Dean
3. Curriculum Committee Chair
4. EDCO Chair
5. Records
6. Banner

Approval Path
1. 11/14/18 2:16 pm Nicole Degagne (ndegagne): Rollback to Initiator
2. 11/15/18 10:08 am Richard Cyr (rcyr): Approved for 4305 Leader
3. 11/15/18 11:37 am Bre Griffiths (bgriffiths): Approved for CTT Dean
4. 11/26/18 1:00 pm Carlie Deans (cdeans): Rollback to Initiator
5. 12/03/18 1:41 pm Richard Cyr (rcyr): Approved for 4305 Leader
6. 12/03/18 3:03 pm Brett Griffiths (bgriffiths): Approved for CTT Dean

https://curriculum.vcc.ca/courseleaf/approve/?role=admin
Banner Course Name: Trailers 1 Trailers Couplers Landing Gear

Subject Code: HMTD - Heavy Mechanical Technician

Course Number: 2110

Year of Study: 2nd 1st Year Post-secondary

Credits: 1

Course Description:

Landing Gear and Couplers. This course introduces students to trailer accessories such as accessories, lift gates, landing gear, gears, winches, hitches, and couplers.

Course Pre-Requisites (if applicable):

Admission to the Heavy Mechanical Technology program.

Course Co-requisites (if applicable):

PLAR (Prior Learning Assessment & Recognition)

No

Course Learning Outcomes (CLO):
Upon successful completion of this course, students will be able to:

CLO #1 Describe the construction and operation of **landing gear and winches**.

CLO #2 Service and repair **lift-gates**, landing **gear gears** and **winches**.

CLO #3 Describe and service hitches and **couplers**.

Instructional Strategies:
Instructional strategies include classroom lectures, demonstrations, group discussions, computer lab and hands-on practical work.

### Evaluation and Grading

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Course Topics

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<td>1. Construction and operation of landing gear and winches.</td>
</tr>
<tr>
<td>2. accessories</td>
</tr>
<tr>
<td>2. Servicing and repairing lift-gates, landing gear and winches.</td>
</tr>
<tr>
<td>3. gears and winches</td>
</tr>
<tr>
<td>3. Hitches and couplers, Tractor-trailer combinations</td>
</tr>
<tr>
<td>4. Fifth wheels</td>
</tr>
<tr>
<td>5. Bolster plates and king pins</td>
</tr>
<tr>
<td>6. Pintle hooks and eyes</td>
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Rationale and Consultations

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Yes

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Primary Proposal

Heavy Mechanical Technology PCG

Additional Information

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Supporting documentation:

Reviewer

Comments

Nicole Degagne (ndegagne) (11/14/18 2:16 pm): Rollback: revisions not complete

Carlie Deans (cdeans) (11/26/18 1:00 pm): Rollback: Rollback requested by developer for editing.
Course Change Request

Date Submitted: 11/27/18 4:05 pm

Viewing: HMTD 2111: Trailers 2 Trailer Systems and Components

Last approved: 07/04/18 4:59 am
Last edit: 12/20/18 2:29 pm
Changes proposed by: mwheatley

Programs referencing this course

112: Heavy Mechanical Technology Diploma (International Cohort)

Course Name:

Trailers 2 Trailer Systems and Components

Effective Date: May 2019

School/Centre: Trades, Technology & Design

Department: Heavy Mechanical Technology Diploma International(4305)

Contact(s)

In Workflow
1. 4305 Leader
2. CTT Dean
3. Curriculum Committee Chair
4. EDCO Chair
5. Records
6. Banner

Approval Path
1. 11/14/18 2:16 pm Nicole Degagne (ndegagne): Rollback to Initiator
2. 11/15/18 10:09 am Richard Cyr (rcyr): Approved for 4305 Leader
3. 11/15/18 11:37 am Bre Griffiths (bgriffiths): Approved for CTT Dean
4. 11/26/18 1:01 pm Carlie Deans (cdeans): Rollback to Initiator
5. 12/03/18 1:42 pm Richard Cyr (rcyr): Approved for 4305 Leader
6. 12/03/18 3:04 pm Brett Griffiths (bgriffiths): Approved for CTT Dean

https://curriculum.vcc.ca/courseleaf/approve/?role=admin
Banner Course Name: **Trailers 2 - Trailer Systems and Components**

Subject Code: HMTD - Heavy Mechanical Technician

Course Number: 2111

Year of Study: 2nd 1st - Year Post-secondary

Credits: 1

Course Description:

**Body Components and Lift Gates.** This course introduces students to trailer body components and lift gates, trailer heating and refrigeration systems.

Course Pre-Requisites (if applicable):

Admission to the Heavy Mechanical Technology program.

Course Co-requisites (if applicable):

PLAR (Prior Learning Assessment & Recognition)

No

Course Learning Outcomes (CLO):
Upon successful completion of this course, students will be able to:

| CLO #1 | Describe the **purpose, operation, purpose** and **design operation** of trailer body **components**. |
| CLO #2 | Remove and install trailer body **components**. |
| CLO #3 | Diagnose and **repair** trailer body **components**. |
| CLO #4 | Repair trailer body **components**. |
| CLO #5 | Identify heating and refrigeration **components**. |
| CLO #6 | Diagnose refrigeration units. |
| CLO #7 | Repair heating and refrigeration systems. |
| CLO #4 | Describe lift gates. |
| CLO #5 | Service lift gates. |
| CLO #6 | Diagnose and repair lift gates. |

**Instructional Strategies:**
Instructional strategies include classroom lectures, demonstrations, group discussions, computer lab and hands-on practical work.

**Evaluation and Grading**

**Grading System:** Percentages
70%

**Passing grade:**

**Evaluation Plan:**

<table>
<thead>
<tr>
<th>Type</th>
<th>Percentage</th>
<th>Brief description of assessment activity</th>
</tr>
</thead>
</table>

https://curriculum.vcc.ca/courseleaf/approve/?role=admin
Course Topics:

1. Trailer body components.
2. Components
3. Removal and installation of trailer body components.
4. Diagnosis and repair of trailer body components.
5. Lift gates.
7. Diagnosis and repair of lift gates. Trailer-refrigeration-components
8. Refrigeration-system-hazards

Rationale and Consultations

You only have to complete the Rationale and Consultations section once for a group of related proposals (i.e. a number of changes to a PCG and multiple courses). Is this proposal part of a group of related proposals?
Yes

Is this the primary proposal?

No

Primary Proposal

Heavy Mechanical Technology PCG

Additional Information

Provide any additional information if necessary.

Changes have been made from original approved program which includes changes to course titles, course descriptions, time allocations, grading and evaluation descriptions and amounts, and course order (Proposal was originally put through before space and training aids were known/allocated. Training space and training aids are now known which influenced original proposed course delivery) We also added three shop simulation weeks to better align with international student integration into employment.

Supporting documentation:

Reviewer

Comments

Nicole Degagne (ndegagne) (11/14/18 2:16 pm): Rollback: revisions not complete

Carlie Deans (cdeans) (11/26/18 1:01 pm): Rollback: Rollback requested by developer for editing.
Course Change Request

Date Submitted: 11/27/18 4:09 pm

Viewing: HMTD 2112 : Powertrain 1 Diesel-Engine Support Systems

Last approved: 07/06/18 4:46 am
Last edit: 12/20/18 2:29 pm
Changes proposed by: mwheatley

Programs referencing this course
112: Heavy Mechanical Technology Diploma (International Cohort)

Course Name:
Powertrain 1 Diesel-Engine Support Systems

Effective Date: May 2019

School/Centre: Trades, Technology & Design
Department: Heavy Mechanical Technology Diploma International(4305)

Contact(s)
Banner Course Name: **Powertrain 1 Diesel Engine Support Systems**

Subject Code: HMTD - Heavy Mechanical Technician

Course Number 2112

Year of Study: 2nd Year Post-secondary

Credits: 1

Course Description:

**Engine Support Systems 1: Cooling and Lubrication.** This course introduces students to the theory of diesel engine operation, cooling and lubrication systems maintenance, and engine removal preparation. Support systems.

Course Pre-Requisites (if applicable):

- Admission to the Heavy Mechanical Technology program.

Course Co-requisites (if applicable):

PLAR (Prior Learning Assessment & Recognition)

No
Course Learning Outcomes (CLO):

Upon successful completion of this course, students will be able to:

| CLO #1 | Describe operation of two and four stroke engines. Describe engine support systems. |
| CLO #2 | Describe service engine cooling and lubrication support systems. |
| CLO #3 | Service engine cooling and lubrication systems. Describe combustion of two and four stroke engines. |
| CLO #4 | Identify and employ procedures to prepare a diesel engine for removal. |

Instructional Strategies:
Instructional strategies include classroom lectures, demonstrations, group discussions, computer lab and hands-on practical work.

Evaluation and Grading

Grading System: Percentages

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Theory- includes formative assessments, assignments, and a summative assessment. Quizzes and Assignments (formative—theory)</td>
<td>50</td>
<td>25</td>
</tr>
<tr>
<td>Practical- includes shop tasks, active participation and teamwork, workplace behavior, use of tools and equipment. Theory exam (summative—theory)</td>
<td>50</td>
<td>20</td>
</tr>
<tr>
<td>Ongoing observations of workplace behavior and use of tools and equipment.</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>Observable active participation and teamwork</td>
<td>25</td>
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</tr>
</tbody>
</table>

Hours by Learning Environment Type

Lecture, Seminar, Online

<p>| |</p>
<table>
<thead>
<tr>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>12.5</td>
</tr>
<tr>
<td>17.5</td>
</tr>
</tbody>
</table>

Lab, Clinical, Shop, Kitchen, Studio, Simulation
Practicum

Self Paced / Individual Learning

Course Topics

<table>
<thead>
<tr>
<th>Course Topics</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. <strong>Two Operation of two</strong> and four stroke <strong>engines</strong>.</td>
</tr>
<tr>
<td>2. <strong>Internal combustion engines</strong></td>
</tr>
<tr>
<td>3. <strong>Engine cooling and lubrication systems</strong>.</td>
</tr>
<tr>
<td>4. <strong>Servicing engine cooling and lubrication systems</strong>.</td>
</tr>
<tr>
<td>5. <strong>Procedures to prepare a diesel engine for removal.</strong> <strong>Cooling systems</strong></td>
</tr>
<tr>
<td>3. <strong>Lubrication systems</strong></td>
</tr>
<tr>
<td>4. <strong>Air induction systems</strong></td>
</tr>
<tr>
<td>5. <strong>Exhaust systems</strong></td>
</tr>
</tbody>
</table>

**Rationale and Consultations**

You only have to complete the Rationale and Consultations section once for a group of related proposals (i.e. a number of changes to a PCG and multiple courses). Is this proposal part of a group of related proposals?

Yes

Is this the primary proposal?

No

Primary Proposal

Heavy Mechanical Technology PCG

**Additional Information**

Provide any additional information if necessary.

Changes have been made from original approved program which includes changes to course titles, course descriptions, time allocations, grading and evaluation descriptions and amounts, and course order (Proposal was originally put through before space and training aids were known/allocated. Training space and training aids are now known which influenced original proposed course delivery) We also added three shop simulation weeks to better align with international student integration into employment.

Supporting documentation:

https://curriculum.vcc.ca/courseleaf/approve/?role=admin
Reviewer
Comments
Nicole Degagne (ndegagne) (11/14/18 2:16 pm): Rollback: revisions not complete
Carlie Deans (cdeans) (11/26/18 1:01 pm): Rollback: Rollback requested by developer for editing.
Course Change Request

Date Submitted: 11/27/18 4:10 pm

Viewing: HMTD 2113 : Powertrain 2 Diesel Fuel Systems

Last approved: 07/04/18 4:59 am
Last edit: 12/20/18 2:30 pm
Changes proposed by: mwheatley

Programs referencing this course
112: Heavy Mechanical Technology Diploma (International Cohort)

Course Name:
Powertrain 2 Diesel Fuel Systems

Effective Date: May 2019
School/Centre: Trades, Technology & Design
Department: Heavy Mechanical Technology Diploma International(4305)
Contact(s)

In Workflow
1. 4305 Leader
2. CTT Dean
3. Curriculum Committee Chair
4. EDCO Chair
5. Records
6. Banner

Approval Path
1. 11/14/18 2:16 pm Nicole Degagne (ndegagne): Rollback to Initiator
2. 11/15/18 10:10 am Richard Cyr (rcyr): Approved for 4305 Leader
3. 11/15/18 11:37 am Bre Griffiths (bgriffiths): Approved for CTT Dean
4. 11/26/18 1:01 pm Carlie Deans (cdeans): Rollback to Initiator
5. 12/03/18 1:42 pm Richard Cyr (rcyr): Approved for 4305 Leader
6. 12/03/18 3:04 pm Brett Griffiths (bgriffiths): Approved for CTT Dean

https://curriculum.vcc.ca/courseleaf/approve/?role=admin
Banner Course Name: Powertrain 2 Diesel Fuel Systems

Subject Code: HMTD - Heavy Mechanical Technician

Course Number: 2113

Year of Study: 2nd Year Post-secondary

Credits: 1

Course Description:

**Engine Support Systems 2: Intake and Exhaust.** This course introduces students to intake and exhaust systems maintenance, and engine removal procedures.

Course Pre-Requisites (if applicable):

Admission to the Heavy Mechanical Technology program.

Course Co-requisites (if applicable):

PLAR (Prior Learning Assessment & Recognition)

No

Course Learning Outcomes (CLO):
Upon successful completion of this course, students will be able to:

CLO #1 Describe engine intake and exhaust systems. Describe characteristics of diesel fuel.

CLO #2 Service engine intake and exhaust systems. Describe diesel fuel supply circuits and their components.

CLO #3 Remove engine. Perform limited service on diesel supply circuits.

Evaluation and Grading

Grading System: Percentages

Passing grade: 70%

Evaluation Plan:

<table>
<thead>
<tr>
<th>Type</th>
<th>Percentage</th>
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</tr>
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<tr>
<td>Other Assignments</td>
<td>30 25</td>
<td>Theory- includes formative assessments, assignments, and a summative assessment. Quizzes and Assignments (formative—theory)</td>
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<td>Other Exam</td>
<td>70 20</td>
<td>Practical- includes shop tasks, active participation and teamwork, workplace behavior, use of tools and equipment. Theory exam (summative—theory)</td>
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</tr>
</tbody>
</table>

Hours by Learning Environment Type

Lecture, Seminar, Online

7.5 17.5

Lab, Clinical, Shop, Kitchen, Studio, Simulation

17.5 7.5

Practicum

Self Paced / Individual Learning
Course Topics

1. Engine intake and exhaust systems.
2. Servicing engine intake and exhaust systems.
3. Removing engines. Fuel-grades
   2. Fuel viscosity
   3. Cetane
   4. Flashpoint
   5. Sulfur content
   6. Disposal
   7. Safety precautions
   8. Fuel supply-circuit types
   9. Fuel tanks, lines, filters and pumps
   10. Fuel supply circuit service and operation

Rationale and Consultations

You only have to complete the Rationale and Consultations section once for a group of related proposals (i.e. a number of changes to a PCG and multiple courses). Is this proposal part of a group of related proposals?

Yes

Is this the primary proposal?

No

Primary Proposal
Heavy Mechanical Technology PCG

Additional Information

Provide any additional information if necessary.

Changes have been made from original approved program which includes changes to course titles, course descriptions, time allocations, grading and evaluation descriptions and amounts, and course order (Proposal was originally put through before space and training aids were known/allocated. Training space and training aids are now known which influenced original proposed course delivery) We also added three shop simulation weeks to better align with international student integration into employment.

Supporting documentation:
<table>
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<tr>
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<tbody>
<tr>
<td>Nicole Degagne (ndegagne) (11/14/18 2:16 pm)</td>
<td>Rollback: revisions not complete</td>
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<tr>
<td>Carlie Deans (cdeans) (11/26/18 1:01 pm)</td>
<td>Rollback: Rollback requested by developer for editing.</td>
</tr>
</tbody>
</table>
Course Change Request

Date Submitted: 11/27/18 4:13 pm

Viewing: **HMTD 2114: Powertrain 3 Diesel Engine Removal Procedures**

Last approved: 07/04/18 5:00 am

Last edit: 12/20/18 2:30 pm

Changes proposed by: mwheatley

Programs referencing this course

112: Heavy Mechanical Technology Diploma (International Cohort)

Course Name:

**Powertrain 3 Diesel Engine Removal Procedures**

Effective Date: May 2019

School/Centre: Trades, Technology & Design

Department: Heavy Mechanical Technology Diploma International(4305)

Contact(s)

In Workflow

1. 4305 Leader
2. CTT Dean
3. Curriculum Committee Chair
4. EDCO Chair
5. Records
6. Banner

Approval Path

1. 11/14/18 2:16 pm Nicole Degagne (ndegagne): Rollback to Initiator
2. 11/15/18 10:11 am Richard Cyr (rcyr): Approved for 4305 Leader
3. 11/15/18 11:37 am Bre Griffiths (bgriffiths): Approved for CTT Dean
4. 11/26/18 1:01 pm Carlie Deans (cdeans): Rollback to Initiator
5. 12/03/18 1:42 pm Richard Cyr (rcyr): Approved for 4305 Leader
6. 12/03/18 3:04 pm Brett Griffiths (bgriffiths): Approved for CTT Dean
Banner Course Name: Powertrain 3 Diesel Eng Removal Procedures

Subject Code: HMTD - Heavy Mechanical Technician
Course Number 2114
Year of Study 2nd 1st Year Post-secondary
Credits: 1

Course Description:

**Engine Fuel Systems: Remove and Install.** This course introduces students to diesel engine fuel supply systems maintenance and diesel engine installation removal procedures.

Course Pre-Requisites (if applicable):

Admission to the Heavy Mechanical Technology program.

Course Co-requisites (if applicable):

PLAR (Prior Learning Assessment & Recognition)

No

Course Learning Outcomes (CLO):

https://curriculum.vcc.ca/courseleaf/approve/?role=admin
Upon successful completion of this course, students will be able to:

<table>
<thead>
<tr>
<th>CLO #1</th>
<th>Describe the characteristics of procedures to prepare a diesel fuel engine for removal</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLO #2</td>
<td>Describe diesel fuel supply circuits and their components. Remove diesel engines</td>
</tr>
<tr>
<td>CLO #3</td>
<td>Service diesel fuel supply circuits</td>
</tr>
<tr>
<td>CLO #4</td>
<td>Install diesel engine.</td>
</tr>
</tbody>
</table>

Instructional Strategies:
Instructional strategies include classroom lectures, demonstrations, group discussions, computer lab and hands-on practical work.

Evaluation and Grading

Grading System: Percentages
Passing grade: 70%

Evaluation Plan:

<table>
<thead>
<tr>
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<td>70 20</td>
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<tr>
<td>Assignments</td>
<td>30</td>
<td>Ongoing observations of workplace behavior and use of tools and equipment:</td>
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<tr>
<td>Participation</td>
<td>25</td>
<td>Observable active participation and teamwork:</td>
</tr>
</tbody>
</table>

Hours by Learning Environment Type

Lecture, Seminar, Online
7.5 17.5

Lab, Clinical, Shop, Kitchen, Studio, Simulation
17.5 7.5

Practicum

Self Paced / Individual Learning
Course Topics

<table>
<thead>
<tr>
<th>Course Topics:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Diesel fuel.</td>
</tr>
<tr>
<td>2. Diesel fuel supply circuits and their components.</td>
</tr>
<tr>
<td>3. Servicing diesel fuel supply circuits.</td>
</tr>
<tr>
<td>4. Diesel engines. Cleaning</td>
</tr>
<tr>
<td>2. Lockout</td>
</tr>
<tr>
<td>3. Precautions</td>
</tr>
<tr>
<td>4. Tagging</td>
</tr>
<tr>
<td>5. Support and blocking of vehicle/equipment</td>
</tr>
<tr>
<td>6. Drain and/or discharge of systems</td>
</tr>
<tr>
<td>7. Remove hoses/lines and wiring</td>
</tr>
<tr>
<td>8. Support or removal of attachments</td>
</tr>
<tr>
<td>9. Rigging/lifting devices</td>
</tr>
<tr>
<td>10. Engine support after removal</td>
</tr>
</tbody>
</table>

Rationale and Consultations

You only have to complete the Rationale and Consultations section once for a group of related proposals (i.e. a number of changes to a PCG and multiple courses). Is this proposal part of a group of related proposals?

Yes

Is this the primary proposal?

No

Primary Proposal

Heavy Mechanical Technology PCG

Additional Information

Provide any additional information if necessary.

Changes have been made from original approved program which includes changes to course titles, course descriptions, time allocations, grading and evaluation descriptions and amounts, and course order (Proposal was originally put through before space and training aids were known/allocated. Training space and training aids are now known which influenced original proposed course delivery) We also added three shop simulation weeks to better align with international student integration into employment.
Supporting documentation:

Reviewer Comments

Nicole Degagne (ndegagne) (11/14/18 2:16 pm): Rollback: revisions not complete

Carlie Deans (cdeans) (11/26/18 1:01 pm): Rollback: Rollback requested by developer for editing.
Course Change Request

Date Submitted: 11/27/18 4:23 pm

Viewing: **HMTD 2115: Powertrain 4 Diesel Engine Installation Procedures**

Last approved: 07/04/18 5:01 am

Last edit: 12/20/18 2:31 pm

Changes proposed by: mwheatley

Programs referencing this course

112: Heavy Mechanical Technology Diploma (International Cohort)

Course Name:

**Powertrain 4 Diesel Engine Installation Procedures**

Effective Date: May 2019

School/Centre: Trades, Technology & Design

Department: Heavy Mechanical Technology Diploma International(4305)

Contact(s)

In Workflow

1. 4305 Leader
2. CTT Dean
3. Curriculum Committee Chair
4. EDCO Chair
5. Records
6. Banner

Approval Path

1. 11/14/18 2:16 pm Nicole Degagne (ndegagne): Rollback to Initiator
2. 11/15/18 10:12 am Richard Cyr (rcyr): Approved for 4305 Leader
3. 11/15/18 11:37 am Bre Griffiths (bgriffiths): Approved for CTT Dean
4. 11/26/18 1:01 pm Carlie Deans (cdeans): Rollback to Initiator
5. 12/03/18 1:42 pm Richard Cyr (rcyr): Approved for 4305 Leader
6. 12/03/18 3:04 pm Brett Griffiths (bgriffiths): Approved for CTT Dean

https://curriculum.vcc.ca/courseleaf/approve/?role=admin
Banner Course Name: Powertrain 4 Diesel Eng Install Procedures

Subject Code: HMTD - Heavy Mechanical Technician
Course Number: 2115
Year of Study: 2nd 1st-Year Post-secondary
Credits: 1

Course Description:

Manual Transmissions and Clutches: Theory, Diagnose, Remove, and Install. This course introduces students to manual and automated manual transmissions and clutches. Diesel engine installation procedures.

Course Pre-Requisites (if applicable):

Admission to the Heavy Mechanical Technology program.

Course Co-requisites (if applicable):

PLAR (Prior Learning Assessment & Recognition)
No
Course Learning Outcomes (CLO):

Upon successful completion of this course, students will be able to:

| CLO #1 | Describe, service, diagnose, and repair clutches and related components. Describe the procedures to prepare a diesel engine for installation and startup |
| CLO #2 | Describe the operation of manual and automated manual transmissions. Install diesel engines |
| CLO #3 | Service, remove and install manual transmissions. |

Instructional Strategies:
Instructional strategies include classroom lectures, demonstrations, group discussions, computer lab and hands-on practical work.

Evaluation and Grading

Grading System: Percentages

Passing grade: 70%

Evaluation Plan:

<table>
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<td>Observable active participation and teamwork</td>
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Hours by Learning Environment Type

Lecture, Seminar, Online

7.5 17.5

Lab, Clinical, Shop, Kitchen, Studio, Simulation
Practicum
Self Paced / Individual Learning

Course Topics

<table>
<thead>
<tr>
<th>Course Topics:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Clutches and related components.</td>
</tr>
<tr>
<td>3. Servicing, removing and installing manual transmissions. Selection and use of rigging/lifting devices</td>
</tr>
<tr>
<td>2. Installation attachments</td>
</tr>
<tr>
<td>3. Installation of hoses/lines and wiring</td>
</tr>
<tr>
<td>4. Refilling systems</td>
</tr>
<tr>
<td>5. Verification of crankshaft rotation and endplay</td>
</tr>
<tr>
<td>6. Prestart checks</td>
</tr>
<tr>
<td>7. Verify operation and leak checks</td>
</tr>
</tbody>
</table>

Rationale and Consultations

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Yes

Is this the primary proposal?

No

Primary Proposal
Heavy Mechanical Technology PCG

Additional Information

Provide any additional information if necessary.

Changes have been made from original approved program which includes changes to course titles, course descriptions, time allocations, grading and evaluation descriptions and amounts, and course order (Proposal was originally put through before space and training aids were known/allocated. Training space and training aids are now known which influenced original proposed course delivery) We also added three shop simulation weeks to better align with international student integration into employment.
Supporting documentation:

Reviewer Comments

Nicole Degagne (ndegagne) (11/14/18 2:16 pm): Rollback: revisions not complete

Carlie Deans (cdeans) (11/26/18 1:01 pm): Rollback: Rollback requested by developer for editing.
Course Change Request

Date Submitted: 11/27/18 4:24 pm

Viewing: **HMTD 2201: Powertrain 5**

**Automated/Manual Transmissions**

Last approved: 07/04/18 4:59 am

Last edit: 12/20/18 2:31 pm

Changes proposed by: mwheatley

Programs referencing this course

112: **Heavy Mechanical Technology Diploma (International Cohort)**

Course Name:

**Powertrain 5 Automated and Manual Transmissions**

Effective Date: May 2019

School/Centre: Trades, Technology & Design

Department: Heavy Mechanical Technology Diploma International (4305)

Contact(s)

In Workflow

1. 4305 Leader
2. CTT Dean
3. Curriculum Committee Chair
4. EDCO Chair
5. Records
6. Banner

Approval Path

1. 11/14/18 2:16 pm Nicole Degagne (ndegagne): Rollback to Initiator
2. 11/15/18 10:12 am Richard Cyr (rcyr): Approved for 4305 Leader
3. 11/15/18 11:37 am Bre Griffiths (bgriffiths): Approved for CTT Dean
4. 11/26/18 1:01 pm Carlie Deans (cdeans): Rollback to Initiator
5. 12/03/18 1:42 pm Richard Cyr (rcyr): Approved for 4305 Leader
6. 12/03/18 3:04 pm Brett Griffiths (bgriffiths): Approved for CTT Dean

https://curriculum.vcc.ca/courseleaf/approve/?role=admin
Course Description:

**Automatic Transmissions and Torque Converters: Theory, Diagnose, Remove, and Install.** This course introduces students to automatic and powershift transmissions as well as torque converters and torque dividers. manual transmissions.

Course Pre-Requisites (if applicable):

Admission to the Heavy Mechanical Technology program.

Course Co-requisites (if applicable):

PLAR (Prior Learning Assessment & Recognition)

No
Course Learning Outcomes (CLO):

Upon successful completion of this course, students will be able to:

<table>
<thead>
<tr>
<th>CLO #</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>#1</td>
<td>Describe torque converters and dividers. Identify clutches and related components</td>
</tr>
<tr>
<td>#2</td>
<td>Service torque converters, clutches, and dividers. Identify related components</td>
</tr>
<tr>
<td>#3</td>
<td>Describe and identify the operation of powershift and automatic transmissions.</td>
</tr>
<tr>
<td>#4</td>
<td>Service powershift and automatic transmissions.</td>
</tr>
<tr>
<td>#5</td>
<td>Remove and install automatic/powershift transmissions. Identify purpose of torque converters and dividers</td>
</tr>
<tr>
<td>#6</td>
<td>Remove Service torque converters and install torque converters/dividers.</td>
</tr>
<tr>
<td>#7</td>
<td>Identify the operation of powershift and automatic transmissions</td>
</tr>
<tr>
<td>#8</td>
<td>Service powershift and automatic transmissions</td>
</tr>
</tbody>
</table>

Instructional Strategies:
Instructional strategies include classroom lectures, demonstrations, group discussions, computer lab and hands-on practical work.

Evaluation and Grading

Grading System: Percentages  Passing grade:
70%

Evaluation Plan:

<table>
<thead>
<tr>
<th>Type</th>
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<tr>
<td>Participation</td>
<td>25%</td>
<td>Observable active participation and teamwork.</td>
</tr>
</tbody>
</table>

**Course Topics**

1. Torque converters and dividers.
2. Servicing torque converters and dividers.
3. Powershift and automatic transmissions.
4. Servicing powershift and automatic transmissions.
5. Removing and installing automatic/powershift transmissions.
6. Removing and installing torque converters/dividers. Clutches

- Related clutch components
- Manual transmissions
- Torque-converters
- Dividers
- Powershift transmissions
- Automatic transmissions

**Reasons and Consultations**

You only have to complete the Rationale and Consultations section once for a group of related proposals (i.e. a number of changes to a PCG and multiple courses). Is this proposal part of a group of related proposals?
Yes

Is this the primary proposal?

No

Primary Proposal

Heavy Mechanical Technology PCG

Additional Information

Provide any additional information if necessary.

Changes have been made from original approved program which includes changes to course titles, course descriptions, time allocations, grading and evaluation descriptions and amounts, and course order (Proposal was originally put through before space and training aids were known/allocated. Training space and training aids are now known which influenced original proposed course delivery) We also added three shop simulation weeks to better align with international student integration into employment.

Supporting documentation:

Reviewer

Comments

Nicole Degagne (ndegagne) (11/14/18 2:16 pm): Rollback: revisions not complete

Carlie Deans (cdeans) (11/26/18 1:01 pm): Rollback: Rollback requested by developer for editing.
Course Change Request

Date Submitted: 11/27/18 4:54 pm

Viewing: HMTD 2202: Powertrain 6 Driveline Systems

Last approved: 07/04/18 4:59 am
Last edit: 12/20/18 2:32 pm
Changes proposed by: mwheatley

Programs referencing this course

112: Heavy Mechanical Technology Diploma (International Cohort)

Course Name:

Powertrain 6 Driveline Systems

Effective Date: May 2019

School/Centre: Trades, Technology & Design

Department: Heavy Mechanical Technology Diploma International(4305)

Contact(s)

In Workflow
1. 4305 Leader
2. CTT Dean
3. Curriculum Committee Chair
4. EDCO Chair
5. Records
6. Banner

Approval Path
1. 11/14/18 2:17 pm
   Nicole Degagne (ndegagne): Rollback to Initiator
2. 11/15/18 10:13 am
   Richard Cyr (rcyr): Approved for 4305 Leader
3. 11/15/18 11:37 am
   Bre Griffiths (bgriffiths): Approved for CTT Dean
4. 11/26/18 1:01 pm
   Carlie Deans (cdeans): Rollback to Initiator
5. 12/05/18 1:31 pm
   Richard Cyr (rcyr): Approved for 4305 Leader
6. 12/05/18 2:03 pm
   Brett Griffiths (bgriffiths): Approved for CTT Dean

https://curriculum.vcc.ca/courseleaf/approve/?role=admin
Banner Course: Powertrain 6 - Driveline Systems

Subject Code: HMTD - Heavy Mechanical Technician
Course Number: 2202
Year of Study: 2nd Year Post-secondary
Credits: 1

Course Description:

Driveline and Drive Axles: Theory, Diagnose, Remove, and Install. This course introduces students to driveline and drive axle systems.

Course Pre-Requisites (if applicable):

Admission to the Heavy Mechanical Technology program.

Course Co-requisites (if applicable):

PLAR (Prior Learning Assessment & Recognition)

No

Course Learning Outcomes (CLO):
Upon successful completion of this course, students will be able to:

<table>
<thead>
<tr>
<th>CLO #1</th>
<th>Describe drivelines and their components.</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLO #2</td>
<td>Service drivelines and diagnose drivelines and their components.</td>
</tr>
<tr>
<td>CLO #3</td>
<td>Describe drive axles.</td>
</tr>
<tr>
<td>CLO #4</td>
<td>Service and diagnose drive axles.</td>
</tr>
<tr>
<td>CLO #5</td>
<td>Remove and install drivelines.</td>
</tr>
</tbody>
</table>

Instructional Strategies:
Instructional strategies include classroom lectures, demonstrations, group discussions, computer lab and hands-on practical work.

Evaluation and Grading

Grading System: Percentages
Passing grade: 70%

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Hours by Learning Environment Type

Lecture, Seminar, Online

| 7.5 17.5 |
Lab, Clinical, Shop, Kitchen, Studio, Simulation

| 17.5 7.5 |
Practicum
Course Topics

<table>
<thead>
<tr>
<th>Course Topics:</th>
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<tbody>
<tr>
<td>1. Drivelines and their components.</td>
</tr>
<tr>
<td>2. Servicing and diagnosing drivelines and their components.</td>
</tr>
<tr>
<td>3. Drive axles.</td>
</tr>
<tr>
<td>4. Servicing and diagnosing drive axles.</td>
</tr>
<tr>
<td>5. Removing and installing drivelines. Driveline types</td>
</tr>
<tr>
<td>2. U-joints</td>
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<tr>
<td>3. Yokes</td>
</tr>
<tr>
<td>4. Slip-joints</td>
</tr>
<tr>
<td>5. Driveline service</td>
</tr>
<tr>
<td>6. Driveline inspection</td>
</tr>
<tr>
<td>7. Maintenance</td>
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Rationale and Consultations

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Yes

Is this the primary proposal?

No

Primary Proposal

Heavy Mechanical Technology PCG

Additional Information

Provide any additional information if necessary.

Changes have been made from original approved program which includes changes to course titles, course descriptions, time allocations, grading and evaluation descriptions and amounts, and course order (Proposal was originally put through before space and training aids were known/allocated. Training space and training aids are now known which influenced original proposed course delivery) We also added three shop simulation weeks to better align with international student integration into employment.

Supporting documentation:

https://curriculum.vcc.ca/courseleaf/approve/?role=admin
Reviewer

Comments

Nicole Degagne (ndegagne) (11/14/18 2:17 pm): Rollback: revisions not complete

Carlie Deans (cdeans) (11/26/18 1:01 pm): Rollback: Rollback requested by developer for editing.
Course Change Request

Date Submitted: 11/27/18 5:01 pm

Viewing: HMTD 2203: Powertrain 7 Differential Systems

Last approved: 07/04/18 4:58 am
Last edit: 12/20/18 2:33 pm
Changes proposed by: mwheatley

Programs referencing this course

112: Heavy Mechanical Technology Diploma (International Cohort)

In Workflow

1. 4305 Leader
2. CTT Dean
3. Curriculum Committee Chair
4. EDCO Chair
5. Records
6. Banner

Course Name:

Powertrain 7 Differential Systems

Effective Date: May 2019

School/Centre: Trades, Technology & Design

Department: Heavy Mechanical Technology Diploma International(4305)

Contact(s)

Approval Path

1. 11/14/18 2:17 pm Nicole Degagne (ndegagne): Rollback to Initiator
2. 11/15/18 10:14 am Richard Cyr (rcyr): Approved for 4305 Leader
3. 11/15/18 11:37 am Bre Griffiths (bgriffiths): Approved for CTT Dean
4. 11/26/18 1:01 pm Carlie Deans (cdeans): Rollback to Initiator
5. 12/03/18 1:42 pm Richard Cyr (rcyr): Approved for 4305 Leader
6. 12/03/18 3:04 pm Brett Griffths (bgriffiths): Approved for CTT Dean
Banner Course Name: Powertrain 7 Differential Systems
Subject Code: HMTD - Heavy Mechanical Technician
Course Number: 2203
Year of Study: 2nd 1st Year Post-secondary
Credits: 1

Course Description:
Differentials and Internal Traction Control Devices: Theory, Diagnose, Remove, and Install. This course introduces students to differential systems and internal traction control devices (lockers).

Course Pre-Requisites (if applicable):
Admission to the Heavy Mechanical Technology program.

Course Co-requisites (if applicable):

PLAR (Prior Learning Assessment & Recognition)
No

Course Learning Outcomes (CLO):
Upon successful completion of this course, students will be able to:

| CLO #1 | Remove and install differentials (from drive axles). Describe machine final drives. |
| CLO #2 | Service and diagnose differentials. Service machine final drives. |
| CLO #3 | Describe internal traction control devices (differential and inter-axle lockers; types and applications). |

Instructional Strategies:
Instructional strategies include classroom lectures, demonstrations, group discussions, computer lab and hands-on practical work.

Evaluation and Grading

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Evaluation Plan:

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Hours by Learning Environment Type

| Lecture, Seminar, Online | 7.5 17.5 |
| Lab, Clinical, Shop, Kitchen, Studio, Simulation | 17.5 7.5 |

Practicum
Self Paced / Individual Learning
Course Topics:

1. Removing and installing differentials (from drive axles).
2. Servicing and diagnosing differentials.
3. Internal traction control devices (differential and inter-axle lockers; types and applications).

Inboard-final drives
2. Outboard-final drives
3. Planetary gears
4. Chain drive
5. Gear drive
6. Inspection
7. Lubrication
8. Operational test
9. Scheduled maintenance

Rationale and Consultations

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Yes

Is this the primary proposal?

No

Primary Proposal

Heavy Mechanical Technology PCG

Additional Information

Provide any additional information if necessary.

Changes have been made from original approved program which includes changes to course titles, course descriptions, time allocations, grading and evaluation descriptions and amounts, and course order (Proposal was originally put through before space and training aids were known/allocated. Training space and training aids are now known which influenced original proposed course delivery) We also added three shop simulation weeks to better align with international student integration into employment.

Supporting documentation:
Reviewer

Comments

Nicole Degagne (ndegagne) (11/14/18 2:17 pm): Rollback: revisions not complete

Carlie Deans (cdeans) (11/26/18 1:01 pm): Rollback: Rollback requested by developer for editing.
Course Change Request

Date Submitted: 11/27/18 5:04 pm

Viewing: HMTD 2204: Powertrain 8 Drive Axle Systems

Last approved: 07/04/18 4:59 am

Last edit: 12/20/18 2:33 pm

Changes proposed by: mwheatley

Programs referencing this course
112: Heavy Mechanical Technology Diploma (International Cohort)

Course Name:
Powertrain 8 Drive Axle Systems

Effective Date:
May 2019

School/Centre:
Trades, Technology & Design

Department:
Heavy Mechanical Technology Diploma International (4305)

Contact(s)

In Workflow
1. 4305 Leader
2. CTT Dean
3. Curriculum Committee Chair
4. EDCO Chair
5. Records
6. Banner

Approval Path
1. 11/14/18 2:17 pm Nicole Degagne (ndegagne): Rollback to Initiator
2. 11/15/18 10:16 am Richard Cyr (rcyr): Approved for 4305 Leader
3. 11/15/18 11:38 am Bre Griffiths (bgriffiths): Approved for CTT Dean
4. 11/26/18 1:01 pm Carlie Deans (cdeans): Rollback to Initiator
5. 12/03/18 1:42 pm Richard Cyr (rcyr): Approved for 4305 Leader
6. 12/03/18 3:04 pm Brett Griffths (bgriffiths): Approved for CTT Dean

https://curriculum.vcc.ca/courseleaf/approve/?role=admin
Banner Course Name: **Powertrain 8 Drive Axle Systems**

Subject Code: HMTD - Heavy Mechanical Technician

Course Number: 2204

Year of Study: 2nd Year Post-secondary

Credits: 1

Course Description:

*Return to Service: Inspection and Run-up.* This course introduces the students to start and run-up procedures, monitoring, diagnostics, and inspection before placing unit into service. **Drive axle systems.**

Course Pre-Requisites (if applicable):

Admission to the Heavy Mechanical Technology program.

Course Co-requisites (if applicable):

PLAR (Prior Learning Assessment & Recognition)

No

Course Learning Outcomes (CLO):
Upon successful completion of this course, students will be able to:

CLO #1  Perform initial start and run-up procedures. Describe drive axles.
CLO #2  Monitor unit operation after initial start-up. Service drive axles.
CLO #3  Diagnose and repair faults before placing unit into service.

Instructional Strategies:
Instructional strategies include classroom lectures, demonstrations, group discussions, computer lab and hands-on practical work.

Evaluation and Grading

Grading System: Percentages
Passing grade: 70%

Evaluation Plan:

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Hours by Learning Environment Type

Lecture, Seminar, Online

12.5
17.5

Lab, Clinical, Shop, Kitchen, Studio, Simulation

12.5 7.5

Practicum

Self Paced / Individual Learning
Course Topics:

1. Initial start and run-up procedures.
2. Unit operation after initial start-up.
3. Diagnosis and repair of faults before placing unit into service. Single-axle
   2. Tandem-axle
   3. Tridem-axle
   4. Multi-speed
   5. Differentials
   6. Axles shafts
   7. Traction devices
   8. Inter-axle differentials
   9. Controls and circuits
   10. Mounting
   11. Basic operation
   12. Lubrication
   13. Service

Rationale and Consultations

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Yes

Is this the primary proposal?

No

Primary Proposal

Heavy Mechanical Technology PCG

Additional Information

Provide any additional information if necessary.

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Supporting documentation:

Reviewer Comments

Nicole Degagne (ndegagne) (11/14/18 2:17 pm): Rollback: revisions not complete

Carlie Deans (cdeans) (11/26/18 1:01 pm): Rollback: Rollback requested by developer for editing.
Course Change Request

Date Submitted: 11/27/18 5:10 pm

Viewing: HMTD 2205: Electrical Advanced Starting Systems 8

Last approved: 07/04/18 5:00 am
Last edit: 12/20/18 2:34 pm
Changes proposed by: mwheatley

Programs referencing this course:

112: Heavy Mechanical Technology Diploma (International Cohort)

Course Name:

Electrical Advanced Starting Systems 8

Effective Date: May 2019

School/Centre: Trades, Technology & Design

Department: Heavy Mechanical Technology Diploma International(4305)

Contact(s)

In Workflow
1. 4305 Leader
2. CTT Dean
3. Curriculum Committee Chair
4. EDCO Chair
5. Records
6. Banner

Approval Path
1. 11/14/18 2:17 pm Nicole Degagne (ndegagne): Rollback to Initiator
2. 11/15/18 10:17 am Richard Cyr (rcyr): Approved for 4305 Leader
3. 11/15/18 11:38 am Brett Griffiths (bgriffiths): Approved for CTT Dean
4. 11/26/18 1:02 pm Carlie Deans (cdeans): Rollback to Initiator
5. 12/03/18 1:42 pm Richard Cyr (rcyr): Approved for 4305 Leader
6. 12/03/18 3:04 pm Brett Griffiths (bgriffiths): Approved for CTT Dean

https://curriculum.vcc.ca/courseleaf/approve/?role=admin
Banner Course Name: **Electrical Advanced Starting Systems 8**

Subject Code: HMTD - Heavy Mechanical Technician

Course Number: 2205

Year of Study: 2nd 1st-Year Post-secondary

Credits: 1

Course Description:

Starting Systems 2: Diagnose and Repair. This course introduces students to starting systems circuit and component diagnosis and repair. This course builds on the topics explored in basic starting systems.

Course Pre-Requisites (if applicable):

Admission to the Heavy Mechanical Technology program.

Course Co-requisites (if applicable):

PLAR (Prior Learning Assessment & Recognition)

No

Course Learning Outcomes (CLO):
- **Instructional Strategies:**
  Instructional strategies include classroom lectures, demonstrations, group discussions, computer lab and hands-on practical work.

### Evaluation and Grading

**Grading System:** Percentages

- **Passing grade:** 70%

**Evaluation Plan:**

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### Hours by Learning Environment Type

- **Lecture, Seminar, Online**
  - **12.5**
  - **17.5**

- **Lab, Clinical, Shop, Kitchen, Studio, Simulation**
  - **12.5 7.5**

- **Practicum**
Course Topics

1. Starting systems and components.
2. Inspection of starting systems.
3. Diagnosis and repair of starting systems and related components. Components
   - Operation
   - Motor
   - Drives
   - Solenoids
   - Armature
   - Windings
   - Brushes
   - Inspection
   - Testing
   - Diagnosis
   - Repair

Rationale and Consultations

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Yes

Is this the primary proposal?

No

Primary Proposal

Heavy Mechanical Technology PCG

Additional Information
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Supporting documentation:

Reviewer

Comments

Nicole Degagne (ndegagne) (11/14/18 2:17 pm): Rollback: revisions not complete

Carlie Deans (cdeans) (11/26/18 1:02 pm): Rollback: Rollback requested by developer for editing.
Course Change Request

Date Submitted: 11/27/18 5:16 pm

Viewing: HMTD 2206: Electrical Advanced Charging Systems 9

Last approved: 07/04/18 5:00 am
Last edit: 12/20/18 2:34 pm
Changes proposed by: mwheatley

Programs referencing this course

112: Heavy Mechanical Technology Diploma (International Cohort)

Course Name:

Electrical Advanced Charging Systems 9

Effective Date: May 2019

School/Centre: Trades, Technology & Design
Department: Heavy Mechanical Technology Diploma International(4305)

Contact(s)

In Workflow
1. 4305 Leader
2. CTT Dean
3. Curriculum Committee Chair
4. EDCO Chair
5. Records
6. Banner

Approval Path
1. 11/14/18 2:17 pm Nicole Degagne (ndegagne): Rollback to Initiator
2. 11/15/18 10:17 am Richard Cyr (rcyr): Approved for 4305 Leader
3. 11/15/18 11:38 am Bre Griffiths (bgriffiths): Approved for CTT Dean
4. 11/26/18 1:02 pm Carlie Deans (cdeans): Rollback to Initiator
5. 12/03/18 1:42 pm Richard Cyr (rcyr): Approved for 4305 Leader
6. 12/03/18 3:04 pm Brett Griffiths (bgriffiths): Approved for CTT Dean

https://curriculum.vcc.ca/courseleaf/approve/?role=admin
Banner Course Name: Electrical Advanced Charging Systems 9
Subject Code: HMTD - Heavy Mechanical Technician
Course Number: 2206
Year of Study: 2nd
Credits: 1

Course Description:
Charging Systems 2: Diagnose and Repair. This course introduces students to charging systems circuit and component diagnosis and repair. This course builds on the topics explored in basic charging systems.

Course Pre-Requisites (if applicable):
Admission to the Heavy Mechanical Technology program.

Course Co-requisites (if applicable):

PLAR (Prior Learning Assessment & Recognition)
No

Course Learning Outcomes (CLO):
Upon successful completion of this course, students will be able to:

CLO #1  Review Describe charging systems and system components.

CLO #2  Perform inspection of charging system. Describe the design and operation of charging systems.

CLO #3  Diagnose Perform inspection, diagnosis and repair of charging systems and related components.

Instructional Strategies:
Instructional strategies include classroom lectures, demonstrations, group discussions, computer lab and hands-on practical work.

Evaluation and Grading
Grading System: Percentages
Passing grade: 70%

Evaluation Plan:

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<td>Participation</td>
<td>25</td>
<td>Observable active participation and teamwork</td>
</tr>
</tbody>
</table>

Hours by Learning Environment Type

Lecture, Seminar, Online

12.5

Lab, Clinical, Shop, Kitchen, Studio, Simulation

12.5 7.5
Course Topics

<table>
<thead>
<tr>
<th>Course Topics:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Charging systems and components.</td>
</tr>
<tr>
<td>2. Inspection of charging systems.</td>
</tr>
<tr>
<td>3. Diagnosis and repair of charging systems and related components. Components</td>
</tr>
<tr>
<td>2. Operation</td>
</tr>
<tr>
<td>3. Alternators</td>
</tr>
<tr>
<td>4. Regulators</td>
</tr>
<tr>
<td>5. Field Circuits</td>
</tr>
<tr>
<td>6. Drive</td>
</tr>
<tr>
<td>7. Cooling</td>
</tr>
<tr>
<td>8. Inspection</td>
</tr>
<tr>
<td>9. Testing</td>
</tr>
<tr>
<td>10. Diagnosis</td>
</tr>
<tr>
<td>11. Repair</td>
</tr>
</tbody>
</table>

Rationale and Consultations

You only have to complete the Rationale and Consultations section once for a group of related proposals (i.e. a number of changes to a PCG and multiple courses). Is this proposal part of a group of related proposals?

Yes

Is this the primary proposal?

No

Primary Proposal

Heavy Mechanical Technology PCG

Additional Information
Provide any additional information if necessary.

Changes have been made from original approved program which includes changes to course titles, course descriptions, time allocations, grading and evaluation descriptions and amounts, and course order (Proposal was originally put through before space and training aids were known/allocated. Training space and training aids are now known which influenced original proposed course delivery) We also added three shop simulation weeks to better align with international student integration into employment.

Supporting documentation:

Reviewer Comments

Nicole Degagne (ndegagne) (11/14/18 2:17 pm): Rollback: revisions not complete

Carlie Deans (cdeans) (11/26/18 1:02 pm): Rollback: Rollback requested by developer for editing.
Course Change Request

Date Submitted: 11/27/18 5:23 pm

Viewing: **HMTD 2207: Electrical Systems 10**

**Diagnosis**

Last approved: 07/04/18 4:58 am

Last edit: 12/20/18 2:35 pm

Changes proposed by: mwheatley

Programs referencing this course

- **112: Heavy Mechanical Technology Diploma (International Cohort)**

Course Name:

- Electrical Systems 10

Effective Date:

- May 2019

School/Centre:

- Trades, Technology & Design

Department:

- Heavy Mechanical Technology Diploma International(4305)

Contact(s)

In Workflow

1. 4305 Leader
2. CTT Dean
3. Curriculum Committee Chair
4. EDCO Chair
5. Records
6. Banner

Approval Path

1. 11/14/18 2:17 pm Nicole Degagne (ndegagne): Rollback to Initiator
2. 11/15/18 10:22 am Richard Cyr (rcyr): Approved for 4305 Leader
3. 11/15/18 11:38 am Bre Griffiths (bgriffiths): Approved for CTT Dean
4. 11/26/18 1:02 pm Carlie Deans (cdeans): Rollback to Initiator
5. 12/05/18 1:31 pm Richard Cyr (rcyr): Approved for 4305 Leader
6. 12/05/18 2:03 pm Brett Griffiths (bgriffiths): Approved for CTT Dean

https://curriculum.vcc.ca/courseleaf/approve/?role=admin
Banner Course Name: Electrical Systems 10

Subject Code: HMTD - Heavy Mechanical Technician
Course Number: 2207
Year of Study: 2nd 1st-Year Post-secondary
Credits: 1

Course Description:

**Advanced Truck and Machine Electrical: Diagnose and Repair.** This course introduces students to advanced electrical systems and component diagnosis.

Course Pre-Requisites (if applicable):

Admission to the Heavy Mechanical Technology program.

Course Co-requisites (if applicable):

PLAR (Prior Learning Assessment & Recognition)

No
Course Learning Outcomes (CLO):

Upon successful completion of this course, students will be able to:

CLO #1  Identify electrical components.

CLO #1 #2  Review identify electrical components and systems.

CLO #2 #3  Perform rapid vehicle assessment. Diagnose components and systems.

CLO #3  Diagnose electrical components and systems.

CLO #4  Repair electrical components and systems.

Instructional Strategies:
Instructional strategies include classroom lectures, demonstrations, group discussions, computer lab and hands-on practical work.

Evaluation and Grading

Grading System: Percentages

Passing grade: 70%

Evaluation Plan:

<table>
<thead>
<tr>
<th>Type</th>
<th>Percentage</th>
<th>Brief description of assessment activity</th>
</tr>
</thead>
</table>
| Other
Assignments| 30 25      | Theory - includes formative assessments, assignments, and a summative assessment. Quizzes and Assignments (formative—theory) |
| Other Exam   | 70 20      | Practical - includes shop tasks, active participation and teamwork, workplace behavior, use of tools and equipment. Theory exam (summative—theory) |
| Assignments  | 30         | Ongoing observations of workplace behavior and use of tools and equipment.      |
| Participation| 25         | Observable active participation and teamwork                                  |

Hours by Learning Environment Type

Lecture, Seminar, Online
7.5 17.5

Lab, Clinical, Shop, Kitchen,
Studio, Simulation
Practicum

Self Paced / Individual Learning

Course Topics

<table>
<thead>
<tr>
<th>Course Topics:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Electrical components and systems.</td>
</tr>
<tr>
<td>2. Rapid vehicle assessment.</td>
</tr>
<tr>
<td>3. Diagnosis of electrical components and systems.</td>
</tr>
<tr>
<td>4. Repair of electrical components and systems. Components</td>
</tr>
<tr>
<td>2. Operation</td>
</tr>
<tr>
<td>3. Sensory inspection</td>
</tr>
<tr>
<td>4. Diagnostic tools</td>
</tr>
<tr>
<td>5. Test procedure</td>
</tr>
<tr>
<td>6. Wiring schematics</td>
</tr>
</tbody>
</table>

Rationale and Consultations

You only have to complete the Rationale and Consultations section once for a group of related proposals (i.e. a number of changes to a PCG and multiple courses). Is this proposal part of a group of related proposals?

Yes

Is this the primary proposal?

No

Primary Proposal

Heavy Mechanical Technology PCG

Provide a rationale for this proposal:
Provide any additional information if necessary.

Changes have been made from original approved program which includes changes to course titles, course descriptions, time allocations, grading and evaluation descriptions and amounts, and course order (Proposal was originally put through before space and training aids were known/allocated. Training space and training aids are now known which influenced original proposed course delivery) We also added three shop simulation weeks to better align with international student integration into employment.

Supporting documentation:

Reviewer
Comments

**Nicole Degagne (ndegagne) (11/14/18 2:17 pm):** Rollback: revisions not complete

**Richard Cyr (rcyr) (11/15/18 10:21 am):** Course name is" Electrical Systems 11- Advanced Truck and Machine Electrical: Diagnosis and Repair"

**Carlie Deans (cdeans) (11/26/18 1:02 pm):** Rollback: Rollback requested by developer for editing.
Course Change Request

Date Submitted: 11/27/18 5:26 pm

Viewing: HMTD 2208: Electronic Electrical Systems 1 Repair

Last approved: 07/04/18 4:59 am
Last edit: 12/20/18 2:35 pm
Changes proposed by: mwheatley

Programs referencing this course
112: Heavy Mechanical Technology Diploma (International Cohort)

Course Name:
Electronic Electrical Systems 1 Repair

Effective Date: May 2019
School/Centre: Trades, Technology & Design
Department: Heavy Mechanical Technology Diploma International (4305)
Contact(s)

In Workflow
1. 4305 Leader
2. CTT Dean
3. Curriculum Committee Chair
4. EDCO Chair
5. Records
6. Banner

Approval Path
1. 11/15/18 10:24 am Richard Cyr (rcyr): Approved for 4305 Leader
2. 11/15/18 11:38 am Bre Griffiths (bgriffiths): Approved for CTT Dean
3. 11/26/18 1:02 pm Carlie Deans (cdeans): Rollback to Initiator
4. 12/05/18 1:30 pm Richard Cyr (rcyr): Approved for 4305 Leader
5. 12/05/18 2:03 pm Brett Griffiths (bgriffiths): Approved for CTT Dean
6. 12/20/18 3:02 pm Todd Rowlatt (trowlatt): Approved

https://curriculum.vcc.ca/courseleaf/approve/?role=admin
Banner Course Name: Electronic Electrical Systems 1 Repair
Subject Code: HMTD - Heavy Mechanical Technician
Course Number: 2208
Year of Study: 2nd 1st-Year Post-secondary
Credits: 1

Course Description:

**Truck and Machine Electronic Control Systems: Theory.** This course introduces students to electronic control systems, electrical systems, and component repair.

Course Pre-Requisites (if applicable):

Admission to the Heavy Mechanical Technology program.

Course Co-requisites (if applicable):

PLAR (Prior Learning Assessment & Recognition)

No

Course Learning Outcomes (CLO):

Upon successful completion of this course, students will be able to:
Upon successful completion of this course, students will be able to:

<table>
<thead>
<tr>
<th>CLO #1</th>
<th>Describe differences between electrical and electronics. Repair electrical systems.</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLO #2</td>
<td>Describe electronic systems and components. Repair electrical components.</td>
</tr>
<tr>
<td>CLO #3</td>
<td>Describe CAN data bus networks.</td>
</tr>
<tr>
<td>CLO #4</td>
<td>Perform basic data communication.</td>
</tr>
<tr>
<td>CLO #5</td>
<td>Use computers/ laptops, scanners, and scopes to scan, scope, and data log on board computer systems and sensors on various trucks and equipment.</td>
</tr>
</tbody>
</table>

Instructional Strategies:
Instructional strategies include classroom lectures, demonstrations, group discussions, computer lab and hands-on practical work.

**Evaluation and Grading**

Grading System: Percentages

<table>
<thead>
<tr>
<th>Type</th>
<th>Percentage</th>
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<tr>
<td>Other Assignments</td>
<td>70 25</td>
<td>Theory- includes formative assessments, assignments, and a summative assessment. Quizzes and Assignments (formative—theory)</td>
</tr>
<tr>
<td>Other Exam</td>
<td>30 20</td>
<td>Practical- includes shop tasks, active participation and teamwork, workplace behavior, use of tools and equipment. Theory exam (summative—theory)</td>
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<tr>
<td>Assignments</td>
<td>30</td>
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<tr>
<td>Participation</td>
<td>25</td>
<td>Observable active participation and team work</td>
</tr>
</tbody>
</table>

Evaluation Plan:

Hours by Learning Environment Type

Lecture, Seminar, Online

17.5
Lab, Clinical, Shop, Kitchen, Studio, Simulation

7.5

Practicum

Self Paced / Individual Learning

Course Topics

<table>
<thead>
<tr>
<th>Course Topics</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Differences between electrical and electronics.</td>
</tr>
<tr>
<td>2. Electronic systems and components.</td>
</tr>
<tr>
<td>3. CAN data bus networks.</td>
</tr>
<tr>
<td>4. Basic data communication.</td>
</tr>
<tr>
<td>5. Computer systems and sensors on various trucks and equipment. Repair connections</td>
</tr>
<tr>
<td>2. Replace components</td>
</tr>
<tr>
<td>3. Splice</td>
</tr>
<tr>
<td>4. Solder</td>
</tr>
<tr>
<td>5. Crimp</td>
</tr>
<tr>
<td>6. Connection sealants</td>
</tr>
</tbody>
</table>

Rationale and Consultations

You only have to complete the Rationale and Consultations section once for a group of related proposals (i.e. a number of changes to a PCG and multiple courses). Is this proposal part of a group of related proposals?

Yes

Is this the primary proposal?

No

Primary Proposal

Heavy Mechanical Technology PCG

Provide a rationale for this proposal:

Are there any Additional Information
Provide any additional information if necessary.

Changes have been made from original approved program which includes changes to course titles, course descriptions, time allocations, grading and evaluation descriptions and amounts, and course order (Proposal was originally put through before space and training aids were known/allocated. Training space and training aids are now known which influenced original proposed course delivery) We also added three shop simulation weeks to better align with international student integration into employment.

Supporting documentation:

Reviewer Comments


Carlie Deans (cdeans) (11/26/18 1:02 pm): Rollback: Rollback requested by developer for editing.
Course Change Request

Date Submitted: 11/27/18 5:34 pm
Viewing: HMTD 2209: Electronic Systems 2
Last approved: 07/04/18 4:59 am
Last edit: 12/20/18 2:36 pm
Changes proposed by: mwheatley

Programs referencing this course
112: Heavy Mechanical Technology Diploma (International Cohort)

Course Name:
Electronic Systems 2

Effective Date: May 2019
School/Centre: Trades, Technology & Design
Department: Heavy Mechanical Technology Diploma International(4305)

In Workflow
1. 4305 Leader
2. CTT Dean
3. Curriculum Committee Chair
4. EDCO Chair
5. Records
6. Banner

Approval Path
1. 11/15/18 10:25 am Richard Cyr (rcyr): Approved for 4305 Leader
2. 11/15/18 11:38 am Bre Griffiths (bgriffiths): Approved for CTT Dean
3. 11/26/18 1:02 pm Carlie Deans (cdeans): Rollback to Initiator
4. 12/05/18 1:30 pm Richard Cyr (rcyr): Approved for 4305 Leader
5. 12/05/18 2:03 pm Brett Griffiths (bgriffiths): Approved for CTT Dean
6. 12/20/18 3:02 pm Todd Rowlatt (trowlatt): Approved
Banner Course Name: Electronic Systems 2
Subject Code: HMTD - Heavy Mechanical Technician
Course Number 2209
Year of Study 2nd
Credits: 1

Course Description:

**Truck and Machine Electronic Components: Diagnose and Repair.** This course introduces students to electronic component diagnosis and repair. systems.

Course Pre-Requisites (if applicable):

Admission to the Heavy Mechanical Technology program.

Course Co-requisites (if applicable):

PLAR (Prior Learning Assessment & Recognition)

No

Course Learning Outcomes (CLO):

Upon successful completion of this course, students will be able to:
Upon successful completion of this course, students will be able to:

<table>
<thead>
<tr>
<th>CLO #1</th>
<th>Review then perform data communication. Identify electronic components.</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLO #2</td>
<td>Review then use computers/ laptop, modis, etc. to scan, scope, and data log-on board computer systems and sensors. Identify electronic systems.</td>
</tr>
<tr>
<td>CLO #3</td>
<td>Diagnose and repair electronic systems and components.</td>
</tr>
</tbody>
</table>

Instructional Strategies:
Instructional strategies include classroom lectures, demonstrations, group discussions, computer lab and hands-on practical work.

**Evaluation and Grading**

Grading System: Percentages

<table>
<thead>
<tr>
<th>Type</th>
<th>Percentage</th>
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<tr>
<td>Theory- includes formative assessments, assignments, and a summative assessment. Quizzes and Assignments (formative—theory)</td>
<td>70%</td>
<td>Other Assignments 30 25</td>
</tr>
<tr>
<td>Practical- includes shop tasks, active participation and teamwork, workplace behavior, use of tools and equipment. Theory exam (summative—theory)</td>
<td>20</td>
<td>Other Exam 70 20</td>
</tr>
<tr>
<td>Ongoing observations of workplace behavior and use of tools and equipment.</td>
<td>30</td>
<td>Assignments</td>
</tr>
<tr>
<td>Observable active participation and teamwork</td>
<td>25</td>
<td>Participation</td>
</tr>
</tbody>
</table>

**Hours by Learning Environment Type**

Lecture, Seminar, Online

| 7.5 | 17.5 |

Lab, Clinical, Shop, Kitchen, Studio, Simulation

| 17.5 | 7.5 |
Course Topics:

1. LEDs
2. Actuators
3. Circuit-board
4. Multi-function-controls
5. Data communication.
6. Links
7. Scan, scope, and data log-on board computer systems and sensors.
9. Electronic Control Module (ECM)
10. Termination resistors
11. CAN data bus
12. J1587
13. J1708
14. J1939
15. Supplemental restraint systems
16. GPS

Rationale and Consultations

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Yes

Is this the primary proposal?

No

Primary Proposal

Heavy Mechanical Technology PCG

Additional Information
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Reviewer

Comments

Richard Cyr (rcyr) (11/15/18 10:24 am): course name is "Electronic Systems 2- Truck and Machine Electronic Components: Diagnosis and Repair"

Carlie Deans (cdeans) (11/26/18 1:02 pm): Rollback: Rollback requested by developer for editing.
Course Change Request

Date Submitted: 12/05/18 1:37 pm

Viewing: HMTD 2210: Electronic Systems 3 Component Diagnosis

Last approved: 07/04/18 4:59 am
Last edit: 12/20/18 2:38 pm
Changes proposed by: rcy

Programs referencing this course

112: Heavy Mechanical Technology Diploma (International Cohort)

Course Name:
Electronic Systems 3 Component Diagnosis

Effective Date: May 2019

School/Centre: Trades, Technology & Design

Department: Heavy Mechanical Technology Diploma International(4305)

Contact(s)

In Workflow
1. 4305 Leader
2. CTT Dean
3. Curriculum Committee Chair
4. EDCO Chair
5. Banner

Approval Path
1. 11/15/18 10:27 am Richard Cyr (rcyr): Approved for 4305 Leader
2. 11/15/18 11:38 am Bre Griffiths (bgriffiths): Approved for CTT Dean
3. 11/26/18 1:02 pm Carlie Deans (cdeans): Rollback to Initiator
4. 11/28/18 11:07 am Nicole Degagne (ndegagne): Rollback to Initiator
5. 12/05/18 1:38 pm Richard Cyr (rcyr): Approved for 4305 Leader
6. 12/05/18 2:03 pm Brett Griffiths (bgriffiths): Approved for CTT Dean

https://curriculum.vcc.ca/courseleaf/approve/?role=admin
Banner Course Name: Electronic Systems 3 Component Diagnosis
Subject Code: HMTD - Heavy Mechanical Technician
Course Number 2210
Year of Study 2nd 1st Year Post-secondary
Credits: 1

Course Description:
Truck and Machine Management Systems: Theory, Diagnose, Repair. This course introduces students to vehicle management systems. electronic component diagnosis.

Course Pre-Requisites (if applicable):
Admission to the Heavy Mechanical Technology program.

Course Co-requisites (if applicable):

PLAR (Prior Learning Assessment & Recognition) No

Course Learning Outcomes (CLO):
Upon successful completion of this course, students will be able to:

- **CLO #1** Describe vehicle management systems. Diagnose electronic systems and components.
- **CLO #2** Diagnose and repair vehicle management systems. Repair electronic systems and components.
- **CLO #3** Perform advanced diagnostics on truck and machine control systems (Cab control module, traction and stability control, ABS, transmission control, HVAC module etc.).

Instructional Strategies:
Instructional strategies include classroom lectures, demonstrations, group discussions, computer lab and hands-on practical work.

**Evaluation and Grading**

Grading System: Percentages

<table>
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<tr>
<th>Type</th>
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**Hours by Learning Environment Type**

Lecture, Seminar, Online

| 7.5 17.5 |

Lab, Clinical, Shop, Kitchen, Studio, Simulation

| 17.5 7.5 |
Practicum
Self Paced / Individual Learning

Course Topics

<table>
<thead>
<tr>
<th>Course Topics:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Vehicle management systems.</td>
</tr>
<tr>
<td>2. Diagnosis and repair of vehicle management systems.</td>
</tr>
<tr>
<td>3. Advanced diagnostics on truck and machine control systems (Cab control module, traction and stability control, ABS, transmission control, HVAC module, etc.). Diagnostic tools</td>
</tr>
<tr>
<td>2. OEM test procedure</td>
</tr>
<tr>
<td>3. Sensory inspection</td>
</tr>
<tr>
<td>4. Schematics</td>
</tr>
<tr>
<td>5. Components replacement</td>
</tr>
<tr>
<td>6. Electrostatic discharge</td>
</tr>
<tr>
<td>7. Calibration</td>
</tr>
<tr>
<td>8. Reprograming</td>
</tr>
</tbody>
</table>

**Rationale and Consultations**

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Yes

Is this the primary proposal?

No

Primary Proposal

Heavy Mechanical Technology PCG

**Additional Information**

Provide any additional information if necessary.

Changes have been made from original approved program which includes changes to course titles, course descriptions, time allocations, grading and evaluation descriptions and amounts, and course order (Proposal was originally put through before space and training aids were known/allocated. Training space and training aids are now known which influenced original proposed course delivery) We also added three shop simulation weeks to better align with international student integration into employment.
Supporting documentation:

Reviewer Comments

Richard Cyr (rcyr) (11/15/18 10:27 am): course name is "Electronic Systems 3- Truck and Machine Management Systems: Theory, Diagnose, and Repair"

Carlie Deans (cdeans) (11/26/18 1:02 pm): Rollback: Rollback requested by developer for editing.

Nicole Degagne (ndegagne) (11/28/18 11:07 am): Rollback: for further review
Course Change Request

Date Submitted: 11/27/18 5:40 pm

Viewing: HMTD 2211 : Gas Fueled Auto Mngt Sys 1 Vehicle Management Systems

Last approved: 07/04/18 5:01 am
Last edit: 12/20/18 2:39 pm
Changes proposed by: mwheatley

Programs referencing this course
112: Heavy Mechanical Technology Diploma (International Cohort)

Course Name:
Gasoline Fueled (Automotive) Engine Vehicle Management Systems 1

Effective Date: May 2019
School/Centre: Trades, Technology & Design
Department: Heavy Mechanical Technology Diploma International(4305)
Contact(s)

In Workflow
1. 4305 Leader
2. CTT Dean
3. Curriculum Committee Chair
4. EDCO Chair
5. Records
6. Banner

Approval Path
1. 11/15/18 10:29 am Richard Cyr (rcyr): Approved for 4305 Leader
2. 11/15/18 11:38 am Bre Griffiths (bgriffiths): Approved for CTT Dean
3. 11/26/18 1:02 pm Carlie Deans (cdeans): Rollback to Initiator
4. 12/05/18 1:30 pm Richard Cyr (rcyr): Approved for 4305 Leader
5. 12/05/18 2:03 pm Brett Griffiths (bgriffiths): Approved for CTT Dean
6. 12/20/18 3:02 pm Todd Rowlatt (trowlatt): Approved
Course Name: Gas Fueled Auto Mngt Sys 1

Subject Code: HMTD - Heavy Mechanical Technician

Course Number: 2211

Year of Study: 2nd

Credits: 1

Course Description:

**Engine, Fuel, and Ignition.** This course introduces students to gasoline fueled engine Ignition and fuel vehicle management systems.

Course Pre-Requisites (if applicable):

Admission to the Heavy Mechanical Technology program.

Course Co-requisites (if applicable):

PLAR (Prior Learning Assessment & Recognition)

No

Course Learning Outcomes (CLO):

Upon successful completion of this course, students will be able to:

CLO #1 Describe the characteristics of gasoline. Describe a vehicle management system.
Upon successful completion of this course, students will be able to:

| CLO #2 | Describe gasoline fuel injection systems. Diagnose and repair vehicle management systems. |
| CLO #3 | Service gasoline fuel injection systems. |
| CLO #4 | Describe the design and operation of electronic ignition systems. |
| CLO #5 | Service electronic ignition systems. |
| CLO #6 | Read and interpret generic fault codes. |
| CLO #7 | Diagnose and repair electronic ignition and fuel management systems. |

Instructional Strategies:
Instructional strategies include classroom lectures, demonstrations, group discussions, computer lab and hands-on practical work.

**Evaluation and Grading**

<table>
<thead>
<tr>
<th>Grading System: Percentage</th>
<th>Passing grade:</th>
</tr>
</thead>
<tbody>
<tr>
<td>70%</td>
<td>70%</td>
</tr>
</tbody>
</table>

**Evaluation Plan:**

<table>
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<tr>
<th>Type</th>
<th>Percentage</th>
<th>Brief description of assessment activity</th>
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**Hours by Learning Environment Type**

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<tr>
<th>Lecture, Seminar, Online</th>
<th>7.5 17.5</th>
</tr>
</thead>
<tbody>
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https://curriculum.vcc.ca/courseleaf/approve/?role=admin
Practicum
Self Paced / Individual Learning

Course Topics

<table>
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<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>1. Characteristics of gasoline.</td>
</tr>
<tr>
<td>2. Gasoline fuel injection systems.</td>
</tr>
<tr>
<td>3. Servicing gasoline fuel injection systems.</td>
</tr>
<tr>
<td>4. Electronic ignition systems.</td>
</tr>
<tr>
<td>5. Servicing electronic ignition systems.</td>
</tr>
<tr>
<td>7. Diagnosis and repair of electronic ignition and fuel management systems. Dash displays</td>
</tr>
<tr>
<td>2. Electronic Control Module (ECM)</td>
</tr>
<tr>
<td>3. Satellite tracking</td>
</tr>
<tr>
<td>4. Multiplexing</td>
</tr>
<tr>
<td>5. CAN data bus</td>
</tr>
<tr>
<td>6. Diagnostic procedures</td>
</tr>
<tr>
<td>7. Interpret test results</td>
</tr>
<tr>
<td>8. Test equipment</td>
</tr>
</tbody>
</table>

Rationale and Consultations

You only have to complete the Rationale and Consultations section once for a group of related proposals (i.e. a number of changes to a PCG and multiple courses). Is this proposal part of a group of related proposals?

Yes

Is this the primary proposal?

No

Primary Proposal

Heavy Mechanical Technology PCG

Additional Information
Provide any additional information if necessary.

Changes have been made from original approved program which includes changes to course titles, course descriptions, time allocations, grading and evaluation descriptions and amounts, and course order (Proposal was originally put through before space and training aids were known/allocated. Training space and training aids are now known which influenced original proposed course delivery) We also added three shop simulation weeks to better align with international student integration into employment.

Supporting documentation:

Reviewer
Comments


Carlie Deans (cdeans) (11/26/18 1:02 pm): Rollback: Rollback requested by developer for editing.
Course Change Request

Date Submitted: 11/27/18 5:41 pm

Viewing: HMTD 2212: Gas Fueled Auto Mngt Sys 2

2 Gasoline Fuel Systems

Last approved: 07/04/18 4:59 am
Last edit: 12/20/18 2:40 pm
Changes proposed by: mwheatley

Programs referencing this course

112: Heavy Mechanical Technology Diploma (International Cohort)

Course Name:
Gasoline Fueled (Automotive) Engine Management Fuel-Systems 2

Effective Date: May 2019

School/Centre: Trades, Technology & Design

Department: Heavy Mechanical Technology Diploma International(4305)

Contact(s)

In Workflow
1. 4305 Leader
2. CTT Dean
3. Curriculum Committee Chair
4. EDCO Chair
5. Records
6. Banner

Approval Path
1. 11/15/18 10:52 am
   Richard Cyr (rcyr): Approved for 4305 Leader
2. 11/15/18 11:38 am
   Bre Griffiths (bgriffiths): Approved for CTT Dean
3. 11/26/18 1:02 pm
   Carlie Deans (cdeans): Rollback to Initiator
4. 12/05/18 1:30 pm
   Richard Cyr (rcyr): Approved for 4305 Leader
5. 12/05/18 2:03 pm
   Brett Griffths (bgriffiths): Approved for CTT Dean
6. 12/20/18 3:02 pm
   Todd Rowlatt (trowlatt): Approved
**Course Description:**

Vehicle Electronic Systems. This course introduces students to automotive or light duty vehicle electronic control gasoline fuel systems.

**Course Pre-Requisites (if applicable):**

Admission to the Heavy Mechanical Technology program.

**Course Co-requisites (if applicable):**

**PLAR (Prior Learning Assessment & Recognition)**

No

**Course Learning Outcomes (CLO):**

Upon successful completion of this course, students will be able to:
Upon successful completion of this course, students will be able to:

**CLO #1** Describe automobile control systems including body control, HVAC, transmission, ABS, traction and stability control, SRS/Airbags etc. Describe the characteristics of gasoline.

**CLO #2** Describe automotive communication protocols (OBD2, J1850 etc.). Describe gasoline fuel injection systems.

**CLO #3** Perform advanced diagnostics on automobile control systems (body control module, traction and stability control, ABS, transmission control, HVAC module etc.). Service gasoline fuel injection systems.

Instructional Strategies:
Instructional strategies include classroom lectures, demonstrations, group discussions, computer lab and hands-on practical work.

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**Evaluation and Grading**

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Grading System: Percentages

Passing grade: 70%

---

**Hours by Learning Environment Type**

Lecture, Seminar, Online

| 7.5 | 17.5 |

Lab, Clinical, Shop, Kitchen, Studio, Simulation

| 17.5 | 7.5 |
Course Topics

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</tr>
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</tr>
<tr>
<td>2. Heat value</td>
</tr>
<tr>
<td>3. Octane</td>
</tr>
<tr>
<td>4. Throttle body injection</td>
</tr>
<tr>
<td>5. Port injection</td>
</tr>
<tr>
<td>6. Direct injection</td>
</tr>
<tr>
<td>7. Inspection</td>
</tr>
<tr>
<td>8. Scheduled maintenance</td>
</tr>
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Rationale and Consultations

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Yes

Is this the primary proposal?

No

Primary Proposal

Heavy Mechanical Technology PCG

Additional Information

Provide any additional information if necessary.

Changes have been made from original approved program which includes changes to course titles, course descriptions, time allocations, grading and evaluation descriptions and amounts, and course order (Proposal was originally put through before space and training aids were known/allocated. Training space and training aids are now known which influenced original proposed course delivery) We also added three shop simulation weeks to better align with international student integration into employment.
Supporting documentation:

Reviewer

Comments

Richard Cyr (rcyr) (11/15/18 10:30 am): course name is "Gasoline Fueled Engine (automotive) Management Systems 2- Vehicle Electronic Control Systems"

Carlie Deans (cdeans) (11/26/18 1:02 pm): Rollback: Rollback requested by developer for editing.
Course Change Request

Date Submitted: 11/27/18 5:42 pm

Viewing: HMTD 2213: Shop Simulation 2

Gasoline-Ignition-Systems

Last approved: 07/05/18 4:57 am

Last edit: 12/19/18 12:15 pm

Changes proposed by: mwheatley

Programs referencing this course

112: Heavy Mechanical Technology Diploma (International Cohort)

Course Name:

Shop Simulation 2 Gasoline-Ignition-Systems

Effective Date: May 2019

School/Centre: Trades, Technology & Design

Department: Heavy Mechanical Technology Diploma International (4305)

Contact(s)

In Workflow

1. 4305 Leader
   Richard Cyr (rcyr): Approved for 4305 Leader
2. CTT Dean
   Bre Griffiths (bgriffiths): Approved for CTT Dean
3. Curriculum Committee Chair
   Carlie Deans (cdeans): Rollback to Initiator
4. EDCO Chair
   Todd Rowlatt (trowlatt): Approved
5. Records
6. Banner

Approval Path

1. 11/15/18 10:54 am
   Richard Cyr (rcyr): Approved for 4305 Leader
2. 11/15/18 11:38 am
   Bre Griffiths (bgriffiths): Approved for CTT Dean
3. 11/26/18 1:03 pm
   Carlie Deans (cdeans): Rollback to Initiator
4. 12/03/18 1:42 pm
   Richard Cyr (rcyr): Approved for 4305 Leader
5. 12/03/18 3:04 pm
   Brett Griffths (bbgriffths): Approved for CTT Dean
6. 12/20/18 3:02 pm
   Todd Rowlatt (trowlatt): Approved
Banner Course Name: Shop Simulation 2 - Gasoline Ignition Systems
Subject Code: HMTD - Heavy Mechanical Technician
Course Number: 2213
Year of Study: 2nd
Credits: 1

Course Description:
This course allows introduces students to work in a simulated work environment, gasoline ignition systems.

Course Pre-Requisites (if applicable):
Admission to the Heavy Mechanical Technology program.

Course Co-requisites (if applicable):

PLAR (Prior Learning Assessment & Recognition)
No

Course Learning Outcomes (CLO):
Upon successful completion of this course, students will be able to:
Upon successful completion of this course, students will be able to:

- **CLO #1** Populate real-time work orders and job time expectations. Describe the design and operation of electronic ignition systems.
- **CLO #2** Clock in and out on jobs and breaks. Service electronic ignition systems.
- **CLO #3** Perform pre-lunch and end of shift cleanup. Diagnose electronic ignition systems.
- **CLO #4** Repair electronic ignition systems.
- **CLO #4** Review parts order process.
- **CLO #5** Prepare parts requisitions.
- **CLO #6** Complete mechanics "work performed descriptions" on work orders.
- **CLO #7** Review business profit and costs per work order (business overhead, labour cost, charge-out rate, and cost of "come-backs").

Instructional Strategies:

Instructional strategies include classroom lectures, demonstrations, group discussions, computer lab and hands-on practical work.

**Evaluation and Grading**

**Grading System:** Percentages

- **Passing grade:** 70%

**Evaluation Plan:**

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### Hours by Learning Environment Type

**Lecture, Seminar, Online**

- 7.5 17.5

**Lab, Clinical, Shop, Kitchen, Studio, Simulation**

- 17.5 7.5

### Practicum

**Self Paced / Individual Learning**

### Course Topics

**Course Topics:**

1. **Real-time work orders and job time expectations.**
2. **Clocking in and out on jobs and breaks.**
3. **Pre-lunch and end of shift cleanup.**
4. **Parts order process.**
5. **Parts requisitions.**
6. "Work performed descriptions" on work orders.
7. **Business profit and costs per work order (business overhead, labour cost, charge-out rate, and cost of "come-backs").** Primary and secondary circuit
8. **Timing**
9. **Ignition switch and wiring**
10. **Trigger device(s)**
11. **Sensors**
12. **Distributor types**
13. **Distributorless ignition**
14. **Direct ignition**
15. **Ignition coils**
16. **Inspection**
17. **Diagnostics**
18. **Repair**

### Rationale and Consultations

https://curriculum.vcc.ca/courseleaf/approve/?role=admin
You only have to complete the Rationale and Consultations section once for a group of related proposals (i.e. a number of changes to a PCG and multiple courses). Is this proposal part of a group of related proposals?

Yes

Is this the primary proposal?

No

Primary Proposal

Heavy Mechanical Technology PCG

Provide a rationale
for this proposal:

Are there any

Additional Information

Provide any additional information if necessary.

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Supporting
documentation:

Reviewer

Comments

Carlie Deans (cdeans) (11/26/18 1:03 pm): Rollback: Rollback requested by developer for editing.
Course Change Request

Date Submitted: 11/27/18 5:43 pm

Viewing: **HMTD 2214 : Shop Simulation 3 Business and Communications 1**

Last approved: 07/04/18 4:59 am
Last edit: 12/19/18 12:16 pm
Changes proposed by: mwheatley

Programs referencing this course

**112: Heavy Mechanical Technology Diploma (International Cohort)**

Course Name:

**Shop Simulation 3 Business and Communications 1**

Effective Date: May 2019

School/Centre: Trades, Technology & Design

Department: Heavy Mechanical Technology Diploma International(4305)

Contact(s)

In Workflow

1. 4305 Leader
2. CTT Dean
3. Curriculum Committee Chair
4. EDCO Chair
5. Records
6. Banner

Approval Path

1. 11/15/18 10:54 am
   Richard Cyr (rcyr):
   Approved for 4305 Leader
2. 11/15/18 11:38 am
   Bre Griffiths (bgriffiths):
   Approved for CTT Dean
3. 11/26/18 1:03 pm
   Carlie Deans (cdeans): Rollback to Initiator
4. 12/03/18 1:43 pm
   Richard Cyr (rcyr):
   Approved for 4305 Leader
5. 12/03/18 3:04 pm
   Brett Griffiths (bgriffiths):
   Approved for CTT Dean
6. 12/20/18 3:02 pm
   Todd Rowlatt (trowlatt): Approved
Banner Course Name: Shop Simulation 3 Business and Communications 1

Subject Code: HMTD - Heavy Mechanical Technician
Course Number: 2214
Year of Study: 2nd 1st Year Post-secondary
Credits: 1

Course Description:
This course allows students to work in a simulated work environment. This course introduces students to areas and types of vehicles and equipment maintained and repaired, business types, business relationships, government relationships, labour relationships, and employee attributes.

Course Pre-Requisites (if applicable):
Admission to the Heavy Mechanical Technology program.

Course Co-requisites (if applicable):

PLAR (Prior Learning Assessment & Recognition)
No

Course Learning Outcomes (CLO):
Upon successful completion of this course, students will be able to:
Upon successful completion of this course, students will be able to:

| CLO #1  | Populate and prioritize real-time work orders and job time expectations. Describe the areas and types of vehicles and equipment maintained and repaired |
| CLO #2  | Clock in and out on jobs and breaks. Describe the current heavy mechanics trade |
| CLO #3  | Perform pre-lunch and end of shift cleanup. Describe the range of working conditions |
| CLO #4  | Use parts order process. Describe types of businesses |
| CLO #5  | Prepare parts requisitions. Describe labour groups |
| CLO #6  | Complete mechanics "work performed descriptions" on work orders. Describe legislation affecting employment |
| CLO #7  | Apply business profit and costs of work order for complete week (business overhead, labour cost, charge-out rate, and cost of "come-backs"). Describe positive employee attributes |

Instructional Strategies:
Instructional strategies include classroom lectures, demonstrations, group discussions, computer lab and hands-on practical work.

**Evaluation and Grading**

| Grading System: \n| Percentages \n| Passing grade: \n| 70% |

**Evaluation Plan:**

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Hours by Learning Environment Type

Lecture, Seminar, Online

7.5 17.5

Lab, Clinical, Shop, Kitchen, Studio, Simulation

17.5 7.5

Practicum

Self Paced / Individual Learning

Course Topics

Course Topics:

1. **Real-time work orders** Areas and **job time expectations**.
2. **Types of vehicles and equipment maintained and repaired**
3. **Clocking in and out on jobs and breaks**.
4. **Pre-lunch and end of shift cleanup**.
5. **Parts order process**.
6. **Parts requisitions**.
7. **"Work performed descriptions" on work orders**.
8. **Business profit and costs of work order for complete week** (business overhead, labour cost, charge-out rate, and cost of "come-backs"). The current heavy mechanics trade

**Range of working conditions**

**Types of businesses**

**Labour groups**

**Legislation affecting employment**

**Positive employee attributes**

Rationale and Consultations

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Yes

Is this the primary proposal?

No

Primary Proposal
Heavy Mechanical Technology PCG

**Additional Information**

Provide any additional information if necessary.

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Supporting documentation:

Reviewer

Comments

*Carlie Deans (cdeans) (11/26/18 1:03 pm)*: Rollback: Rollback requested by developer for editing.
Course Change Request

Date Submitted: 11/27/18 5:51 pm

Viewing: HMTD 2215: Employment Skills

Business and Communications 2

Last approved: 07/04/18 4:59 am
Last edit: 12/19/18 12:17 pm
Changes proposed by: mwheatley

Programs referencing this course

112: Heavy Mechanical Technology Diploma (International Cohort)

Course Name:

Employment Skills Business and Communications 2

Effective Date: May 2019

School/Centre: Trades, Technology & Design

Department: Heavy Mechanical Technology Diploma International (4305)

Contact(s)

In Workflow
1. 4305 Leader
2. CTT Dean
3. Curriculum Committee Chair
4. EDCO Chair
5. Records
6. Banner

Approval Path
1. 11/15/18 10:55 am
   Richard Cyr (rcyr): Approved for 4305 Leader
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   Bre Griffiths (bgriffiths): Approved for CTT Dean
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6. 12/20/18 3:02 pm
   Todd Rowlatt (trowlatt): Approved

https://curriculum.vcc.ca/courseleaf/approve/?role=admin
Banner Course
Name: Employment Skills Business and Communications 2
Subject Code: HMTD - Heavy Mechanical Technician
Course Number: 2215
Year of Study: 2nd 1st-Year Post-secondary
Credits: 1

Course Description:
This course builds on topics explored in workplace skills 1 and 2 Business and prepares the learner to enter the workforce by identifying employment opportunities, updating a Communications 1 and include employer responsibilities, resume and cover letter, job search resources and preparing for and following up on an interview.

Course Pre-Requisites (if applicable):
Admission to the Heavy Mechanical Technology program.

Course Co-requisites (if applicable):

PLAR (Prior Learning Assessment & Recognition)
No

Course Learning Outcomes (CLO):
Upon successful completion of this course, students will be able to:
Upon successful completion of this course, students will be able to:

| CLO #1 | Identify job postings for job search sources. Describe employer responsibility |
| CLO #2 | Review/update and apply resumes to match job postings. Prepare a resume |
| CLO #3 | Review/update and apply cover letters to match job postings. Prepare a cover letter |
| CLO #4 | Prepare for and apply interview skills to match job postings. Identify job search sources |
| CLO #5 | Perform job interview. Prepare for an interview |
| CLO #6 | Follow up and report on job interview results. |

Instructional Strategies:

Instructional strategies include classroom lectures, demonstrations, group discussions, computer lab and hands-on practical work.

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**Evaluation and Grading**

Grading System: Percentages

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**Hours by Learning Environment Type**

- Lecture, Seminar, Online
  - 12.5
  - 17.5

- Lab, Clinical, Shop, Kitchen, Studio, Simulation
1. Job postings for job search sources.
2. Resumes to match job postings.
3. Cover letters to match job postings.
4. Interview skills to match job postings.
5. Job interviews. Employer responsibilities

Rationale and Consultations

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Yes

Is this the primary proposal?

No

Primary Proposal

Heavy Mechanical Technology PCG

Additional Information

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Carlie Deans (cdeans) (11/26/18 1:03 pm): Rollback: Rollback requested by developer for editing.