



## Vancouver Community College Education Council

### Meeting Agenda

December 8, 2020

3:30–5:30 p.m. Videoconference

Meeting Link: <https://vcc.zoom.us/j/66191961392>

| Item | Topic   | Action   | Speaker     | Time   | Attachment | Page    |
|------|---|----------|-------------|--------|------------|---------|
| 1.   | <b>CALL TO ORDER</b>  |          |             | 1 min  |            |         |
| 2.   | <b>ACKNOWLEDGEMENT</b>  |          | E. Ting     | 1 min  |            |         |
| 3.   | <b>ADOPT AGENDA</b>   | Approval | E. Ting     | 1 min  | ✓          | 1-2     |
| 4.   | <b>APPROVE PAST MINUTES</b>   | Approval | E. Ting     | 1 min  | ✓          | 3-9     |
| 5.   | <b>ENQUIRIES &amp; CORRESPONDENCE</b>   | Info     | E. Ting     | 1 min  |            |         |
| 6.   | <b>BUSINESS ARISING</b>   |          |             |        |            |         |
|      | a. Academic Plan  | Info     | D. Wells    | 25 min |            |         |
|      | b. Planning Day Debrief   | Info     | E. Ting     | 5 min  |            |         |
| 7.   | <b>COMMITTEE REPORTS</b>  |          |             |        |            |         |
|      | <b>a. Curriculum Committee</b>  |          |             |        |            |         |
|      | i. New Courses: DHHE 0600, 0610, 0620, 0630 & 0640  | Approval | A. Finley   | 10 min | ✓          | 10-32   |
|      | ii. New Courses: Automotive Apprentice & E-prenntice (ACRP 1102; ACAP 2002, 2003, 3002, 3003, 4002, 4003; APAP 2002, APAP 2003) | Approval | K. Mew      | 5 min  | ✓          | 33-86   |
|      | iii. Program Update: Computer Aided Draft (CAD) and Building Information Modelling (BIM) Technician Diploma                     | Approval | B. McGarvie | 5 min  | ✓          | 87-222  |
|      | iv. Deactivation of Programs and Courses  | Approval | T. Rowlatt  | 5 min  | ✓          | 223-224 |
|      | <b>b. Policy Committee</b>  | Info     | N. Mandryk  | 5 min  |            |         |
|      | <b>c. Appeals Oversight Committee</b>   | Info     | L. Griffith | 5 min  |            |         |
|      | <b>d. Education Quality Committee</b>   |          |             |        |            |         |
|      | i. Course Evaluation Surveys – Additional Questions on Online Learning  | Info     | T. Rowlatt  | 5 min  | ✓          | 225     |
| 8.   | <b>RESEARCH REPORT</b>  | Info     | E. Ting     | 5 min  |            |         |

|            |   |          |             |        |
|------------|---|----------|-------------|--------|
| <b>9.</b>  | <b>CHAIR REPORT</b>   | Info     | E. Ting     | 5 min  |
| <b>10.</b> | <b>STUDENT REPORT</b>   | Info     | P. Patigdas | 5 min  |
| <b>11.</b> | <b>ELECTIONS</b>  | Decision | D. McMullen | 20 min |
|            | <ul style="list-style-type: none"> <li>a. Chair</li> <li>b. Vice-Chair</li> <li>c. Two Executive Committee Members</li> <li>d. Standing Committee Chairs <ul style="list-style-type: none"> <li>i. Curriculum Committee</li> <li>ii. Education Policy Committee</li> <li>iii. Education Quality Committee</li> <li>iv. Appeals Oversight Committee</li> </ul> </li> </ul> |          |             |        |
| <b>12.</b> | <b>NEXT MEETING &amp; ADJOURNMENT</b>   | Info     | E. Ting     | 1 min  |
|            | <p>Next meeting: January 12, 2021<br/>3:30–5:30 p.m.</p>  |          |             |        |

**ATTENDANCE****Education Council Members**

Elle Ting (Chair)  
 Natasha Mandryk (Vice-Chair)  
 Ajay Patel (ex officio)  
 Blair McLean  
 Brett Griffiths  
 Dave McMullen  
 David Wells  
 Heidi Parisotto  
 Jo-Ellen Zakoor  
 John Demeulemeester  
 Julie Gilbert  
 Lucy Griffith  
 Marcus Ng  
 Natasha (Student Representative)  
 Sarah Kay  
 Shantel Ivits  
 Todd Rowlatt

**Guests**

Adrian Lipsett  
 Bonnie Chan  
 Dee Duncan  
 Dennis Innes  
 Ian Humphreys  
 Jennifer Gossen  
 Keith Mew  
 Lisa Beveridge  
 Louise Dannhauer  
 Pervin Fahim  
 Phoebe Patigdas  
 Reba Noel  
 Ria Salonga  
 Taryn Thomson  
 Yulia Gracheva

**Regrets**

Ali Oliver  
 Julia Skye Summers  
 Shane McGowan

**Recording Secretary**

Darija Rabadzija

**1. CALL TO ORDER**

- The meeting was called to order at 3:30 p.m.

**2. ACKNOWLEDGEMENT**

- E. Ting acknowledged that the meeting is being held on the traditional unceded territory of the Sk̓wx̓wú7mesh Úxwumixw (Squamish), xʷməθkʷəy̓əm (Musqueam) and Tsleil-Waututh peoples.
- E. Ting welcomed new EdCo faculty representatives S. Kay, B. McLean and S. Ivits; student representatives J. Summers and Natasha; and returning members J. Demeulemeester, M. Ng and N. Mandryk.

**3. ADOPT AGENDA**

**MOTION:** THAT Education Council adopt the November 10, 2020 agenda as presented.

**Moved by L. Griffith, Seconded & CARRIED (Unanimously)**

**4. APPROVE PAST MINUTES**

**MOTION:** THAT Education Council approve the October 13, 2020 minutes as presented.

**Moved by T. Rowlatt, Seconded & CARRIED (Unanimously)**

## 5. ENQUIRIES & CORRESPONDENCE

- E. Ting received a request for an update on the Duolingo English Test pilot. Since a report is expected in January/February 2021, this item will be revisited at that time.
- Douglas College is in the process of revising its EdCo bylaws and has approached VCC for advice.

## 6. BUSINESS ARISING

### a) Campus Master Plan

- A. Patel congratulated elected EdCo members and thanked everyone for their work in these difficult times. He provided a brief update on the different components of the Strategic Innovation Plan, with the current main focus on the Campus Master Plan (CMP). The plan was approved in principle by the Board of Governors last November. The focus is now on leveraging VCC's real estate to secure the College's sustainability into the future. A. Patel acknowledged I. Humphreys' work in moving this multi-year project forward despite the pandemic.
- I. Humphreys presented excerpts of the CMP presentation made to the Ministry of Advanced Education, Skills and Training in September. Key points included
  - Overview of VCC's history as the oldest post-secondary institution in B.C. and its crucial role in the establishment of other institutions in Vancouver.
  - VCC's impact in Metro Vancouver: community engagement, program mix (access and developmental programming; trades and career programs; health programs), and affordability. Delivery of high-value/high-cost programs presents challenges for financial sustainability.
  - CMP proposes to leverage the College's real estate assets to create revenue to rebuild infrastructure and support programs into the future.
  - High value of the College's real estate due to the location of both Broadway and Downtown campuses near current and future transit lines and growing innovation and technology hubs.
  - Current College infrastructure is aging and needs to be replaced (except for Broadway Building B) due to the high cost of maintenance compared to current replacement value.
  - Estimated total space required for current and future programs: 700,000 sq. ft. of built space; development opportunity to build another 1.2–2.0 million sq. ft. of additional space.
  - The first step is a proposal from the five-year capital plan to build a Clean Energy and Automotive Innovation building on the east side of the Broadway campus parking lot. VCC is asking for about \$250 million in funding from the ministry for this project. This proposal ties in with B.C.'s Zero-Emission Vehicles Act (ZEV Act) passed last year, which requires all vehicles in B.C. to be zero-emission vehicles by 2040. This change creates the need to train technicians in these new technologies and to expand VCC's program offerings.
  - After construction of this building, several programs would be relocated from the Downtown campus towers; the new building will also include events spaces, freeing up room in Building B to move in dental and health programs from Downtown.
  - The Downtown campus could then be redeveloped, retaining about 200,000 sq. ft. for programming and developing 800,000 sq. ft. of high-tech office space to create \$250-300 million in revenue. These funds would be used for another new building at the Broadway campus on Great Northern Way to accommodate services currently housed in Building A.
  - The final step would be redeveloping the space currently occupied by Building A into a mixed-use development with affordable housing and community amenities.
  - Initial responses from the ministry and the City of Vancouver have been positive, and the \$250 million investment would pay off significantly both in economic/financial terms and in positive social impacts. However, it was emphasized that this ask is much higher than any funding received by postsecondary institutions in the past.

- Responding to questions, A. Patel and I. Humphreys clarified that, while long-term leases are preferred over the sale of land, either option is possible, depending on the amount of funds raised. Any decision on disposal of land (either lease or sale) must be approved by the Ministry of Finance.
- There was a discussion about poor utilization of current campus spaces, as well as the importance of incorporating new technologies into the design of new spaces to support future programming. There will be conversations and engagement with the College community on these issues, and trade-offs will be required.
- The question was raised whether the College is exploring federal research funding (e.g., Technology Access Centres Grants through NSERC). At this point, the College is not seeking federal funding; the current focus is on obtaining provincial support as a first step.

#### **b) Concept Paper: Health Care Assistant Diploma (International Cohort)**

- L. Beveridge presented the concept paper for this new 2-year diploma program, unique in B.C., designed for international students looking to work in the Canadian health care sector. The program combines the existing Health Care Assistant (HCA) Certificate curriculum with enhanced training in interpersonal communication, intercultural awareness, and information technology. Graduates will qualify for a three-year postgraduate work permit, allowing them to complete the 600 hours of work experience required to enter VCC's Access to Practical Nursing program. The work permit is a pathway to permanent residency in Canada and a requirement for international students to qualify for a BC Care Aide Registry number, which is required for work in public care institutions.
- The BC Care Aide Registry supports this program, which addresses the gap in qualified HCAs resulting from increased demand due to demographic change and the COVID-19 pandemic, coupled with declining domestic enrolment. The government is working on a pilot project to increase domestic enrolment. VCC has sufficient capacity to run full domestic and international cohorts.
- There was a longer discussion about differences between the domestic certificate and the extended international diploma program. There are considerations to incorporate some of the additional content, e.g. in information technology, into the domestic program. Other components added to the diploma are microcredentials that would typically be completed in advance as admission requirements (e.g. CPR training, FOODSAFE). It was emphasized that the core curriculum is articulated and identical for both programs, which is expected to lead to a faster review process and recognition by the BC Care Aide Registry.
- There was a discussion about expected tuition and student debt load in view of future earning potential. The average hourly wage for HCAs is \$23, although incomes vary, e.g. in unionized versus non-unionized environments, and the high demand for HCAs may positively impact wages in the future. Tuition will be finalized at a later stage in consultation with International Education and Finance. It was noted that the program offers a pathway into a career in the Canadian health care sector and laddering options up to a Bachelor of Science in Nursing.

#### **c) Notice of Elections**

- Elections for the EdCo Chair and Vice-Chair, Standing Committee Chairs, and EdCo Executive members will take place at the December 8 EdCo meeting. Members interested in running for a position were asked to inform E. Ting and D. McMullen in advance if they are unable to attend, in order to allow for alternate arrangements.

#### **d) EdCo Planning Day**

- The agenda was distributed to EdCo members; presenters include A. Dunn, Manager of Online Learning Strategy & Design, and consultants R. Daum and L. Heller, who are guiding VCC's Indigenization Planning Framework process.

## 7. COMMITTEE REPORTS

### a) Curriculum Committee

#### i) Course Deactivations: ACED 0701 & 0706

**MOTION:** THAT Education Council approve deactivation of ACED 0701 Assessment & Career Options and ACED 0706 Effective Communication effective November 2020.

**Moved by T. Rowlatt, Seconded & CARRIED (Unanimously)**

- T. Rowlatt presented the proposal to deactivate two CCA courses that have been replaced by other courses.

#### ii) Program Update: Bachelor of Science in Nursing (First Year Entry)

**MOTION:** THAT Education Council approve, in the form presented at this meeting, revisions to the Bachelor of Science in Nursing (First Year Entry) admission requirements.

**Moved by T. Rowlatt, Seconded & CARRIED (Unanimously)**

- D. Duncan and J.-E. Zakoor presented the proposal to introduce a competitive selection process for admission based on GPA and CASPer test results. The goal is to reduce currently high attrition rates by selecting students that are ready for the heavy academic demands of the program and exhibit personal competencies required for success in a nursing program (e.g. collaboration, communication, self-awareness, and problem solving) and in the workplace. These non-academic competencies are assessed through the CASPer test, which is used by numerous other institutions for admission to health programs. Annual competitive selection will also eliminate waitlists, which have been long and challenging to manage under the current first-come-first-served system.
- T. Rowlatt reported that Curriculum Committee extensively discussed the CASPer test and suggested adding a third assessment criterion, such as a personal essay. However, the department currently does not have the capacity to manage and evaluate essays due to a shortage of nursing faculty; the introduction of CASPer is a pilot, and the effectiveness of this new approach will be evaluated.
- D. McMullen added that all other nursing programs in B.C. have moved to more competitive admissions processes, and experiences at McGill with CASPer have been positive. Responding to questions, D. Duncan noted that the development of soft skills is interwoven throughout the program. In addition, two faculty members are involved in a research study with JIBC on increasing student resilience in health care.
- Questions were raised regarding possible bias in the CASPer test and ways to ensure equity and inclusion in the admissions process (e.g. through an admissions interview, essay, or the option to submit additional information to the admissions committee). J.-E. Zakoor noted the lack of capacity in the department to manage additional components, as well as the difficulty of ascertaining authorship of essays in an online environment. The company providing the CASPer test is working on addressing equity issues and minimizing bias. It was emphasized that the introduction of the CASPer test is a one-year pilot, and student success/attrition will be tracked. EdCo requested an update on the first cohort in the spring of 2021.

#### iii) Program Update: Administrative Professional Certificate

**MOTION:** THAT Education Council approve, in the form presented at this meeting, revisions to the Administrative Professional Certificate program.

**Moved by T. Rowlatt, Seconded & CARRIED (Unanimously)**

- T. Rowlatt presented the proposal. The 8-month Administrative Assistant Certificate program was recently restructured into two 4-month certificates for domestic students, while the 8-month

structure was maintained for international students. The current proposal is to return to the 8-month model for domestic students, based on faculty and student feedback after one term was taught in the new structure. The foundational skills taught in the first four months have not proven sufficient to qualify graduates for employment. The only proposed change is to remove the term “international” from the program name and program content guide.  
(D. McMullen left the meeting at 5:30 p.m.)

**iv) New Program: Nail Technology Certificate**

**MOTION:** THAT Education Council approve, in the form presented at this meeting, the curriculum for the new Nail Technology Certificate program, and recommend the Board of Governors approve the credential and implementation of the program.

**Moved by T. Rowlatt, Seconded & CARRIED (Unanimously)**

- T. Rowlatt presented the proposal for this new program in the in-demand area of nail technology. The program consists of two courses; students with requisite experience or those who have completed VCC’s Esthetics and Spa Therapy Certificate program can register directly in the second course. Curriculum Committee requested clarification of Prior Learning Assessment & Recognition (PLAR); requested edits were completed.

**v) New Program: Automotive Collision and Refinishing Foundation Certificate &**

**vi) New Program: Automotive Collision and Refinishing Foundation Certificate (E-pprentice)**

**MOTION:** THAT Education Council approve, in the form presented at this meeting, the curriculum for the new Automotive Collision and Refinishing Foundation Certificate program, the new Automotive Collision and Refinishing Foundation Certificate (E-pprentice) program, and 22 new courses, and recommend the Board of Governors approve the credentials.

**Moved by T. Rowlatt, Seconded & CARRIED (Unanimously)**

- T. Rowlatt presented the proposed curriculum changes, resulting from the national harmonization process for Automotive Collision Repair and Refinishing trades, which will share a common first-level curriculum in both foundation and apprentice offerings. The department also formalized its alternate delivery (E-pprentice) version of this training. Since the curriculum is harmonized, there were limitations on the amount of changes possible; Curriculum Committee requested minor adjustments to evaluation plans and recommended characteristics of students. Curriculum developer R. Popow was acknowledged and commended for his work on these proposals.

**vii) New Course: ACRP 1101 - Automotive Collision and Refinish Common Core Apprentice Level 1**

**MOTION:** THAT Education Council approve, in the form presented at this meeting, the new course ACRP 1101 Automotive Collision and Refinishing Common Core Apprentice Level 1.

**Moved by T. Rowlatt, Seconded & CARRIED (Unanimously)**

- This proposal contains the first new harmonized apprentice course (see 7v and iv); the remaining apprentice courses will be presented at the next meeting.

**viii) Program & Course Deactivations: Automotive Programs**

**MOTION:** THAT Education Council approve the deactivation of ACAP 1001 Auto Collision Repair Technician Apprentice Level 1, ARAP 1001 Auto Refinishing Prep Technician Apprentice Level, three (3) programs (Auto Collision Repair Technician Certificate, Auto Collision Repair Technician Certificate

(High School Cohort) and Auto Refinishing Prep Technician Certificate), and 29 courses.

**Moved by T. Rowlett, Seconded & CARRIED (Unanimously)**

- The programs and courses presented for deactivation are being replaced by the new harmonized curriculum (see 7v-7vii).

#### ix) Deactivation of Programs and Courses

- Due to time constraints, this item was deferred to the next meeting.

#### b) Policy Committee

##### i) C.3.10 Educational Affiliations

**MOTION:** THAT Education Council approve C.3.10 Educational Affiliations Policy and Procedures and recommend approval of C.3.10 Educational Affiliations Policy and Procedures to the Board of Governors.

**Moved by N. Mandryk, Seconded & CARRIED (Unanimously)**

- N. Mandryk reported that the committee is engaging in higher-level discussions about its work, as well as resources and support for policy writers.
- Policy C.3.10 was revised as part of the five-year policy review cycle by T. Rowlett as the policy writer. Processes were clarified and streamlined based on experiences from the recent establishment of an agreement with Vancouver Film School. Policy Committee suggested some edits at its August meeting. The policy was then posted for community feedback; no comments were received. A minor edit was made at the last Policy Committee meeting, replacing “instructors” with “employees” in the Scope and Limits section.

#### c) Appeals Oversight Committee

- L. Griffith reported that the November and January meetings were cancelled to allow two subcommittees to continue their work on appeals tracking and protocols. She thanked working group members for their contributions.

#### d) Education Quality Committee

- No report; the October meeting was cancelled.

### 8. RESEARCH REPORT

- E. Ting reported that the REB added two new members: A. Copp and L. Griffith. Former Applied Business representative H. Roberts retired and will stay on the REB as a community member.
- The VCC Teaching, Learning, and Research Symposium will take place on February 25-26, 2021. Proposals for presentations can be submitted until January 8, 2021.

### 9. CHAIR REPORT

- E. Ting reported that the next Academic Governance Council meeting is still being planned; members were invited to bring forward items for discussion.

### 10. STUDENT REPORT

- P. Patigdas reported that SUVCC wrapped up its Take it Over campaign encouraging voting in the recent provincial elections. SUVCC recently held its AGM; a report outlining last year’s initiatives, campaigns and events is available to students and employees. The new Board of Directors was welcomed last weekend.



**11. NEXT MEETING AND ADJOURNMENT**

- EdCo Planning Day will take place on November 20, 9:00 a.m.-12:00 p.m. The next regular Education Council meeting will be held on December 8, 2020, 3:30-5:30 p.m.

**MOTION:** THAT Education Council adjourn the November 10, 2020 meeting.

**Moved by B. Griffiths, Seconded & CARRIED (Unanimously)**

- The meeting was adjourned at 5:43 p.m.

**Elle Ting**

**Chair, VCC Education Council**



## DECISION NOTE

**PREPARED FOR:** Education Council

**DATE:** December 8, 2020

**ISSUE:** Five new DHH English Foundations courses

### BACKGROUND:

The Deaf & Hard of Hearing (DHH) program area went through a renewal in 2019. The first curriculum developed out of this renewal is a revised suite of English Foundations courses; they will be eventually packaged into a new program, but will begin as courses.

The five courses are aligned with the outcomes in the Canadian Language Benchmarks for the Deaf, beginning at a pre-literacy level up to CLB 4.

### DISCUSSION:

Alayna Finley, curriculum developer, presented the proposal. Curriculum Committee requested only minor revisions to the curriculum, and complimented the high quality of the work presented. The major points of discussion were:

- Wording of the evaluation plans for the courses. The courses use assessment by portfolio and provide a lot of flexibility for instructor and learner.
- Minor adjustments to course learning outcomes.
- The Registrar's Office expressed some concern with the courses being 15 credits each. The department used the College's credit ratio policy and explained that the way the material is taught is difficult to separate out into multiple connected courses.

### RECOMMENDATION:

THAT Education Council approve, in the form presented at this meeting, five (5) new courses: DHHE 0600 English Foundations – Bridge, DHHE 0610 English Foundations 1, DHHE 0620 English Foundations 2, DHHE 0630 English Foundations 3, and DHHE 0630 English Foundations 4.

**PREPARED BY:** Todd Rowlatt, Chair, Curriculum Committee

**DATE:** November 18, 2020

# Course Change Request

## New Course Proposal

Date Submitted: 11/06/20 9:46 am

Viewing: **DHHE 0600 : English Foundations - Bridge**

Last edit: 11/18/20 4:38 pm

Changes proposed by: afinley

Course Name:

English Foundations - Bridge

Effective Date:

September 2021

School/Centre:

Arts & Sciences

Department:

Deaf & Hard of Hearing (1902)

Contact(s)

### In Workflow

1. 1902 Leader
2. SAS Dean
3. Curriculum Committee Chair
4. EDCO Chair
5. Records
6. Banner

### Approval Path

1. 11/06/20 1:09 pm  
Marcia Tanaka (mtanaka):  
Approved for 1902 Leader
2. 11/10/20 11:49 am  
Shirley Lew (slew):  
Approved for SAS Dean
3. 11/18/20 5:21 pm  
Todd Rowlett (trowlett): Approved for Curriculum Committee Chair

| Name          | E-mail         | Phone/Ext.             |
|---------------|----------------|------------------------|
| Marcia Tanaka | mtanaka@vcc.ca | 604-871-7000 Ext. 7342 |

Banner Course

English Foundations - Bridge

Name:

Subject Code:

DHHE - Deaf&Hard of Hearing English

Course Number

0600

Year of Study

ESL Course

Credits: 15

## Course Description:

English Foundations - Bridge focuses on effective communication in ASL and English in multiple contexts including personal, educational, and workplace contexts of basic complexity. Learners differentiate and produce a variety of genre types used in personal, educational, and workplace contexts.

## Course Pre-Requisites (if applicable):

Department approval required

## Course Co-requisites (if applicable):

## PLAR (Prior Learning Assessment &amp; Recognition)

No

## Course Learning

## Outcomes (CLO):

|        | <b>Upon successful completion of this course, students will be able to:</b>  |
|--------|--|
| CLO #1 | Receptive ASL <ul style="list-style-type: none"> <li>o Identify individual greetings, introductions and goodwill expressions.</li> <li>o Identify very short, simple instructions, commands and requests related to immediate personal needs.</li> <li>o Identify strategies used to get attention and to request or offer assistance in situations of immediate personal need.</li> <li>o Identify very simple information about highly familiar, concrete topics.</li> </ul> |
| CLO #2 | Expressive ASL <ul style="list-style-type: none"> <li>o Use basic courtesy formulas and greetings.</li> <li>o Give brief, simple, common, routine instructions to a familiar person.</li> <li>o Make simple requests related to immediate personal needs (such as asking for assistance, the time).</li> <li>o Give basic personal information in response to direct questions.</li> </ul>   |
| CLO #3 | Pre-Reading <ul style="list-style-type: none"> <li>o Identify a limited number of familiar pictures.</li> <li>o "Read" an illustration.</li> <li>o Identify and distinguish between ASL and English (written, through the air).</li> <li>o Identify whether an ASL sentence or written English sentence makes sense.</li> </ul>  |

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

|        |  |
|--------|--|
| CLO #4 | <p>Reading</p> <ul style="list-style-type: none"> <li>o Read single words, phrases, simple sentences to self then give meaning in ASL.</li> <li>o Understand everyday greetings.</li> <li>o Read simple single words and phrases in face-to-face communication with non-signers.</li> <li>o Locate information from very short, common, formatted texts (such as simple sections of forms, maps, diagrams, traffic signs, and civic symbols).</li> <li>o Recognize names, numbers, and some basic words in very simple, short texts related to everyday situations and immediate needs.</li> </ul> |
| CLO #5 | <p>Pre-Writing</p> <ul style="list-style-type: none"> <li>o Recognize the connection between expressive language and print.</li> <li>o Recognize the value placed by society on reading and writing.</li> <li>o Demonstrate pencil-pen holding skills.</li> <li>o Demonstrate page orientation (left to right, top, bottom, lines, margins, double spacing, indents).</li> <li>o Demonstrate familiarity with basic mechanics of print at the letter and word level.</li> </ul>  |
| CLO #6 | <p>Writing</p> <ul style="list-style-type: none"> <li>o Form most upper and lower case letters correctly.</li> <li>o Demonstrate ability to place text correctly on the lines most of the time.</li> <li>o Demonstrate understanding of spaces between letters and words.</li> <li>o Use handshape holders to write new words.</li> <li>o Begin to use writing to reinforce learning.</li> <li>o Copy from a simple model with some accuracy.</li> <li>o Provide simple words and phrases to non-signers in response to face-to-face signed and written requests.</li> </ul>                       |

Instructional

Strategies:

Modelling, coaching, focused reading, thematic instruction, journaling, stations, project-based learning.

The course may be offered online or in a hybrid format (blend of face-to-face and online instruction).

## Evaluation and Grading

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Grading System:      Satisfactory/Unsatisfactory      Passing grade:  
70% (S)

Evaluation Plan:

| Type | Percentage | Brief description of assessment activity |
|------|------------|--|
|------|------------|--|

| Type      | Percentage | Brief description of assessment activity   |
|-----------|------------|--|
| Portfolio | 100        | A range of tasks including self- and peer-assessment, writing tasks, learning photographs, poster presentations, simulations, quizzes, demonstrations. |

## Hours by Learning Environment Type

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Lecture, Seminar, Online

204

Lab, Clinical, Shop, Kitchen,  
Studio, Simulation

51

Practicum

Self Paced / Individual Learning

Course Topics

### Course Topics:

Circles: Self, Family, Relationships

At Home & in the Community

Travel and Transportation

Learning Resources (textbooks, lab/shop manuals, equipment, etc.):

## Rationale and Consultations

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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?

Consultations

| Consulted Areas          | Consultation Comments  |
|--------------------------|--|
| Registrar's Office       | <p>Communicated college's general preference to 4-month structured terms or 2-month half-terms. Aware of DHH English Upgrading's academic calendar shift from two nineteen-week terms to three 12.6-week terms.</p> <p>Communicated that if a January start were to happen, a phase-in plan would be possible as long as the majority of learning outcomes and contact hours can still be met (ideally 90% or more).</p> <p>A September start date does not require this type of phase-in program.</p> |
| Financial Aid            | <p>No impact on AUG funding. In fact, the three-term academic calendar is actually better for AUG term reports.</p>  |
| Faculty/Department       | <p>Current English Upgrading Instructors (as of June 2020) have okayed the new 3-term academic calendar. English Upgrading instructors were involved in consultations (course outlines, concept paper, program proposal).</p>  |
| Department Support Staff | <p>Program Assistant was consulted on administrative logistics (student intake, timing between terms, supporting students with financial aid applications, and so on).</p>   |
| Other Department(s)      | <p>Met with other departmental consultants throughout the CD process to get feedback and consultation on CD plans.</p>   |
| Other                    | <p>Program Renewal Report guided much of course development.</p>   |

### Additional Information

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Provide any additional information if necessary.

Supporting  
documentation:

# Course Change Request

## New Course Proposal

Date Submitted: 11/06/20 9:49 am

Viewing: **DHHE 0610 : English Foundations 1**

Last edit: 11/18/20 4:47 pm

Changes proposed by: afinley

Course Name:

English Foundations 1

Effective Date:

September 2021

School/Centre:

Arts & Sciences

Department:

Deaf & Hard of Hearing (1902)

Contact(s)

### In Workflow

1. **1902 Leader**
2. **SAS Dean**
3. **Curriculum Committee Chair**
4. **EDCO Chair**
5. Records
6. Banner

### Approval Path

1. 11/06/20 1:09 pm  
Marcia Tanaka (mtanaka):  
Approved for 1902 Leader
2. 11/10/20 11:50 am  
Shirley Lew (slew):  
Approved for SAS Dean
3. 11/18/20 5:21 pm  
Todd Rowlett (trowlett): Approved for Curriculum Committee Chair

| Name          | E-mail         | Phone/Ext.             |
|---------------|----------------|------------------------|
| Marcia Tanaka | mtanaka@vcc.ca | 604-871-7000 Ext. 7342 |

Banner Course

English Foundations 1

Name:

Subject Code:

DHHE - Deaf&Hard of Hearing English

Course Number

0610

Year of Study

ESL Course



Credits: 15

**Course Description:**

English Foundations 1 focuses on effective communication in ASL and English in multiple contexts including personal, educational, and workplace contexts of basic complexity. Learners differentiate and produce a variety of genre types used in personal, educational, and workplace contexts.

By the end of this course, learners will be able to meet the outcomes at CLB 1 in the “Profiles of Ability” columns of the competency outcomes and standards listed in the “Canadian Language Benchmarks for the Deaf.”

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

DHHE 0600 English Foundations - Bridge, or department placement interview indicating competency in CLB Pre-Literacy.

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

No

**Course Learning****Outcomes (CLO):**

|        | <b>Upon successful completion of this course, students will be able to:</b>  |
|--------|--|
| CLO #1 | Receptive ASL <ul style="list-style-type: none"> <li>o Understand individual greetings, introductions and goodwill expressions.</li> <li>o Understand very short, simple instructions, commands and requests related to immediate personal needs.</li> <li>o Understand strategies used to get attention and to request or offer assistance in situations of immediate personal need.</li> <li>o Understand very simple information about highly familiar, concrete topics.</li> </ul> |

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

|        |  |
|--------|--|
| CLO #2 | <p>Expressive ASL</p> <ul style="list-style-type: none"> <li>o Use and respond to basic courtesy formulas and greetings.</li> <li>o Give brief, simple, common, routine instructions to a familiar person.</li> <li>o Make and respond to simple requests related to immediate personal needs (such as asking for assistance, the time, a price or an amount).</li> <li>o Give basic personal information in response to direct questions.</li> <li>o Ask for basic personal information.</li> </ul>   |
| CLO #3 | <p>Receptive English (Reading)</p> <ul style="list-style-type: none"> <li>o Understand short greetings and goodwill messages.</li> <li>o Read very short messages in face-to-face communication with non-signers.</li> <li>o Understand very short, simple instructions for common familiar everyday situations.</li> <li>o Get information from very short, common, formatted texts (such as simple sections of forms, maps, diagrams, receipts, traffic signs, and civic symbols).</li> <li>o Recognize names, numbers, and some basic details in very simple short texts related to everyday situations and immediate needs.</li> <li>o Read very short simple messages with needed information in face-to-face communication with non-signers.</li> </ul>  |
| CLO #4 | <p>Expressive English (Writing, typing, texting)</p> <ul style="list-style-type: none"> <li>o Convey greetings or other short messages by completing cards or simple texts.</li> <li>o Convey words and some short memorized phrases in face-to-face communication with non-signers.</li> <li>o Copy numbers, letters, words, short phrases or sentences from simple lists or very short passages.</li> <li>o Complete very short or simplified forms that require only basic personal identification information.</li> <li>o Write very short, memorized requests and directives when in face-to-face communication with non-signers.</li> <li>o Write a few words to complete a short guided text or answer simple questions.</li> <li>o Provide very simple information to non-signers in response to face-to-face written requests.</li> </ul> |

Instructional

Strategies:

Modelling, coaching, focused reading, thematic instruction, journaling, stations, project-based learning.

The course may be offered online or in a hybrid format (blend of face-to-face and online instruction).

## Evaluation and Grading

---

Grading System:      Satisfactory/Unsatisfactory  
70% (S)

Passing grade:

Evaluation Plan:

| Type      | Percentage | Brief description of assessment activity   |
|-----------|------------|--|
| Portfolio | 100        | A range of tasks including self- and peer-assessment, writing tasks, reflective journals, writing samples, checklists, learning stories, learning photographs, poster presentations, simulations, quizzes, demonstrations. |

## Hours by Learning Environment Type

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Lecture, Seminar, Online

204

Lab, Clinical, Shop, Kitchen,  
Studio, Simulation

51

Practicum

Self Paced / Individual Learning

Course Topics

### Course Topics:

Circles: Self, Family, Relationships  
At Home & in the Community  
Travel and Transportation  
Canada

Learning Resources (textbooks, lab/shop manuals, equipment, etc.):

## 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

# Course Change Request

## New Course Proposal

Date Submitted: 11/06/20 9:49 am

Viewing: **DHHE 0620 : English Foundations 2**

Last edit: 11/18/20 4:46 pm

Changes proposed by: afinley

Course Name:

English Foundations 2

Effective Date:

September 2021

School/Centre:

Arts & Sciences

Department:

Deaf & Hard of Hearing (1902)

Contact(s)

### In Workflow

1. **1902 Leader**
2. **SAS Dean**
3. **Curriculum Committee Chair**
4. **EDCO Chair**
5. Records
6. Banner

### Approval Path

1. 11/06/20 1:09 pm  
Marcia Tanaka  
(mtanaka):  
Approved for 1902  
Leader
2. 11/10/20 11:50 am  
Shirley Lew (slew):  
Approved for SAS  
Dean
3. 11/18/20 5:21 pm  
Todd Rowlett  
(trowlett): Approved  
for Curriculum  
Committee Chair

| Name          | E-mail         | Phone/Ext.             |
|---------------|----------------|------------------------|
| Marcia Tanaka | mtanaka@vcc.ca | 604-871-7000 Ext. 7342 |

Banner Course

English Foundations 2

Name:

Subject Code:

DHHE - Deaf&Hard of Hearing English

Course Number

0620

Year of Study

ESL Course

Credits: 15

**Course Description:**

English Foundations 2 focuses on effective communication in ASL and English in multiple contexts including personal, educational, and workplace contexts of basic complexity. Learners differentiate and produce a variety of genre types used in personal, educational, and workplace contexts.

By the end of this course, learners will be able to meet the outcomes at CLB 2 in the “Profiles of Ability” columns of the competency outcomes and standards listed in the “Canadian Language Benchmarks for the Deaf.”

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

DHHE 0610 English Foundations 1, or department placement interview indicating competency in CLB 1.

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

No

**Course Learning****Outcomes (CLO):**

|        | <b>Upon successful completion of this course, students will be able to:</b>   |
|--------|---|
| CLO #1 | Receptive ASL <ul style="list-style-type: none"> <li>o Use and respond to basic courtesy formulas and greetings.</li> <li>o Give brief, simple, common, routine instructions to a familiar person.</li> <li>o Make and respond to simple requests related to immediate personal needs (such as asking for assistance, the time, a price or an amount).</li> <li>o Give basic personal information in response to direct questions.</li> <li>o Ask for basic personal information.</li> </ul>  |
| CLO #2 | Expressive ASL <ul style="list-style-type: none"> <li>o Use and respond to courtesy formulas and greetings.</li> <li>o Give short, simple, common, routine instructions to a familiar person.</li> <li>o Make and respond to simple requests related to common everyday activities.</li> <li>o Give very simple warnings and cautions.</li> <li>o Give expanded basic personal information to a supportive interlocutor.</li> <li>o Ask for basic personal information.</li> <li>o Give basic descriptions of concrete familiar objects in a few ASL words, short phrases, or classifiers.</li> </ul> |

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

|        |  |
|--------|--|
| CLO #3 | <p>Receptive English (Reading)</p> <ul style="list-style-type: none"> <li>o Understand short greetings and other goodwill messages.</li> <li>o Read short messages to establish relationships and share a dialogue in face-to-face communication with non-signers.</li> <li>o Understand short, simple, clearly sequenced instructions for common familiar everyday situations.</li> <li>o Get information from simple formatted texts (such as simple forms, maps, diagrams, signs, labels, tables and schedules).</li> <li>o Get basic information from short, simple business or service notices.</li> <li>o Understand the purpose and some basic details in very simple, short texts related to everyday, familiar, personally relevant situations.</li> <li>o Read short simple messages with needed information in face-to-face communication with non-signers.</li> </ul>  |
| CLO #4 | <p>Expressive English (Writing, typing, texting)</p> <ul style="list-style-type: none"> <li>o Convey goodwill messages by means of standard cards or guided notes. Messages can include thanks, apologies, congratulations, get-well wishes, good-byes and sympathy.</li> <li>o Convey short messages to establish relationships and share a dialogue in face-to-face communication with non-signers.</li> <li>o Copy a range of information from simple lists or very short passages, for personal use or to complete short tasks.</li> <li>o Complete short simple (or simplified) forms that require only basic personal identification or other highly familiar information.</li> <li>o Write short requests and directives when interacting in face-to-face communication with non-signers.</li> <li>o Write a few words to complete a short guided text or answer simple questions to describe a personal situation.</li> <li>o Provide simple information to non-signers in response to face-to-face written requests.</li> </ul> |

Instructional

Strategies:

Modelling, coaching, focused reading, thematic instruction, journalling, stations, project-based learning.

The course may be offered online or in a hybrid format (blend of face-to-face and online instruction).

## Evaluation and Grading

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Grading System:

Satisfactory/Unsatisfactory

Passing grade:

70% (S)

## Evaluation Plan:

| Type      | Percentage | Brief description of assessment activity   |
|-----------|------------|--|
| Portfolio | 100        | A range of tasks including self- and peer-assessment, writing tasks, reflective journals, writing samples, checklists, learning stories, learning photographs, poster presentations, simulations, quizzes, demonstrations. |

## Hours by Learning Environment Type

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Lecture, Seminar, Online

204

Lab, Clinical, Shop, Kitchen,  
Studio, Simulation

51

Practicum

Self Paced / Individual Learning

### Course Topics

| Course Topics:  |
|---|
| Circles: Self, Family, Relationships<br>Sports & Leisure<br>Health & Wellbeing<br>Canada<br>Media & Communication |

Learning Resources (textbooks, lab/shop manuals, equipment, etc.):

## 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?

# Course Change Request

## New Course Proposal

Date Submitted: 11/06/20 9:48 am

Viewing: **DHHE 0630 : English Foundations 3**

Last edit: 11/18/20 4:48 pm

Changes proposed by: afinley

Course Name:

English Foundations 3

Effective Date: September 2021

School/Centre: Arts & Sciences

Department: Deaf & Hard of Hearing (1902)

Contact(s)

### In Workflow

1. **1902 Leader**
2. **SAS Dean**
3. **Curriculum Committee Chair**
4. **EDCO Chair**
5. Records
6. Banner

### Approval Path

1. 11/06/20 1:09 pm  
Marcia Tanaka (mtanaka):  
Approved for 1902 Leader
2. 11/10/20 11:51 am  
Shirley Lew (slew):  
Approved for SAS Dean
3. 11/18/20 5:21 pm  
Todd Rowlett (trowlett): Approved for Curriculum Committee Chair

| Name          | E-mail         | Phone/Ext.             |
|---------------|----------------|------------------------|
| Marcia Tanaka | mtanaka@vcc.ca | 604-871-7000 Ext. 7342 |

Banner Course Name: English Foundations 3

Subject Code: DHHE - Deaf&Hard of Hearing English

Course Number: 0630

Year of Study: ESL Course



Credits: 15

**Course Description:**

English Foundations 3 focuses on effective communication in ASL and English in multiple contexts including personal, educational, and workplace contexts of basic complexity. Learners differentiate and produce a variety of genre types used in personal, educational, and workplace contexts.

By the end of this course, learners will be able to meet the outcomes at CLB 3 in the “Profiles of Ability” columns of the competency outcomes and standards listed in the “Canadian Language Benchmarks for the Deaf.”

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

DHHE 0620 English Foundations 2, or department placement interview indicating competency in CLB 2.

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

No

**Course Learning****Outcomes (CLO):**

| <b>Upon successful completion of this course, students will be able to:</b> |   |
|---|---|
| CLO #1  | Receptive ASL <ul style="list-style-type: none"> <li>o Understand simple social exchanges, including styles of greetings, introductions and leave-taking.</li> <li>o Understand instructions and directions related to familiar, everyday situations of immediate personal relevance.</li> <li>o Understand expressions used in familiar everyday situations (such as requests, permission and warnings).</li> <li>o Understand short, simple, descriptive communication about a person, object, situation, scene, personal experience or daily routine.</li> </ul> |

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

|        |  |
|--------|--|
| CLO #2 | <p>Expressive ASL</p> <ul style="list-style-type: none"> <li>o Use a range of courtesy formulas and greetings in very short, casual, face-to-face interactions.</li> <li>o Give simple, common, routine instructions and directions to a familiar person.</li> <li>o Make and respond to an expanding range of simple requests related to everyday activities.</li> <li>o Give an expanding range of simple warnings, apologies and cautions.</li> <li>o Ask for and give information about immediate needs and some feelings related to common everyday activities.</li> <li>o Give simple descriptions of concrete objects, people or experiences in a few short sentences.</li> </ul>   |
| CLO #3 | <p>Receptive English (Reading)</p> <ul style="list-style-type: none"> <li>o Understand short, personal social messages (such as invitations, thanks, apologies, updates and arrangements) within predictable contexts of daily experience.</li> <li>o Read short texts to establish relationships and share a dialogue in face-to-face communication with non-signers.</li> <li>o Understand short, simple clearly sequenced instructions for familiar everyday situations.</li> <li>o Get information from simple formatted texts (such as forms, tables, charts, schedules and directories).</li> <li>o Get basic information from short business or service texts (such as brochures, notices, form letters and flyers).</li> <li>o Understand the purpose, main idea, key information and some details in short, simple texts related to familiar and personally relevant situations and topics.</li> <li>o Access simple standard reference texts (such as dictionaries and encyclopedias).</li> <li>o Understand simple closed captions in short television segments.</li> </ul> |
| CLO #4 | <p>Expressive English (Writing, typing, texting)</p> <ul style="list-style-type: none"> <li>o Convey short, personal, informal social messages related to everyday situations (such as invitations, thanks, updates, cancellations and apologies).</li> <li>o Convey short messages to establish relationships and share a dialogue in face-to-face communication with non-signers.</li> <li>o Copy or record a range of information from short texts for personal use.</li> <li>o Complete short simple forms that require only basic personal information and familiar responses to simple questions.</li> <li>o Write short simple business or service messages in face-to-face communication with non-signers.</li> <li>o Write a few sentences to describe a familiar person, object, place, situation or event.</li> <li>o Share some simple information with non-signers in a face-to-face situation.</li> </ul>  |

Instructional

Strategies:

Modelling, coaching, focused reading, thematic instruction, journalling, stations, project-based learning.

The course may be offered online or in a hybrid format (blend of face-to-face and online instruction).

## Evaluation and Grading

---

Grading System: Satisfactory/Unsatisfactory      Passing grade:  
70% (S)

Evaluation Plan:

| Type      | Percentage | Brief description of assessment activity   |
|-----------|------------|--|
| Portfolio | 100        | A range of tasks including self- and peer-assessment, writing tasks, reflective journals, writing samples, checklists, learning stories, learning photographs, poster presentations, simulations, quizzes, demonstrations. |

## Hours by Learning Environment Type

---

Lecture, Seminar, Online

204

Lab, Clinical, Shop, Kitchen,  
Studio, Simulation

51

Practicum

Self Paced / Individual Learning

Course Topics

### Course Topics:

Circles: Self, Family, Relationships  
Health & Wellbeing  
Employment in Canada  
Canada & the World  
Banking, Shopping, & Commercial Services

Learning Resources (textbooks, lab/shop manuals, equipment, etc.):

# Course Change Request

## New Course Proposal

Date Submitted: 11/06/20 9:50 am

Viewing: **DHHE 0640 : English Foundations 4**

Last edit: 11/18/20 4:50 pm

Changes proposed by: afinley

Course Name:

English Foundations 4

Effective Date:

September 2021

School/Centre:

Arts & Sciences

Department:

Deaf & Hard of Hearing (1902)

Contact(s)

### In Workflow

1. **1902 Leader**
2. **SAS Dean**
3. **Curriculum Committee Chair**
4. **EDCO Chair**
5. Records
6. Banner

### Approval Path

1. 11/06/20 1:09 pm  
Marcia Tanaka  
(mtanaka):  
Approved for 1902  
Leader
2. 11/10/20 11:51 am  
Shirley Lew (slew):  
Approved for SAS  
Dean
3. 11/18/20 5:21 pm  
Todd Rowlett  
(trowlett): Approved  
for Curriculum  
Committee Chair

| Name          | E-mail         | Phone/Ext.             |
|---------------|----------------|------------------------|
| Marcia Tanaka | mtanaka@vcc.ca | 604-871-7000 Ext. 7342 |

Banner Course  
Name:

English Foundations 4

Subject Code:

DHHE - Deaf&Hard of Hearing English

Course Number

0640

Year of Study

ESL Course

Credits: 15

**Course Description:**

English Foundations 4 focuses on effective communication in ASL and English in multiple contexts including personal, educational, and workplace contexts of basic complexity. Learners differentiate and produce a variety of genre types used in personal, educational, and workplace contexts.

By the end of this course, learners will be able to meet the outcomes at CLB 4 in the “Profiles of Ability” columns of the competency outcomes and standards listed in the “Canadian Language Benchmarks for the Deaf.”

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

DHHE 0630 English Foundations 3, or department placement interview indicating competency in CLB 3.

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

No

**Course Learning****Outcomes (CLO):**

| <b>Upon successful completion of this course, students will be able to:</b> |   |
|---|---|
| CLO #1  | Receptive ASL <ul style="list-style-type: none"> <li>o Understand short social exchanges containing introductions, casual conversation and leave-taking.</li> <li>o Understand common, sequentially presented instructions and directions related to familiar, everyday situations of personal relevance.</li> <li>o Understand short communication intended to influence or persuade others in familiar, everyday situations.</li> <li>o Understand short descriptive or narrative communication on topics of personal relevance.</li> </ul> |

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

|        |   |
|--------|---|
| CLO #2 | <p>Expressive ASL</p> <ul style="list-style-type: none"> <li>o Use a range of courtesy formulas and casual routine phrases in one-on-one or small group interactions.</li> <li>o Participate in very short video phone calls.</li> <li>o Give a set of simple, common, routine instructions and directions to a familiar person.</li> <li>o Make and respond to a range of requests and offers (such as getting assistance, and asking for, offering, accepting or rejecting goods or services).</li> <li>o Ask for and give information about needs and feelings related to common everyday activities.</li> <li>o Give brief descriptions of personal experiences, situations or simple processes, such as getting goods or services.</li> </ul>  |
| CLO #3 | <p>Receptive English</p> <ul style="list-style-type: none"> <li>o Understand simple personal social messages (such as invitations, thanks, apologies, updates and arrangements) within predictable contexts of daily experience.</li> <li>o Read short texts to establish relationships and share a dialogue in face-to-face communication with non-signers.</li> <li>o Understand short, simple, clearly sequenced instructions and instructional texts for familiar everyday situations.</li> <li>o Get information from simple formatted texts (such as forms, tables, charts, schedules and directories).</li> <li>o Get basic information from short business or service texts (such as brochures, notices, form letters and flyers).</li> <li>o Understand the purpose, main idea, key information and some details in short, simple texts related to familiar and personally relevant situations and topics.</li> <li>o Access simple standard reference texts (such as dictionaries and encyclopedias).</li> <li>o Understand simple closed captions in short television programs.</li> </ul> |
| CLO #4 | <p>Expressive English (Writing, typing, texting)</p> <ul style="list-style-type: none"> <li>o Convey short, personal, informal social messages related to everyday situations (such as invitations, thanks, updates, cancellations and apologies).</li> <li>o Convey short messages to establish relationships and share a dialogue in face-to-face communication with non-signers.</li> <li>o Copy or record an expanded range of information from short texts for personal use.</li> <li>o Complete simple forms that require basic personal information and familiar responses to simple questions.</li> <li>o Write short simple business or service messages, sometimes in face-to-face communication with non-signers.</li> <li>o Write a short paragraph to describe a familiar event, personal experience or future plan.</li> <li>o Share information with non-signers in a face-to-face situation.</li> </ul>   |

**Instructional****Strategies:**

Modelling, coaching, focused reading, thematic instruction, journalling, stations, project-based learning.

The course may be offered online or in a hybrid format (blend of face-to-face and online instruction).

## Evaluation and Grading

---

Grading System: Satisfactory/Unsatisfactory      Passing grade:  
70% (S)

**Evaluation Plan:**

| Type      | Percentage | Brief description of assessment activity   |
|-----------|------------|--|
| Portfolio | 100        | A range of tasks including self- and peer-assessment, writing tasks, reflective journals, writing samples, checklists, learning stories, learning photographs, poster presentations, simulations, quizzes, demonstrations. |

## Hours by Learning Environment Type

---

Lecture, Seminar, Online

204

Lab, Clinical, Shop, Kitchen,  
Studio, Simulation

51

Practicum

Self Paced / Individual Learning

**Course Topics**

**Course Topics:**

**Course Topics:**

Circles: Self, Family, Relationships  
Employment in Canada  
Banking, Shopping, & Commercial Services  
Canada & the World  
Education  
Media & Communication

Learning Resources (textbooks, lab/shop manuals, equipment, etc.):

## 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

## Additional Information

---

Provide any additional information if necessary.

Supporting  
documentation:

Reviewer

Comments

## Marketing Information

---





## DECISION NOTE

**PREPARED FOR:** Education Council

**DATE:** December 8, 2020

**ISSUE:** National Harmonization of Apprentice curriculum for Automotive Collision Repair and Refinishing

### BACKGROUND:

Trades instruction in Automotive Collision Repair and Refinishing has undergone national harmonization across Canada that requires VCC to update all related apprentice courses and foundation programs as per the Industry Training Authority (ITA) of B.C.

The Foundations programming was approved by Education Council at its November 2020 meeting. Auto Collision and Refinishing now have a combined level 1 apprentice course, equivalent to the Foundations program. Collision and Refinishing then split into separate streams for the higher levels. This proposal updates the apprentice courses for the combined Automotive Collision and Refinishing Apprentice Level 1, Automotive Refinishing Technician Apprentice Level 2, and Auto Body and Collision Technician Levels 2-4. The department has two pathways: traditional delivery and an alternate/E-apprentice delivery.

### DISCUSSION:

Robin Popow, curriculum developer, presented the proposals. As the programs are harmonized, only limited changes were possible, but the Committee commended Mr. Popow for excellent design and development work. Only minor changes were requested:

- Minor adjustments to course outcome wording around diagnostic equipment, mentorship, and diversity and inclusion.
- Standardizing course description language for all courses.
- Adjusting the course effective dates.

All changes have been made.

### RECOMMENDATION:

THAT Education Council approve, in the form presented at this meeting, nine (9) new apprentice courses for Auto Collision and Refinishing Technician: ACAP 2002, ACAP 2003, ACAP 3002, ACAP 3003, ACAP 4002, ACAP 4003, ACRP 1102, APAP 2002, and APAP 2003.

**PREPARED BY:** Todd Rowlatt, Chair, Curriculum Committee

**DATE:** December 1, 2020

**Scope:**

National Harmonization of Automotive Collision Repair and Refinishing Standards across Canada require us to update all related apprentice courses and foundation programs as per the Industry Training Authority (ITA) of B.C.

These changes include moving, adding and deleted content, extending and shortening training durations, etc. The Automotive Refinishing Prep trade will now share its first level with Automotive Collision Repair as a common core in both apprentice and foundation offerings. This proposal will be followed by a proposal to formalize alternate delivery (E-apprentice) versions of foundation and apprentice offerings for both trades.

The Provincial program changes take effect April 2021, we propose our Effective Dates begin for common core offerings September 2021.

For Official Program Standards Notifications (OPSN) from the Industry Training Authority of B.C. (ITA) refer to the following:

- OPSN for Automotive Refinish Prep Technician  
<https://itabc.ca/sites/default/files/docs/OPSN-2020-007-Automotive-Refinishing-Prep-Technician-Inactivation.pdf>
- OPSN for Automotive Collision Repair Technician  
<https://itabc.ca/sites/default/files/docs/OPSN-2020-005-Automotive-Collision-Repair-Technician-Program-Outline-Update.pdf>

*See page 3 of this document for an illustrated map of new training paths which form the basis of this project.*

The overall scope of this project affects the following courses and programs:

*Programs (including associated courses)*

- Auto Collision Repair Technician Certificate (ACRT Foundation)
- Automotive Refinishing Prep Technician Certificate (ARPT Foundation)
- Automotive Refinishing Prep Technician – High School Certificate (ARPT Foundation)

*Apprentice courses*

- Automotive Collision Repair Level 1 (ACAP 1001)
- Automotive Collision Repair Level 2 (ACAP 2001)
- Automotive Collision Repair Level 3 (ACAP 3001)
- Automotive Collision Repair E-apprentice Level 1 (ACAP 1001)
- Automotive Collision Repair E-apprentice Level 2 (ACAP 2001)
- Automotive Collision Repair E-apprentice Level 3 (ACAP 3001)
- Automotive Refinishing Prep Technician (ARAP 1001)
- Automotive Paint and Refinishing Technician (APAP 1001)

Replacement programs and courses are as follows:

*Programs (including associated courses)*

- Automotive Collision and Refinishing Foundation Certificate (Foundation)
- Automotive Collision and Refinishing High School E-apprentice Foundation Certificate (Foundation)

*These programs will generally share 11-13 new courses, many based on existing courses but all require minor to major changes. Courses for E-pprentice program version will be a unique set based on those redeveloped for the common core foundation.*

#### *Apprentice courses*

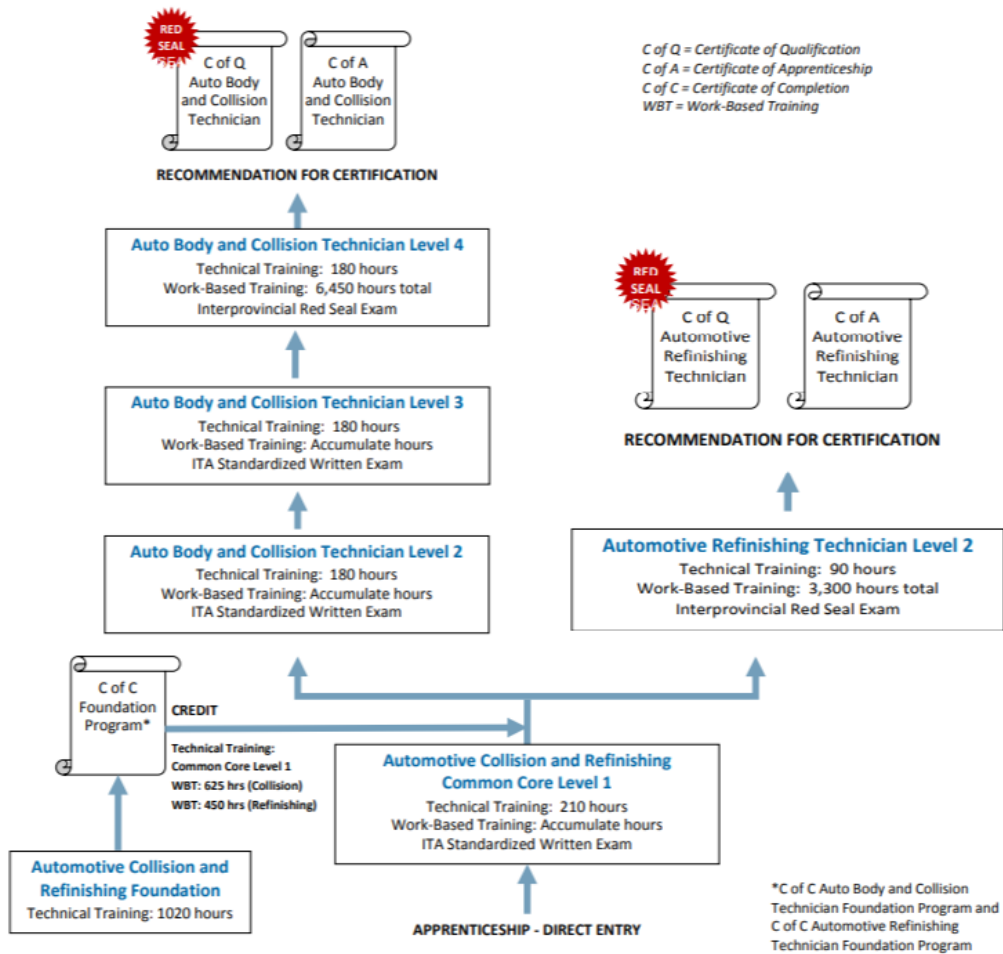
- Automotive Collision and Refinishing Common Core Level 1
- Automotive Collision and Refinishing Common Core E-pprentice Level 1
- Auto Body and Collision Technician Level 2
- Auto Body and Collision Technician E-pprentice Level 2
- Auto Body and Collision Technician Level 3
- Auto Body and Collision Technician E-pprentice Level 3
- Auto Body and Collision Technician Level 4
- Auto Body and Collision Technician E-pprentice Level 4
- Automotive Refinishing Technician Level 2
- Automotive Refinishing Technician E-pprentice Level 2

*Note: The ITA is currently developing a plan to transition current and future apprentices from the current programs to the harmonized programs. As a result there may be a period of transition where current apprentice courses still be offered for an extended period of time to allow for current apprentices to complete.*

**Out of Scope:** All other offerings are out of scope for this round of updates including; *Automotive Glass Technician E-pprentice*, and *Automotive Collision Repair and Refinishing Diploma*.

*Please refer to individual proposal/change detail documents.*

The ITA program profile map below combines both ITA program outlines (refinishing and collision repair paths) to illustrate the basis for our proposal.



# 37

## Apprentice Training Changes for Automotive Collision Repair and Automotive Refinishing Offerings

### Proposal and Detail of Changes

November, 2020

The aim of this proposal is to replace remaining existing apprentice training offerings for Auto Collision Repair, Refinish Prep) as per the *National Harmonization Project* (see document in *Automotive Collision and Refinishing Foundation Certificate* proposal, Oct 2020) and to formalize blended learning offerings (E-pprentice). See table below for full schedule of changes to apprentice offerings.

| Current   |  | Deactivate | Replace/New | Proposed  |  | Effective Date | EdCo Submission |
|-----------|--|------------|-------------|-----------|--|----------------|-----------------|
| ACAP 1001 | Auto Collision Repair Technician Apprentice Level 1      | Mar 2021   | Replace     | ACRP 1101 | Automotive Collision and Refinishing Common Core Level 1               | Sep 2021       | October 2020    |
| ARAP 1001 | Auto Refinishing Prep Technician Apprentice              | Mar 2021   | Replace     |           |  |                |                 |
| ACRP 1101 | Automotive Collision and Refinishing Common Core Level 1 |            | New         | ACRP 1102 | Automotive Collision and Refinishing Common Core Level 1 (E-pprentice) | Sep 2021       | November 2020   |
| ACAP 2001 | Auto Collision Repair Technician Apprentice Level 2      | Mar 2022   | Replace     | ACAP 2002 | Auto Body and Collision Technician Level 2                             | Apr 2022       |                 |
|           |  |            | New         | ACAP 2003 | Auto Body and Collision Technician Level 2 (E-pprentice)               | Apr 2022       |                 |
| ACAP 3001 | Auto Collision Repair Technician Apprentice Level 3      | Mar 2023   | Replace     | ACAP 3002 | Auto Body and Collision Technician Level 3                             | Apr 2023       |                 |
|           |  |            | New         | ACAP 3003 | Auto Body and Collision Technician Level 3 (E-pprentice)               | Apr 2023       |                 |
|           |  |            | New         | ACAP 4002 | Auto Body and Collision Technician Level 4                             | Apr 2024       |                 |
|           |  |            | New         | ACAP 4003 | Auto Body and Collision Technician Level 4 (E-pprentice)               | Apr 2024       |                 |
| APAP 2001 | Auto Paint and Refinish Technician Apprentice            | Mar 2022   | Replace     | APAP 2002 | Automotive Refinishing Technician Level 2                              | Apr 2022       |                 |
|           |  |            | New         | APAP 2003 | Automotive Refinishing Technician Level 2 (E-pprentice)                | Apr 2022       |                 |

### Student Transitions and Gap Training

As per the ITA, students who have completed levels in the current program will transition directly to the new program as the new training levels are added each year (See Appendix for timelines). Specific gap training will be provided for each transition as course co-requisites in Levels 2 and 3 and will require successful completion during the course. Gap training modules will be offered as a combination of self-paced online studies, and face-to-face instruction.

- Old Auto Collision Repair Technician Level 1 completers ---> Harmonized Collision Level 2 (Must complete 14-hour gap training).
- Old Auto Collision Repair Technician Level 2 completers ---> Harmonized Collision Level 3 (Must complete 36-hour gap training).
- Old Auto Refinishing Prep Technician ---> Harmonized Refinishing Level 2 (Must complete 8-hour gap training).

Effective dates for new courses and deactivation dates for old curriculum correspond to ITA transition timelines.

Appendix – ITA Transition Timelines

Automotive Refinish Prep/Paint:

| Implementation Timelines              |               |
|---------------------------------------|---------------|
| Harmonized Level 1 (HL1) Common Core* | April 1, 2021 |
| Harmonized Level 2 (HL2)              | April 1, 2022 |

|                 |                               |                                       |
|-----------------|-------------------------------|---------------------------------------|
| Year 0<br>20/21 | CL1<br>4 weeks                | CL2                                   |
| Year 1<br>21/22 | HL1<br>Common Core<br>7 weeks | CL2                                   |
| Year 2<br>22/23 | HL1<br>Common Core<br>7 weeks | HL2<br>3 weeks<br>TP support<br>1 day |
| Year 3<br>23/24 | HL1<br>Common Core<br>7 weeks | HL2<br>3 weeks<br>TP support<br>1 day |
| Year 4<br>24/25 | HL1<br>Common Core<br>7 weeks | HL2<br>3 weeks                        |

Automotive Collision Repair:

| Implementation Timelines              |               |
|---------------------------------------|---------------|
| Harmonized Level 1 (HL1) Common Core* | April 1, 2021 |
| Harmonized Level 2 (HL2)              | April 1, 2022 |
| Harmonized Level 3 (HL3)              | April 1, 2023 |
| Harmonized Level 4 (HL4)              | April 1, 2024 |

|                 |                               |  |  |                |
|-----------------|-------------------------------|--|--|----------------|
| Year 0<br>20/21 | CL1<br>5 weeks                | CL2<br>5 weeks                         | CL3<br>6 weeks                             |                |
| Year 1<br>21/22 | HL1<br>Common Core<br>7 weeks | CL2<br>5 weeks                         | CL3<br>6 weeks                             |                |
| Year 2<br>22/23 | HL1<br>Common Core<br>7 weeks | HL2<br>6 weeks<br>TP support<br>2 days | CL3<br>6 weeks                             |                |
| Year 3<br>23/24 | HL1<br>Common Core<br>7 weeks | HL2<br>6 weeks<br>TP support<br>2 days | HL3<br>6 weeks<br>Gap B Training<br>1 week |                |
| Year 4<br>24/25 | HL1<br>Common Core<br>7 weeks | HL2<br>6 weeks                         | HL3<br>6 weeks<br>Gap B Training<br>1 week | HL4<br>6 weeks |
| Year 5<br>24/25 | HL1<br>Common Core<br>7 weeks | HL2<br>6 weeks                         | HL3<br>6 weeks                             | HL4<br>6 weeks |



# Course Change Request

## New Course Proposal

Date Submitted: 11/04/20 10:47 am

Viewing: **ACRP 1102 : Auto Coll & Ref Appr Lvl 1 (E)**

Last edit: 12/01/20 11:20 am

Changes proposed by: rpopow

Course Name:

Automotive Collision & Refinish Common Core Apprentice Lvl 1 (E-pprentice)

Effective Date: April 2021

School/Centre: Trades, Technology & Design

Department: Auto Collision Apprenticeship (4314)

Contact(s)

### In Workflow

1. **4314 Leader**
2. **CTT Dean**
3. **Curriculum Committee Chair**
4. **EDCO Chair**
5. Records
6. Banner

### Approval Path

1. 11/06/20 9:31 am  
Keith Mew (kmew):  
Approved for 4314  
Leader
2. 11/09/20 2:36 pm  
Brett Griffiths  
(bgriffiths):  
Approved for CTT  
Dean
3. 12/01/20 11:47 am  
Todd Rowlatt  
(trowlatt): Approved  
for Curriculum  
Committee Chair

| Name        | E-mail        | Phone/Ext.   |
|-------------|---------------|--------------|
| Robin Popow | rpopow@vcc.ca | 604-313-0556 |

Banner Course Name: Auto Coll & Ref Appr Lvl 1 (E)

Subject Code: ACRP - Auto Collision Refinishing Appren

Course Number: 1102

Year of Study: 1st Year Post-secondary

Credits: 9

**Course Description:**

This E-pprentice/alternate delivery course provides the Level 1 technical training component of the Provincial Auto Body and Collision Technician apprentice program and the Automotive Refinishing Technician apprentice program. It requires only 3-weeks of on-campus training as opposed to the 7-week traditional course format. This is made possible with self-paced online studies, workplace assignments, and focused competency-based on-campus experience. Note: On-campus training may be delivered in multiple sessions.

In this course students learn about occupational safety, tools and equipment, welding/cutting/heating processes, organization and documentation, metal and plastics repair and replacement, automobile construction and surface preparation/refinishing.

Students achieving a VCC grade of 70% or greater are eligible for the ITA Standardized Written Exam. The VCC training grade is blended with the ITA Exam mark at 80%/20% to determine an overall final grade.

Students achieving a blended grade of 70% or greater are eligible to:

- receive ITA Technical Training credit for Automotive Collision Repair Level 1
- advance to Auto Body and Collision Technician Level 2
- advance to Automotive Refinishing Technician Level 2

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

Students must be registered apprentices in the Automotive Collision, Refinishing Prep, or Refinishing Technician trades with the Industry Training Authority of B.C. (ITA) and have received an Apprentice Identification number.

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

No

**Course Learning****Outcomes (CLO):**

| <b>Upon successful completion of this course, students will be able to:</b> |   |
|---|---|
| CLO #1  | Adhere to industry health and safety standards in the repair and reconditioning of automotive vehicles (A1-A2). |



| <b>Upon successful completion of this course, students will be able to:</b> |  |
|---|--|
| CLO #2  | Maintain tools and equipment to ensure top performance, safety and environmental compliance (B1-B7).                                 |
| CLO #3  | Perform cutting, welding and heating processes to industry and vehicle manufacturers' standards (C1-C3).                             |
| CLO #4  | Analyze vehicle conditions and documentation to develop organized repair plans (D1-D4).  |
| CLO #5  | Use communication techniques to build and maintain professional industry and customer relations (E1).                                |
| CLO #6  | Remove and install vehicle components to manufacturers fit and finish standards (F1-F3).   |
| CLO #7  | Prepare surfaces for refinishing accounting for substrate conditions and manufacturers' specifications (G1-G4).                      |
| CLO #8  | Use repair materials and equipment in preparation for top-coat application in accordance with manufacturers' specifications (H1-H4). |
| CLO #9  | Perform top-coating procedures to achieve a variety of original equipment (OE) finishes (I1-I4).                                     |
| CLO #10   | Remove, repair and install metal panels and components to original contour, fit and finish (K1-K5).                                  |
| CLO #11   | Remove, repair and install plastic panels and components and composites to original contour, fit and finish (L1-L5).                 |
| CLO #12   | Perform automotive detailing tasks and inspect repaired vehicles according to quality assurance standards (M1-M2).                   |

### Instructional

#### Strategies:

This course provides a wide range of opportunities for student learning including:

- Scheduled and self-paced online theory assignments,
- online group discussions and videoconferencing,
- real work assignment to be performed in the workplace,
- hands-on practical lessons and performance evaluations on-campus.

#### Attendance and Participation

Given the industrial nature of this course professional and safe work practice is of critical importance. A student may be withdrawn from the course for safety concerns and/or an inability to meet professional practice standards due to inadequate attendance.

Excused absences are those reported in advance of a scheduled class, wherever possible, or if appropriate documentation can be provided for the time missed. Other absences will be reported as unexcused, and an excess of unexcused absences may result in a student being withdrawn from the course.

## Evaluation and Grading

---

Grading System: Percentages-ITA  
70

Passing grade:

Evaluation Plan:

| Type          | Percentage | Brief description of assessment activity                 |
|---------------|------------|--|
| Quizzes/Tests | 40         | Formative theory quizzes                                 |
| Final Exam    | 20         | Summative theory exam                                    |
| Assignments   | 40         | Workplace assignment and on-campus practical evaluations |

## Hours by Learning Environment Type

---

Lecture, Seminar, Online

20

Lab, Clinical, Shop, Kitchen,  
Studio, Simulation

90

Practicum 40

Self Paced / Individual Learning

120

Course Topics

### Course Topics:

Occupational Safety

Tools and Equipment

Oxyacetylene Heating and Cutting Procedures

Gas Metal Arc Welding Steel Sheet Metal

Work Organization, Repair Plans and Communications

**Course Topics:**

Auto Body Construction and Components

Sheet Metal Repair and Replacement

Plastics and Composites

Refinish Coatings

Surface Preparation

Refinish Application

Vehicle Detailing and Quality Control

Learning Resources (textbooks, lab/shop manuals, equipment, etc.):

## 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

ACRP 1101 (Curriculum Committee approval Oct, 2020)

### Additional Information

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Provide any additional information if necessary.

See attached for updated proposal.

Supporting  
documentation:

[Collision and Refinishing Apprentice Training - Proposal-Detail of Changes Nov2020.pdf](#)

Reviewer

Comments

# Course Change Request

## New Course Proposal

Date Submitted: 11/04/20 10:48 am

Viewing: **ACAP 2002 : Auto Body Tech Appr Lvl 2**

Last edit: 12/01/20 10:29 am

Changes proposed by: rpopow

Course Name:

Auto Body and Collision Technician Apprentice Level 2

Effective Date:

April 2022

School/Centre:

Trades, Technology & Design

Department:

Auto Collision Apprenticeship (4314)

Contact(s)

### In Workflow

1. **4314 Leader**
2. **CTT Dean**
3. **Curriculum  
Committee Chair**
4. **EDCO Chair**
5. Records
6. Banner

### Approval Path

1. 11/04/20 2:50 pm  
Keith Mew (kmew):  
Approved for 4314  
Leader
2. 11/05/20 8:06 am  
Brett Griffiths  
(bgriffiths):  
Approved for CTT  
Dean
3. 12/01/20 11:46 am  
Todd Rowlatt  
(trowlatt): Approved  
for Curriculum  
Committee Chair

| Name        | E-mail        | Phone/Ext.   |
|-------------|---------------|--------------|
| Robin Popow | rpopow@vcc.ca | 604-313-0556 |

Banner Course  
Name:

Auto Body Tech Appr Lvl 2

Subject Code:

ACAP - Auto Collision Repair Appren

Course Number

2002

Year of Study

1st Year Post-secondary

Credits: 8

#### Course Description:

This course provides the Level 2 technical training component of the provincial Auto Body and Collision Technician apprentice program.

Students learn about vehicle construction and components, corrosion protection, complex sheet metal repair and door skin replacement, aluminum MIG welding and panel repair, and refinishing environments and materials. A focus is placed on workplace organization and repair planning throughout the course.

Students achieving a VCC grade of 70% or greater are eligible for the ITA Standardized Written Exam. The VCC training grade is blended with the ITA Exam mark at 80%/20% to determine an overall final grade.

Students achieving a blended grade of 70% or greater are eligible to:

- receive ITA Technical Training credit for Auto Body and Collision Technician Level 2
- advance to Auto Body and Collision Technician Level 3

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

Students must be registered with the Industry Training Authority of B.C. (ITA) and have received an Apprentice Identification number; and have completed:

Automotive Collision Refinishing Common Core Level 1 (Harmonized), or  
Automotive Collision and Refinish Foundation (Harmonized), or  
Automotive Collision Repair Technician Level 1 (pre-April 2021)\*, or  
Automotive Collision Repair Foundation Certificate (pre-April 2021)\*

\*Note: Students transitioning from the pre-April 2021 MVBR program are subject to a co-requisite for this course. Please refer to Course Co-requisites.

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

Students transitioning from the pre-April 2021 MVBR program (Automotive Collision Repair Technician Level 1 or Automotive Collision Repair Foundation Certificate) are subject to a gap-training module as a co-requisite for this course. This 14-hour module may include online self-study material and additional face-to-face instruction, and must be successfully completed during this course.

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

No

Course Learning  
Outcomes (CLO):

| <b>Upon successful completion of this course, students will be able to:</b> |  |
|---|--|
| CLO #1  | Use lifting equipment according to manufacturers' procedures in accordance with government safety regulations (B2).  |
| CLO #2  | Use and maintain spray and mixing equipment according to manufacturers' procedures in accordance with government safety regulations (B4-B5).   |
| CLO #3  | Perform lap and plug welding processes on aluminum sheet metal to industry standards using MIG welding equipment (C2).   |
| CLO #4  | Maintain equipment used for non-ferrous welding processes (C3).  |
| CLO #5  | Organize parts, materials and work area to meet workflow time management goals (D1).   |
| CLO #6  | Prepare detailed repair plan based on a given work order with reference to repair sequence, parts and materials availability, and production deadlines (D5).                           |
| CLO #7  | Describe spray booth setup, maintenance and troubleshooting (H2).  |
| CLO #8  | Perform spray gun setup and troubleshooting (H3).  |
| CLO #9  | Mix various refinishing materials according to paint and vehicle manufacturers' recommendations and in accordance with government safety regulations (I1).                             |
| CLO #10   | Describe single-stage paint application troubleshooting (I3).  |
| CLO #11   | Describe applying and blending basecoat/clearcoat and multistage paint (I4).   |
| CLO #12   | Describe colour adjustment theory and techniques (I6).   |
| CLO #13   | Identify and describe the removal of surface imperfections (J2).   |
| CLO #14   | Analyze damage to non-ferrous metals and high strength steel used in vehicle construction (K1).  |
| CLO #15   | Repair metal panels and components including: complex steel sheet metal damage, door skin replacement, and aluminum sheet metal damage (K4).   |
| CLO #16   | Remove, repair and install various composite panels to vehicle and product manufacturers' recommendations in accordance with government safety regulations (L1-L5).                    |
| CLO #17   | Apply corrosion protection, seam sealers and sound deadeners according to vehicle and product manufacturers' recommendations in accordance with government safety regulations (O1-O2). |
| CLO #18   | Remove and install structural glass (R1-R2).   |
| CLO #19   | Repair laminated glass (R3).   |
| CLO #20   | Remove and install non-structural glass (S1-S2).   |

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

|         |  |
|---------|--|
| CLO #21 | Remove, repair and install various interior components to vehicle and product manufacturers' recommendations and industry standards (W1-W2). |
|---------|--|

### Instructional

#### Strategies:

This course provides a wide range of opportunities for student learning in classroom and shop settings. In addition to hands-on practical experience at VCC's own state of the art automotive collision repair and refinishing facility learning activities such as lectures, demonstrations, individual and group project based learning strategies may be used throughout the course. Students may access learning materials and course evaluations using VCC's online course management system.

#### Attendance and Participation

Given the industrial nature of this course professional and safe work practice is of critical importance. A student may be withdrawn from the course for safety concerns and/or an inability to meet professional practice standards due to inadequate attendance.

Excused absences are those reported in advance of a scheduled class, wherever possible, or if appropriate documentation can be provided for the time missed. Other absences will be reported as unexcused, and an excess of unexcused absences may result in a student being withdrawn from the course.

## Evaluation and Grading

---

Grading System: Percentages-ITA  
70%

Passing grade:

#### Evaluation Plan:

| Type          | Percentage | Brief description of assessment activity |
|---------------|------------|--|
| Quizzes/Tests | 30         | Formative theory quizzes                 |
| Exam          | 20         | Summative theory exams                   |
| Assignments   | 50         | In-shop practical evaluations            |

## Hours by Learning Environment Type

---

Lecture, Seminar, Online

100

Lab, Clinical, Shop, Kitchen,  
Studio, Simulation

80

Practicum

Self Paced / Individual Learning

### Course Topics

#### Course Topics:

Lifting Equipment Use and Maintenance

- Anchoring equipment installation
- Specialty equipment

Aluminum MIG Welding and Equipment

Repair Planning for Workflow and Time Management

Refinishing Equipment Use, Maintenance and Troubleshooting:

- Spray Equipment
- Mixing Equipment
- Solvent Recycling
- Spray Booth

Corrosion Protection, Seam Sealers and Sound Deadeners

Interior Components

Metal Panel Repair:

- Complex Steel Sheet Metal Repairs
- Door Skin Replacement
- Aluminum Sheet Metal Repairs

Composite Panel Repairs and Replacement

Automotive Glass:

- Structural Glass
- Non-structural Glass
- Laminated Glass Repairs

Refinishing Materials:

- Single-Stage, Basecoat/Clearcoat and Multistage Paint
- Colour Adjustment Theory and Techniques
- Surface Imperfections Identification and Removal



# Course Change Request

## New Course Proposal

Date Submitted: 11/04/20 10:49 am

Viewing: **ACAP 2003 : Auto Body Tech Appr Lvl 2 (E)**

Last edit: 12/01/20 11:08 am

Changes proposed by: rpopow

Course Name:

Auto Body and Collision Technician Level 2 (E-pprentice)

Effective Date:

April 2022

School/Centre:

Trades, Technology & Design

Department:

Auto Collision Apprenticeship (4314)

Contact(s)

### In Workflow

1. **4314 Leader**
2. **CTT Dean**
3. **Curriculum Committee Chair**
4. **EDCO Chair**
5. Records
6. Banner

### Approval Path

1. 11/04/20 2:58 pm  
Keith Mew (kmew):  
Approved for 4314  
Leader
2. 11/05/20 8:06 am  
Brett Griffiths  
(bgriffiths):  
Approved for CTT  
Dean
3. 12/01/20 11:46 am  
Todd Rowlatt  
(trowlatt): Approved  
for Curriculum  
Committee Chair

| Name        | E-mail        | Phone/Ext.   |
|-------------|---------------|--------------|
| Robin Popow | rpopow@vcc.ca | 604-313-0556 |

Banner Course  
Name:

Auto Body Tech Appr Lvl 2 (E)

Subject Code:

ACAP - Auto Collision Repair Appren

Course Number

2003

Year of Study

1st Year Post-secondary

Credits: 9

#### Course Description:

This E-pprentice/alternate delivery course provides the Level 2 technical training component of the Provincial Auto Body and Collision Technician program. Using alternate delivery methods, this course requires only 2 weeks of on-campus training as opposed to the 5-week traditional course format. This is made possible with self-paced online studies, workplace assignments, and focused competency-based on-campus experience. Note: On-campus training may be delivered in multiple sessions.

Students learn about vehicle construction and components, corrosion protection, complex sheet metal repair and door skin replacement, aluminum MIG welding and panel repair, and refinishing environments and materials. A focus is placed on workplace organization and repair planning throughout the course.

Students achieving a VCC grade of 70% or greater are eligible for the ITA Standardized Written Exam. The VCC training grade is blended with the ITA Exam mark at 80%/20% to determine an overall final grade.

Students achieving a blended grade of 70% or greater are eligible to:

- receive ITA Technical Training credit for Auto Body and Collision Technician Level 2
- advance to Auto Body and Collision Technician Level 3

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

Students must be registered with the Industry Training Authority of B.C. (ITA) and have received an Apprenticeship Identification number; and have completed:

Automotive Collision Refinishing Common Core Level 1 (Harmonized), or  
Automotive Collision and Refinish Foundation (Harmonized), or  
Automotive Collision Repair Technician Level 1 (pre-April 2021)\*, or  
Automotive Collision Repair Foundation Certificate (pre-April 2021)\*

\*Note: Students transitioning from the pre-April 2021 MVBR program are subject to a co-requisite for this course. Please refer to Course Co-requisites.

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

Students transitioning from the pre-April 2021 MVBR program (Automotive Collision Repair Technician Level 1 or Automotive Collision Repair Foundation Certificate) are subject to a gap-training module as a co-requisite for this course. This 14-hour module may include online self-study material and additional face-to-face instruction, and must be successfully completed during this course.

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

No

## Course Learning

## Outcomes (CLO):

|         | <b>Upon successful completion of this course, students will be able to:</b>  |
|---------|--|
| CLO #1  | Use lifting equipment according to manufacturers' procedures in accordance with government safety regulations (B2).  |
| CLO #2  | Use and maintain spray and mixing equipment according to manufacturers' procedures in accordance with government safety regulations (B4-B5).   |
| CLO #3  | Perform lap and plug welding processes on aluminum sheet metal to industry standards using MIG welding equipment (C2).   |
| CLO #4  | Maintain equipment used for non-ferrous welding processes (C3).  |
| CLO #5  | Organize parts, materials and work area to meet workflow time management goals (D1).   |
| CLO #6  | Prepare detailed repair plan based on a given work order with reference to repair sequence, parts and materials availability, and production deadlines (D5).                           |
| CLO #7  | Describe spray booth setup, maintenance and troubleshooting (H2).  |
| CLO #8  | Perform spray gun setup and troubleshooting (H3).  |
| CLO #9  | Mix various refinishing materials according to paint and vehicle manufacturers' recommendations and in accordance with government safety regulations (I1).                             |
| CLO #10 | Describe single-stage paint application troubleshooting (I3).  |
| CLO #11 | Describe applying and blending basecoat/clearcoat and multistage paint (I4).   |
| CLO #12 | Describe colour adjustment theory and techniques (I6).   |
| CLO #13 | Identify and describe the removal of surface imperfections (J2).   |
| CLO #14 | Analyze damage to non-ferrous metals and high strength steel used in vehicle construction (K1).  |
| CLO #15 | Repair metal panels and components including: complex steel sheet metal damage, door skin replacement, and aluminum sheet metal damage (K4).   |
| CLO #16 | Remove, repair and install various composite panels to vehicle and product manufacturers' recommendations in accordance with government safety regulations (L1-L5).                    |
| CLO #17 | Apply corrosion protection, seam sealers and sound deadeners according to vehicle and product manufacturers' recommendations in accordance with government safety regulations (O1-O2). |
| CLO #18 | Remove and install structural glass (R1-R2).   |

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

|         |  |
|---------|--|
| CLO #19 | Repair laminated glass (R3).   |
| CLO #20 | Remove and install non-structural glass (S1-S2).   |
| CLO #21 | Remove, repair and install various interior components to vehicle and product manufacturers' recommendations and industry standards (W1-W2). |

**Instructional Strategies:**

This course provides a wide range of opportunities for student learning including:

- Scheduled and self-paced online theory assignments,
- online group discussions and videoconferencing,
- real work assignment to be performed in the workplace,
- hands-on practical lessons and performance evaluations on-campus.

**Attendance and Participation**

Given the industrial nature of this course professional and safe work practice is of critical importance. A student may be withdrawn from the course for safety concerns and/or an inability to meet professional practice standards due to inadequate attendance.

Excused absences are those reported in advance of a scheduled class, wherever possible, or if appropriate documentation can be provided for the time missed. Other absences will be reported as unexcused, and an excess of unexcused absences may result in a student being withdrawn from the course.

## Evaluation and Grading

---

Grading System: Percentages-ITA  
70%

Passing grade:

**Evaluation Plan:**

| Type          | Percentage | Brief description of assessment activity      |
|---------------|------------|---|
| Quizzes/Tests | 30         | Formative theory quizzes                      |
| Exam          | 20         | Summative theory exams                        |
| Assignments   | 50         | Workplace and on-campus practical assignments |

## Hours by Learning Environment Type

---

Lecture, Seminar, Online

20

Lab, Clinical, Shop, Kitchen,  
Studio, Simulation

60

Practicum

20

Self Paced / Individual Learning

150

### Course Topics

#### Course Topics:

Lifting Equipment Use and Maintenance

- Anchoring equipment installation
- Specialty equipment

Aluminum MIG Welding and Equipment

Repair Planning for Workflow and Time Management

Refinishing Equipment Use, Maintenance and Troubleshooting:

- Spray Equipment
- Mixing Equipment
- Solvent Recycling
- Spray Booth

Corrosion Protection, Seam Sealers and Sound Deadeners

Interior Components

Metal Panel Repair:

- Complex Steel Sheet Metal Repairs
- Door Skin Replacement
- Aluminum Sheet Metal Repairs

Composite Panel Repairs and Replacement

Automotive Glass:

- Structural Glass
- Non-structural Glass
- Laminated Glass Repairs

**Course Topics:**

## Refinishing Materials:

- Single-Stage, Basecoat/Clearcoat and Multistage Paint
- Colour Adjustment Theory and Techniques
- Surface Imperfections Identification and Removal

Learning Resources (textbooks, lab/shop manuals, equipment, etc.):

## 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

See ACRP 1102 for attached updated proposal.

### Additional Information

---

Provide any additional information if necessary.

Supporting  
documentation:

Reviewer  
Comments

## Marketing Information

---

*FOR MARKETING PURPOSES ONLY. NOT REQUIRED FOR GOVERNANCE APPROVAL.*

*This section is used by Marketing to help populate course information on the website. If you have any questions about this section, contact [webmaster@vcc.ca](mailto:webmaster@vcc.ca).*

# Course Change Request

## New Course Proposal

Date Submitted: 11/04/20 10:52 am

Viewing: **ACAP 3002 : Auto Body Tech Appr Lvl 3**

Last edit: 12/01/20 11:10 am

Changes proposed by: rpopow

Course Name:

Auto Body and Collision Technician Apprentice Level 3

Effective Date:

April 2023

School/Centre:

Trades, Technology & Design

Department:

Auto Collision Apprenticeship (4314)

Contact(s)

### In Workflow

1. **4314 Leader**
2. **CTT Dean**
3. **Curriculum Committee Chair**
4. **EDCO Chair**
5. Records
6. Banner

### Approval Path

1. 11/05/20 11:33 am  
Keith Mew (kmew):  
Approved for 4314  
Leader
2. 11/05/20 11:57 am  
Brett Griffiths  
(bgriffiths):  
Approved for CTT  
Dean
3. 12/01/20 11:46 am  
Todd Rowlatt  
(trowlatt): Approved  
for Curriculum  
Committee Chair

| Name        | E-mail        | Phone/Ext.   |
|-------------|---------------|--------------|
| Robin Popow | rpopow@vcc.ca | 604-313-0556 |

Banner Course  
Name:

Auto Body Tech Appr Lvl 3

Subject Code:

ACAP - Auto Collision Repair Appren

Course Number

3002

Year of Study

1st Year Post-secondary

Credits: 8

#### Course Description:

This course provides the Level 3 technical training component of the provincial Auto Body and Collision Technician apprentice program.

In this course students learn to prepare for structural repairs including structural measuring and component removal. Advanced welding is a focus including squeeze-type resistance spot welding (STRSW), bronze welding, and multi-position steel structural welding. Students receive hands-on training for repair, replacement, and sectioning procedures for welded-on, weld-bonded and rivet-bonded body panels. Mechanical components such as; heating, cooling, climate control, powertrain, exhaust, fuel systems and the deactivation/reactivation of alternate fuel systems are also addressed. Additionally, basic electrical component diagnosis and repair, supplemental restrain systems, pre/post-scanning, damage estimating, and final inspections are explored.

Students achieving a VCC grade of 70% or greater are eligible for the ITA Standardized Written Exam. The VCC training grade is blended with the ITA Exam mark at 80%/20% to determine an overall final grade.

Students achieving a blended grade of 70% or greater are eligible to:

- receive ITA Technical Training credit for Auto Body and Collision Technician Level 3
- advance to Auto Body and Collision Technician Level 4

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

Students must be registered with the Industry Training Authority of B.C. (ITA) and have received an Apprentice Identification number; and

ACAP 2002 Auto Body and Collision Technician Apprentice Level 2, or  
ACAP 2003 Auto Body and Collision Technician Apprentice Level 2 (E-pprentice), or  
ACAP 2001 Automotive Collision Repair Technician Level 2 (pre-April 2021)\*

\*Note: Students transitioning from the pre-April 2021 MVBR program are subject to a co-requisite for this course. Please refer to Course Co-requisites.

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

Students transitioning from the pre-April 2021 MVBR program (Automotive Collision Repair Technician Level 2) are subject to a gap-training module as a co-requisite for this course. This 36-hour module may include online self-study material and additional face-to-face instruction, and must be successfully completed during this course.



## PLAR (Prior Learning Assessment &amp; Recognition)

No

Course Learning  
Outcomes (CLO):

|         | <b>Upon successful completion of this course, students will be able to:</b>  |
|---------|--|
| CLO #1  | Maintain frame and unibody repair and measuring equipment (B8).  |
| CLO #2  | Identify, diagnose and clear fault codes, calibrate systems, and confirm repairs using scan tools (B9).  |
| CLO #3  | Perform various GMAW, STRSW and Silicone Bronze welds to industry standard visual and destructive testing criterion (C2).  |
| CLO #4  | Create repair estimate and supplements with accuracy using industry software (D6).   |
| CLO #5  | Perform and document various pre and post repair vehicle inspections (N1).   |
| CLO #6  | Identify types and patterns of structural and non-structural damage (P1).  |
| CLO #7  | Remove components in preparation for structural repairs (P2).  |
| CLO #8  | Perform anchoring process for a unibody vehicle in preparation for structural pulling (P3).  |
| CLO #9  | Describe structural repair considerations, equipment, realignment and stress relieving procedures (Q1).  |
| CLO #10 | Perform structural panel removal procedure according to Perform structural panel removal procedures according to vehicle manufacturers' recommendations and industry standards (Q2). |
| CLO #11 | Perform welded-on structural panel sectioning procedure according to vehicle manufacturers' recommendations and industry standards (Q3).   |
| CLO #12 | Describe alternate fuel system deactivation and reactivation according to vehicle manufacturers' recommendations and government safety regulations (T1-T2).                          |
| CLO #13 | Identify fundamentals of heating and cooling system and components (U1).   |
| CLO #14 | Identify safe handling procedures of air conditioning system components (U1).  |
| CLO #15 | Identify fundamentals of powertrain systems and components (U2).   |
| CLO #16 | Describe removal and installation of mechanical components (U4-U5).  |
| CLO #17 | Identify fundamentals of electrical systems and components (V1).   |
| CLO #18 | Describe removal and installation of electrical components (V2, V4).   |
| CLO #19 | Repair damaged wires and protective coverings and service low-voltage battery (V3).  |
| CLO #20 | Describe electronic components, locations and considerations (V5).   |

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

|         |  |
|---------|--|
| CLO #21 | Describe servicing seat belt restraint systems (X1).   |
| CLO #22 | Describe servicing air bags and related components according to vehicle manufacturers' recommendations and industry safety standards (X2). |

#### Instructional

##### Strategies:

This course provides a wide range of opportunities for student learning in classroom and shop settings. In addition to hands-on practical experience at VCC's own state of the art automotive collision repair and refinishing facility learning activities such as lectures, demonstrations, individual and group project based learning strategies may be used throughout the course. Students may access learning materials and course evaluations using VCC's online course management system.

##### Attendance and Participation

Given the industrial nature of this course professional and safe work practice is of critical importance. A student may be withdrawn from the course for safety concerns and/or an inability to meet professional practice standards due to inadequate attendance.

Excused absences are those reported in advance of a scheduled class, wherever possible, or if appropriate documentation can be provided for the time missed. Other absences will be reported as unexcused, and an excess of unexcused absences may result in a student being withdrawn from the course.

## Evaluation and Grading

---

Grading System: Percentages-ITA  
70%

Passing grade:

#### Evaluation Plan:

| Type          | Percentage | Brief description of assessment activity |
|---------------|------------|--|
| Quizzes/Tests | 30         | Formative theory quizzes                 |
| Exam          | 20         | Summative theory exams                   |
| Assignments   | 50         | In-shop practical evaluations            |

## Hours by Learning Environment Type

---

Lecture, Seminar, Online

120

Lab, Clinical, Shop, Kitchen,  
Studio, Simulation

60

Practicum

Self Paced / Individual Learning

### Course Topics

#### Course Topics:

Measuring Equipment, Use and Calibration

Pre and Post-Scanning

Advanced Welding:

- Aluminum GMA (MIG) Welding
- MIG Brazing
- Squeeze-Type Resistance Spot Welding (STRSW)
- Structural Steel Welding

Damage Analysis and Estimating Writing

Pre-Delivery Inspections and Quality Assurance

Structural Repair Preparations:

- Structural Damage Analysis
- Characteristics of Structural Metals
- Anchoring for Structural Pulling (Unibody)

Welded-On Panel Repair and Replacement

- Structural Sectioning
- Weld-Bonding
- Rivet-Bonding

Mechanical Components:

- Heating, Cooling, and Air Conditioning Systems
- Powertrain Components, Exhaust and Fuel Systems

Electrical Components:

- Basic Electricity and Component Testing
- Simple Circuit Diagnosis
- Introduction to Advanced Vehicle Systems

**Course Topics:**

## Supplemental Restraint Systems:

- Seat Belt Restraints
- Air Bags and Systems

Learning Resources (textbooks, lab/shop manuals, equipment, etc.):

## 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

See ACRP 1102 for attached updated proposal.

### Additional Information

---

Provide any additional information if necessary.

Effective Date should be April, 2023

Supporting  
documentation:

Reviewer  
Comments

## Marketing Information

---

*FOR MARKETING PURPOSES ONLY. NOT REQUIRED FOR GOVERNANCE APPROVAL.*

*This section is used by Marketing to help populate course information on the website. If you have any questions about this section, contact [webmaster@vcc.ca](mailto:webmaster@vcc.ca).*

Make Available on Website:

# Course Change Request

## New Course Proposal

Date Submitted: 11/04/20 10:53 am

Viewing: **ACAP 3003 : Auto Body Tech Appr Lvl 3 (E)**

Last edit: 12/01/20 11:16 am

Changes proposed by: rpopow

Course Name:

Auto Body and Collision Technician Apprenticeship Level 3 (E-pprentice)

Effective Date: April 2023

School/Centre: Trades, Technology & Design

Department: Auto Collision Apprenticeship (4314)

Contact(s)

### In Workflow

1. **4314 Leader**
2. **CTT Dean**
3. **Curriculum Committee Chair**
4. **EDCO Chair**
5. Records
6. Banner

### Approval Path

1. 11/05/20 3:17 pm  
Keith Mew (kmew):  
Approved for 4314  
Leader
2. 11/05/20 3:29 pm  
Brett Griffiths  
(bgriffiths):  
Approved for CTT  
Dean
3. 12/01/20 11:47 am  
Todd Rowlett  
(trowlatt): Approved  
for Curriculum  
Committee Chair

| Name        | E-mail        | Phone/Ext.   |
|-------------|---------------|--------------|
| Robin Popow | rpopow@vcc.ca | 604-313-0556 |

Banner Course Name: Auto Body Tech Appr Lvl 3 (E)

Subject Code: ACAP - Auto Collision Repair Appren

Course Number: 3003

Year of Study: 1st Year Post-secondary

Credits: 9

#### Course Description:

This E-pprentice/alternate delivery course provides the Level 3 technical training component of the Provincial Auto Body and Collision Technician apprentice program. It requires only 2 weeks of on-campus training as opposed to the 5 week traditional course format. This is made possible with self-paced online studies, workplace assignments, and focused competency-based on-campus experience. Note: On-campus training may be delivered in multiple sessions.

In this course students learn to prepare for structural repairs including structural measuring and component removal. Advanced welding is a focus including squeeze-type resistance spot welding (STRSW), bronze welding, and multi-position steel structural welding. Students receive hands-on training for repair, replacement, and sectioning procedures for welded-on, weld-bonded and rivet-bonded body panels. Mechanical components such as; heating, cooling, climate control, powertrain, exhaust, fuel systems and the deactivation/reactivation of alternate fuel systems are also addressed. Additionally, basic electrical component diagnosis and repair, supplemental restrain systems, pre/post-scanning, damage estimating, and final inspections are explored.

Students achieving a VCC grade of 70% or greater are eligible for the ITA Standardized Written Exam. The VCC training grade is blended with the ITA Exam mark at 80%/20% to determine an overall final grade.

Students achieving a blended grade of 70% or greater are eligible to:

- receive ITA Technical Training credit for Auto Body and Collision Technician Level 3
- advance to Auto Body and Collision Technician Level 4

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

Students must be registered with the Industry Training Authority of B.C. (ITA) and have received an Apprentice Identification number; and

ACAP 2002 Auto Body and Collision Technician Apprentice Level 2, or  
ACAP 2003 Auto Body and Collision Technician Apprentice Level 2 (E-pprentice), or  
ACAP 2001 Automotive Collision Repair Technician Level 2 (pre-April 2021)\*

\*Note: Students transitioning from the pre-April 2021 MVBR program are subject to a co-requisite for this course. Please refer to Course Co-requisites.

## Course Co-requisites (if applicable):

Students transitioning from the pre-April 2021 MVBR program (Automotive Collision Repair Technician Level 2) are subject to a gap-training module as a co-requisite for this course. This 36-hour module may include online self-study material and additional face-to-face instruction, and must be successfully completed during this course.

## PLAR (Prior Learning Assessment &amp; Recognition)

No

## Course Learning

## Outcomes (CLO):

|         | <b>Upon successful completion of this course, students will be able to:</b>  |
|---------|--|
| CLO #1  | Maintain frame and unibody repair and measuring equipment (B8).  |
| CLO #2  | Identify, diagnose and clear fault codes, calibrate systems, and confirm repairs using scan tools (B9).  |
| CLO #3  | Perform various GMAW, STRSW and Silicone Bronze welds to industry standard visual and destructive testing criterion (C2).  |
| CLO #4  | Create repair estimate and supplements with accuracy using industry software (D6).   |
| CLO #5  | Perform and document various pre and post repair vehicle inspections (N1).   |
| CLO #6  | Identify types and patterns of structural and non-structural damage (P1).  |
| CLO #7  | Remove components in preparation for structural repairs (P2).  |
| CLO #8  | Perform anchoring process for a unibody vehicle in preparation for structural pulling (P3).  |
| CLO #9  | Describe structural repair considerations, equipment, realignment and stress relieving procedures (Q1).  |
| CLO #10 | Perform structural panel removal procedure according to Perform structural panel removal procedures according to vehicle manufacturers' recommendations and industry standards (Q2). |
| CLO #11 | Perform welded-on structural panel sectioning procedure according to vehicle manufacturers' recommendations and industry standards (Q3).   |
| CLO #12 | Describe alternate fuel system deactivation and reactivation according to vehicle manufacturers' recommendations and government safety regulations (T1-T2).                          |
| CLO #13 | Identify fundamentals of heating and cooling system and components (U1).   |
| CLO #14 | Identify safe handling procedures of air conditioning system components (U1).  |
| CLO #15 | Identify fundamentals of powertrain systems and components (U2).   |

| <b>Upon successful completion of this course, students will be able to:</b> |  |
|---|--|
| CLO #16   | Describe removal and installation of mechanical components (U4-U5).  |
| CLO #17   | Identify fundamentals of electrical systems and components (V1).   |
| CLO #18   | Describe removal and installation of electrical components (V2, V4).   |
| CLO #19   | Repair damaged wires and protective coverings and service low-voltage battery (V3).  |
| CLO #20   | Describe electronic components, locations and considerations (V5).   |
| CLO #21   | Describe servicing seat belt restraint systems (X1).   |
| CLO #22   | Describe servicing air bags and related components according to vehicle manufacturers' recommendations and industry safety standards (X2). |

### Instructional

#### Strategies:

This course provides a wide range of opportunities for student learning including:

- Scheduled and self-paced online theory assignments,
- online group discussions and videoconferencing,
- real work assignment to be performed in the workplace,
- hands-on practical lessons and performance evaluations on-campus.

#### Attendance and Participation

Given the industrial nature of this course professional and safe work practice is of critical importance. A student may be withdrawn from the course for safety concerns and/or an inability to meet professional practice standards due to inadequate attendance.

Excused absences are those reported in advance of a scheduled class, wherever possible, or if appropriate documentation can be provided for the time missed. Other absences will be reported as unexcused, and an excess of unexcused absences may result in a student being withdrawn from the course.

## Evaluation and Grading

---

Grading System: Percentages-ITA  
70%

Passing grade:

Evaluation Plan:

| Type | Percentage | Brief description of assessment activity |
|------|------------|--|
|      |            |  |



| Type          | Percentage | Brief description of assessment activity      |
|---------------|------------|---|
| Quizzes/Tests | 30         | Formative theory quizzes                      |
| Exam          | 20         | Summative theory exams                        |
| Assignments   | 50         | Workplace and on-campus practical assignments |

## Hours by Learning Environment Type

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Lecture, Seminar, Online

20

Lab, Clinical, Shop, Kitchen,  
Studio, Simulation

60

Practicum

20

Self Paced / Individual Learning

150

Course Topics

### Course Topics:

Measuring Equipment, Use and Calibration

Pre and Post-Scanning

Advanced Welding:

- Aluminum GMA (MIG) Welding
- MIG Brazing
- Squeeze-Type Resistance Spot Welding (STRSW)
- Structural Steel Welding

Damage Analysis and Estimating Writing

Pre-Delivery Inspections and Quality Assurance

Structural Repair Preparations:

- Structural Damage Analysis
- Characteristics of Structural Metals
- Anchoring for Structural Pulling (Unibody)

**Course Topics:****Welded-On Panel Repair and Replacement**

- Structural Sectioning
- Weld-Bonding
- Rivet-Bonding

**Mechanical Components:**

- Heating, Cooling, and Air Conditioning Systems
- Powertrain Components, Exhaust and Fuel Systems

**Electrical Components:**

- Basic Electricity and Component Testing
- Simple Circuit Diagnosis
- Introduction to Advanced Vehicle Systems

**Supplemental Restraint Systems:**

- Seat Belt Restraints
- Air Bags and Systems

Learning Resources (textbooks, lab/shop manuals, equipment, etc.):

## 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

See ACRP 1102 for attached updated proposal.

### Additional Information

---

Provide any additional information if necessary.

Effective Date should be April, 2023

# Course Change Request

## New Course Proposal

Date Submitted: 11/04/20 10:54 am

Viewing: **ACAP 4002 : Auto Body Tech Appr Lvl 4**

Last edit: 12/01/20 11:17 am

Changes proposed by: rpopow

Course Name:

Auto Body and Collision Technician Apprentice Level 4

Effective Date:

April 2024

School/Centre:

Trades, Technology & Design

Department:

Auto Collision Apprenticeship (4314)

Contact(s)

### In Workflow

1. **4314 Leader**
2. **CTT Dean**
3. **Curriculum Committee Chair**
4. **EDCO Chair**
5. Records
6. Banner

### Approval Path

1. 11/05/20 3:40 pm  
Keith Mew (kmew):  
Approved for 4314  
Leader
2. 11/05/20 3:41 pm  
Brett Griffiths  
(bgriffiths):  
Approved for CTT  
Dean
3. 12/01/20 11:47 am  
Todd Rowlett  
(trowlett): Approved  
for Curriculum  
Committee Chair

| Name        | E-mail        | Phone/Ext.   |
|-------------|---------------|--------------|
| Robin Popow | rpopow@vcc.ca | 604-313-0556 |

Banner Course  
Name:

Auto Body Tech Appr Lvl 4

Subject Code:

ACAP - Auto Collision Repair Appren

Course Number

4002

Year of Study

1st Year Post-secondary

Credits: 8

**Course Description:**

This 6 week course provides the Level 4 technical training component of the provincial Auto Body and Collision Technician apprentice program.

In this course students learn frame repairs including: pulling equipment and maintenance, structural damage analysis, pulling and sectioning considerations on major structural components. Students learn to create estimate supplements and sublet repairs, quality control, mechanical components, and service requirements of advanced vehicle electronics. Students also learn the importance of the mentor role in the workplace.

Students achieving a grade of 70% or greater are eligible to:

- receive ITA Technical Training credit for Auto Body and Collision Technician Level 4
- write the ITA Interprovincial Red Seal Exam

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

Students must be registered with the Industry Training Authority of B.C. (ITA) and have received an Apprentice Identification number; and

ACAP 3002 Auto Body and Collision Technician Apprentice Level 3, or  
ACAP 3003 Auto Body and Collision Technician Apprentice Level 3 (E-pprentice)

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

No

**Course Learning****Outcomes (CLO):**

|        | <b>Upon successful completion of this course, students will be able to:</b>             |
|--------|---|
| CLO #1 | Describe maintaining frame pulling equipment (B8).                                      |
| CLO #2 | Interpret estimates and create supplements and sublets (D6).                            |
| CLO #3 | Understand and use techniques to be an effective mentor (E2).                           |
| CLO #4 | Understand and use techniques to support a diverse and inclusive work environment (E2). |

| <b>Upon successful completion of this course, students will be able to:</b> |   |
|---|---|
| CLO #5  | Perform final quality control measures (N2).  |
| CLO #6  | Prepare a damage analysis report considering point-to-point and 3D measurement findings (P1). |
| CLO #7  | Describe removing and handling components for access (P2).                                    |
| CLO #8  | Perform vehicle set up for conventional frame repair (P3).                                    |
| CLO #9  | Describe pulling techniques (Q1).   |
| CLO #10   | Perform a complex frame structural repair (Q1).   |
| CLO #11   | Identify fundamentals of steering, suspension and braking systems (U3).                       |
| CLO #12   | Remove and install steering, suspension and braking system components (U4-U5).                |
| CLO #13   | Describe servicing advanced electronic components (V5).                                       |

#### Instructional

#### Strategies:

This course provides a wide range of opportunities for student learning in classroom and shop settings. In addition to hands-on practical experience at VCC's own state of the art automotive collision repair and refinishing facility learning activities such as lectures, demonstrations, individual and group project based learning strategies may be used throughout the course. Students may access learning materials and course evaluations using VCC's online course management system.

#### Attendance and Participation

Given the industrial nature of this course professional and safe work practice is of critical importance. A student may be withdrawn from the course for safety concerns and/or an inability to meet professional practice standards due to inadequate attendance.

Excused absences are those reported in advance of a scheduled class, wherever possible, or if appropriate documentation can be provided for the time missed. Other absences will be reported as unexcused, and an excess of unexcused absences may result in a student being withdrawn from the course.

## Evaluation and Grading

---

Grading System:

Percentages-ITA

Passing grade:

70%

Evaluation Plan:

| Type          | Percentage | Brief description of assessment activity |
|---------------|------------|--|
| Quizzes/Tests | 30         | Formative theory quizzes                 |
| Exam          | 20         | Summative theory exams                   |
| Assignments   | 50         | In-shop practical evaluations            |

## Hours by Learning Environment Type

---

Lecture, Seminar, Online

100

Lab, Clinical, Shop, Kitchen,  
Studio, Simulation

80

Practicum

Self Paced / Individual Learning

### Course Topics

| Course Topics:   |
|--|
| Estimating: Supplements and Sublets  |
| Quality Controls   |
| Pulling Equipment and Maintenance  |
| Structural Repair Preparation: <ul style="list-style-type: none"> <li>- Component Removal for Access</li> <li>- 3D Measuring</li> <li>- Damage Analysis</li> <li>- Setup for Conventional Pulling</li> </ul> |
| Major Structural Pulling   |
| Major Structural Sectioning  |
| Removing and Installing Mechanical Components: <ul style="list-style-type: none"> <li>- Steering</li> <li>- Suspensions</li> <li>- Brakes</li> </ul>   |
| Handling Advanced Electronic Components  |

**Course Topics:**

Mentoring in the Workplace

Learning Resources (textbooks, lab/shop manuals, equipment, etc.):

## 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

See ACRP 1102 for attached updated proposal.

### Additional Information

---

Provide any additional information if necessary.

Effective Date should be April, 2024

Supporting  
documentation:Reviewer  
Comments

## Marketing Information

---

*FOR MARKETING PURPOSES ONLY. NOT REQUIRED FOR GOVERNANCE APPROVAL.*

*This section is used by Marketing to help populate course information on the website. If you have any questions about this section, contact [webmaster@vcc.ca](mailto:webmaster@vcc.ca).*

Make Available on Website:

# Course Change Request

## New Course Proposal

Date Submitted: 11/04/20 10:55 am

Viewing: **ACAP 4003 : Auto Body Tech Appr Lvl 4 (E)**

Last edit: 12/01/20 11:20 am

Changes proposed by: rpopow

Course Name:

Auto Body and Collision Technician Level 4 (E-pprentice)

Effective Date:

April 2024

School/Centre:

Trades, Technology & Design

Department:

Auto Collision Apprenticeship (4314)

Contact(s)

### In Workflow

1. **4314 Leader**
2. **CTT Dean**
3. **Curriculum Committee Chair**
4. **EDCO Chair**
5. Records
6. Banner

### Approval Path

1. 11/06/20 9:30 am  
Keith Mew (kmew):  
Approved for 4314  
Leader
2. 11/06/20 9:33 am  
Brett Griffiths  
(bgriffiths):  
Approved for CTT  
Dean
3. 12/01/20 11:47 am  
Todd Rowlatt  
(trowlatt): Approved  
for Curriculum  
Committee Chair

| Name        | E-mail        | Phone/Ext.   |
|-------------|---------------|--------------|
| Robin Popow | rpopow@vcc.ca | 604-313-0556 |

Banner Course  
Name:

Auto Body Tech Appr Lvl 4 (E)

Subject Code:

ACAP - Auto Collision Repair Appren

Course Number

4003

Year of Study

1st Year Post-secondary



Credits: 8

**Course Description:**

This E-pprentice/alternate delivery course provides the Level 4 technical training component of the Provincial Auto Body and Collision Technician apprentice program. It requires only 1-week of on-campus training plus a 1-week videoconference session as opposed to the 5-week traditional course format. This is made possible with self-paced online studies, workplace assignments, and focused competency-based on-campus experience.

In this course students learn frame repairs including: pulling equipment and maintenance, structural damage analysis, pulling and sectioning considerations on major structural components. Students learn to create estimate supplements and sublet repairs, quality control, mechanical components, and service requirements of advanced vehicle electronics. Students also learn the importance of the mentor role in the workplace.

Students achieving a grade of 70% or greater are eligible to:

- receive ITA Technical Training credit for Auto Body and Collision Technician Level 4
- write the ITA Interprovincial Red Seal Exam

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

Students must be registered with the Industry Training Authority of B.C. (ITA) and have received an Apprentice Identification number; and

ACAP 3002 Auto Body and Collision Technician Apprentice Level 3, or  
ACAP 3003 Auto Body and Collision Technician Apprentice Level 3 (E-pprentice)

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

No

**Course Learning****Outcomes (CLO):**

|        | <b>Upon successful completion of this course, students will be able to:</b> |
|--------|---|
| CLO #1 | Describe the maintenance of frame pulling equipment (B8).                   |
| CLO #2 | Interpret estimates and create supplements and sublets (D6).                |

| <b>Upon successful completion of this course, students will be able to:</b> |   |
|---|---|
| CLO #3  | Understand and use techniques to be an effective mentor (E2).                                 |
| CLO #4  | Understand and use techniques to support a diverse and inclusive work environment (E2).       |
| CLO #5  | Perform final quality control measures (N2).  |
| CLO #6  | Prepare a damage analysis report considering point-to-point and 3D measurement findings (P1). |
| CLO #7  | Describe removing and handling components for access (P2).                                    |
| CLO #8  | Perform vehicle set up for conventional frame repair (P3).                                    |
| CLO #9  | Describe pulling techniques (Q1).   |
| CLO #10   | Perform a complex frame structural repair (Q1).   |
| CLO #11   | Identify fundamentals of steering, suspension and braking systems (U3).                       |
| CLO #12   | Remove and install steering, suspension and braking system components (U4-U5).                |
| CLO #13   | Describe servicing advanced electronic components (V5).                                       |

#### Instructional

##### Strategies:

This course provides a wide range of opportunities for student learning including:

- Scheduled and self-paced online theory assignments,
- online group discussions and videoconferencing,
- real work assignment to be performed in the workplace,
- hands-on practical lessons and performance evaluations on-campus.

##### Attendance and Participation

Given the industrial nature of this course professional and safe work practice is of critical importance. A student may be withdrawn from the course for safety concerns and/or an inability to meet professional practice standards due to inadequate attendance.

Excused absences are those reported in advance of a scheduled class, wherever possible, or if appropriate documentation can be provided for the time missed. Other absences will be reported as unexcused, and an excess of unexcused absences may result in a student being withdrawn from the course.

## Evaluation and Grading

---

Grading System: Percentages-ITA

Passing grade:

70%

Evaluation Plan:

| Type          | Percentage | Brief description of assessment activity      |
|---------------|------------|---|
| Quizzes/Tests | 25         | Formative theory quizzes                      |
| Exam          | 15         | Summative theory exams                        |
| Assignments   | 60         | Workplace and on-campus practical assignments |

## Hours by Learning Environment Type

---

Lecture, Seminar, Online

40

Lab, Clinical, Shop, Kitchen,  
Studio, Simulation

30

Practicum

15

Self Paced / Individual Learning

130

Course Topics

### Course Topics:

Estimating: Supplements and Sublets

Quality Controls

Pulling Equipment and Maintenance

Structural Repair Preparation:

- Component Removal for Access
- 3D Measuring
- Damage Analysis
- Setup for Conventional Pulling

Major Structural Pulling

Major Structural Sectioning

**Course Topics:**

Removing and Installing Mechanical Components:

- Steering
- Suspensions
- Brakes

Handling Advanced Electronic Components

Mentoring in the Workplace

Learning Resources (textbooks, lab/shop manuals, equipment, etc.):

## 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

See ACRP 1102 for attached updated proposal.

### Additional Information

---

Provide any additional information if necessary.

Effective Date should be April, 2024

Supporting  
documentation:

Reviewer

Comments

### Marketing Information

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# Course Change Request

## New Course Proposal

Date Submitted: 11/04/20 11:22 am

Viewing: **APAP 2002 : Auto Refinish Tech Lvl 2**

Last edit: 12/01/20 11:26 am

Changes proposed by: rpopow

Course Name:

Automotive Refinishing Technician Apprentice Level 2

Effective Date:

April 2022

School/Centre:

Trades, Technology & Design

Department:

Auto Paint - Apprenticeship (4322)

Contact(s)

### In Workflow

1. **4322 Leader**
2. **CTT Dean**
3. **Curriculum Committee Chair**
4. **EDCO Chair**
5. Records
6. Banner

### Approval Path

1. 11/09/20 1:09 pm  
Keith Mew (kmew):  
Approved for 4322  
Leader
2. 11/09/20 2:36 pm  
Brett Griffiths  
(bgriffiths):  
Approved for CTT  
Dean
3. 12/01/20 11:47 am  
Todd Rowlatt  
(trowlatt): Approved  
for Curriculum  
Committee Chair

| Name        | E-mail        | Phone/Ext.   |
|-------------|---------------|--------------|
| Robin Popow | rpopow@vcc.ca | 604-313-0556 |

Banner Course  
Name:

Auto Refinish Tech Lvl 2

Subject Code:

APAP - Auto Paint & Refin Tech Appren

Course Number

2002

Year of Study

1st Year Post-secondary

Credits: 4

#### Course Description:

This course provides the Level 2 technical training component of the provincial Automotive Refinishing Technician apprentice program.

In this course students learn application and troubleshooting techniques for sealers, basecoat/clearcoat, and multi-stage coatings including blending techniques for all. Alternate finishes such as matte, textured, marine, heavy equipment, aircraft, etc. are also addressed. Training features advanced operations and troubleshooting techniques for a variety of refinishing equipment including spray booths, mixing systems, solvent recycling machines, and drying/curing equipment. Additionally, students use OEM specifications and use estimating software to create estimates, use documentation techniques, maintain equipment maintenance and VOC logs, and the importance of the mentor role in the workplace.

Students achieving a grade of 70% or greater are eligible to:

- receive 90 hours ITA Technical Training credit
- write the ITA Interprovincial Red Seal Exam

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

Students must be registered with the Industry Training Authority of B.C. (ITA) and have received an Apprentice Identification number; and

Successful completion of the Automotive Collision and Refinishing Foundation Certificate, or ACRP 1101 Automotive Collision and Refinishing Common Core Apprentice Level 1, or Successful completion of the Automotive Refinishing Prep Technician Certificate (pre-April 2021)\*, or ARAP 1001 Auto Refinishing Prep Technician Apprentice Level 1 (pre-April 2021)\*

\*Note: Students transitioning from the pre-April 2021 program are subject to a co-requisite for this course. Please refer to Course Co-requisites.

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

Students transitioning from the pre-April 2021 program (Automotive Refinish Prep Technician or Automotive Refinish Prep Technician Foundation) are subject to a gap-training module as a co-requisite for this course. This 8-hour module may include online self-study material and additional face-to-face instruction, and must be successfully completed during this course.

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

No

## Course Learning

## Outcomes (CLO):

|         | <b>Upon successful completion of this course, students will be able to:</b>                                |
|---------|--|
| CLO #1  | Describe water borne and solvent recycling machines (B4).  |
| CLO #2  | Update and organize colour library (B5).   |
| CLO #3  | Maintain mixing systems and room (B5).   |
| CLO #4  | Use curing and drying equipment (B7).  |
| CLO #5  | Apply environmental and jurisdictional regulations (D2).   |
| CLO #6  | Use manufacturers' documentation to access OEM specifications and equipment maintenance requirements (D2). |
| CLO #7  | Contribute supplemental information to a repair estimate (D2).   |
| CLO #8  | Perform inspections to evaluate the refinish area and blend requirements (D3).                             |
| CLO #9  | Describe production schedules process timelines, development, and maintenance (D4).                        |
| CLO #10 | Develop a refinish plan (D5).  |
| CLO #11 | Use software to create a repair estimate (D6).   |
| CLO #12 | Understand and use techniques to be an effective mentor (E2).  |
| CLO #13 | Use masking techniques to mask a vehicle for topcoat (G2).   |
| CLO #14 | Prepare a spray booth including pressure/temperature adjustments and troubleshooting (H2).                 |
| CLO #15 | Setup spray guns and verify/troubleshoot spray pattern problems (H3).                                      |
| CLO #16 | Mix a variety of refinishing materials suitable for various applications.                                  |
| CLO #17 | Apply primer sealers and troubleshoot problems (I2).   |
| CLO #18 | Apply single-stage paint and troubleshoot problems (I3).   |
| CLO #19 | Apply and blend basecoat/clearcoat and multi-stage paint (I4).   |
| CLO #20 | Describe refinish problems, causes and methods for correcting (I5).  |
| CLO #21 | Perform colour adjustment (I6).  |
| CLO #22 | Remove masking materials (J1).   |
| CLO #23 | Correct surface imperfections (J2).  |
| CLO #24 | Perform final check (J3).  |

## Instructional

### Strategies:

This course provides a wide range of opportunities for student learning in classroom and shop settings. In addition to hands-on practical experience at VCC's own state of the art automotive collision repair and refinishing facility learning activities such as lectures, demonstrations, individual and group project based learning strategies may be used throughout the course. Students may access learning materials and course evaluations using VCC's online course management system.

### Attendance and Participation

Given the industrial nature of this course professional and safe work practice is of critical importance. A student may be withdrawn from the course for safety concerns and/or an inability to meet professional practice standards due to inadequate attendance.

Excused absences are those reported in advance of a scheduled class, wherever possible, or if appropriate documentation can be provided for the time missed. Other absences will be reported as unexcused, and an excess of unexcused absences may result in a student being withdrawn from the course.

## Evaluation and Grading

---

Grading System: Percentages-ITA  
70%

Passing grade:

### Evaluation Plan:

| Type          | Percentage | Brief description of assessment activity |
|---------------|------------|--|
| Quizzes/Tests | 25         | Formative theory quizzes                 |
| Exam          | 15         | Summative theory exams                   |
| Assignments   | 60         | In-shop practical evaluations            |

## Hours by Learning Environment Type

---

Lecture, Seminar, Online

45

Lab, Clinical, Shop, Kitchen,  
Studio, Simulation

45

Practicum



## Self Paced / Individual Learning

## Course Topics

**Course Topics:**

Refinishing Equipment Advanced Operations and Troubleshooting

Masking and Masking Removal for Topcoats

Advanced Coatings Application, Troubleshooting, and Blending

Colour Adjustment

Alternate Finishes and Products

Estimating:

- OEM Specifications
- Estimating Software
- Documenting and Photo Documentation

Production Schedules

Environmental Regulation Compliance

Mentoring in the Workplace

Surface Defect Removal

Final Check for Quality Control

Learning Resources (textbooks, lab/shop manuals, equipment, etc.):

## 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

See ACRP 1102 for attached updated proposal.

# Course Change Request

## New Course Proposal

Date Submitted: 11/04/20 11:13 am

Viewing: **APAP 2003 : Auto Refinish Tech Lvl 2 (E)**

Last edit: 12/01/20 11:29 am

Changes proposed by: rpopow

Course Name:

Automotive Refinishing Technician Apprentice Level 2 (E-pprentice)

Effective Date:

April 2022

School/Centre:

Trades, Technology & Design

Department:

Auto Paint - Apprenticeship (4322)

Contact(s)

### In Workflow

1. **4322 Leader**
2. **CTT Dean**
3. **Curriculum Committee Chair**
4. **EDCO Chair**
5. Records
6. Banner

### Approval Path

1. 11/09/20 1:10 pm  
Keith Mew (kmew):  
Approved for 4322  
Leader
2. 11/09/20 2:36 pm  
Brett Griffiths  
(bgriffiths):  
Approved for CTT  
Dean
3. 12/01/20 11:47 am  
Todd Rowlatt  
(trowlatt): Approved  
for Curriculum  
Committee Chair

| Name        | E-mail        | Phone/Ext.   |
|-------------|---------------|--------------|
| Robin Popow | rpopow@vcc.ca | 604-313-0556 |

Banner Course

Auto Refinish Tech Lvl 2 (E)

Name:

Subject Code:

APAP - Auto Paint & Refin Tech Appren

Course Number

2003

Year of Study

1st Year Post-secondary

Credits: 3.5

#### Course Description:

This E-pprentice/alternate delivery course provides the Level 2 technical training component of the provincial Automotive Refinishing Technician apprentice program. It requires only 1-week of on-campus training plus a 1-week videoconference session as opposed to the 3-week traditional course format. This is made possible with self-paced online studies, workplace assignments, and focused competency-based on-campus experience.

In this course students learn application and troubleshooting techniques for sealers, basecoat/clearcoat, and multi-stage coatings including blending techniques for all. Alternate finishes such as matt, textured, marine, heavy equipment, aircraft, etc. are also addressed. Training features advanced operations and troubleshooting techniques for a variety of refinishing equipment including spray booths, mixing systems, solvent recycling machines, and drying/curing equipment. Additionally, students use OEM specifications and use estimating software to create estimates, use documentation techniques, maintain equipment maintenance and VOC logs, and the importance of the mentor role in the workplace.

Students achieving a grade of 70% or greater are eligible to:

- receive 90 hours ITA Technical Training credit
- write the ITA Interprovincial Red Seal Exam

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

Students must be registered with the Industry Training Authority of B.C. (ITA) and have received an Apprentice Identification number; and

Successful completion of the Automotive Collision and Refinishing Foundation Certificate, or  
ACRP 1101 Automotive Collision and Refinishing Common Core Apprentice Level 1, or  
Successful completion of the Automotive Refinishing Prep Technician Certificate (pre-April 2021)\*, or  
ARAP 1001 Auto Refinishing Prep Technician Apprentice Level 1 (pre-April 2021)\*

\*Note: Students transitioning from the pre-April 2021 program are subject to a co-requisite for this course. Please refer to Course Co-requisites.

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

Students transitioning from the pre-April 2021 program (Automotive Refinish Prep Technician or Automotive Refinish Prep Technician Foundation) are subject to a gap-training module as a co-requisite for this course. This 8-hour module may include online self-study material and additional face-to-face instruction, and must be successfully completed during this course.

## PLAR (Prior Learning Assessment &amp; Recognition)

No

Course Learning  
Outcomes (CLO):

|         | <b>Upon successful completion of this course, students will be able to:</b>                                |
|---------|--|
| CLO #1  | Describe water borne and solvent recycling machines (B4).  |
| CLO #2  | Update and organize colour library (B5).   |
| CLO #3  | Maintain mixing systems and room (B5).   |
| CLO #4  | Use curing and drying equipment (B7).  |
| CLO #5  | Apply environmental and jurisdictional regulations (D2).   |
| CLO #6  | Use manufacturers' documentation to access OEM specifications and equipment maintenance requirements (D2). |
| CLO #7  | Contribute supplemental information to a repair estimate (D2).   |
| CLO #8  | Perform inspections to evaluate the refinish area and blend requirements (D3).                             |
| CLO #9  | Describe production schedules process timelines, development, and maintenance (D4).                        |
| CLO #10 | Develop a refinish plan (D5).  |
| CLO #11 | Use software to create a repair estimate (D6).   |
| CLO #12 | Understand and use techniques to be an effective mentor (E2).  |
| CLO #13 | Use masking techniques to mask a vehicle for topcoat (G2).   |
| CLO #14 | Prepare a spray booth including pressure/temperature adjustments and troubleshooting (H2).                 |
| CLO #15 | Setup spray guns and verify/troubleshoot spray pattern problems (H3).                                      |
| CLO #16 | Mix a variety of refinishing materials suitable for various applications.                                  |
| CLO #17 | Apply primer sealers and troubleshoot problems (I2).   |
| CLO #18 | Apply single-stage paint and troubleshoot problems (I3).   |
| CLO #19 | Apply and blend basecoat/clearcoat and multi-stage paint (I4).   |
| CLO #20 | Describe refinish problems, causes and methods for correcting (I5).  |
| CLO #21 | Perform colour adjustment (I6).  |
| CLO #22 | Remove masking materials (J1).   |

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

|         |                                     |
|---------|-------------------------------------|
| CLO #23 | Correct surface imperfections (J2). |
| CLO #24 | Perform final check (J3).           |

### Instructional

#### Strategies:

This course provides a wide range of opportunities for student learning including:

- Scheduled and self-paced online theory assignments,
- online group discussions and videoconferencing,
- real work assignment to be performed in the workplace,
- hands-on practical lessons and performance evaluations on-campus.

#### Attendance and Participation

Given the industrial nature of this course professional and safe work practice is of critical importance. A student may be withdrawn from the course for safety concerns and/or an inability to meet professional practice standards due to inadequate attendance.

Excused absences are those reported in advance of a scheduled class, wherever possible, or if appropriate documentation can be provided for the time missed. Other absences will be reported as unexcused, and an excess of unexcused absences may result in a student being withdrawn from the course.

## Evaluation and Grading

---

Grading System: Percentages-ITA  
70%

Passing grade:

#### Evaluation Plan:

| Type          | Percentage | Brief description of assessment activity      |
|---------------|------------|---|
| Quizzes/Tests | 25         | Formative theory quizzes                      |
| Exam          | 15         | Summative theory exams                        |
| Assignments   | 60         | Workplace and on-campus practical assignments |

## Hours by Learning Environment Type

---

Lecture, Seminar, Online

10

Lab, Clinical, Shop, Kitchen,  
Studio, Simulation

30

Practicum

15

Self Paced / Individual Learning

45

### Course Topics

#### Course Topics:

Refinishing Equipment Advanced Operations and Troubleshooting

Masking and Masking Removal for Topcoats

Advanced Coatings Application, Troubleshooting, and Blending

Colour Adjustment

Alternate Finishes and Products

Estimating:

- OEM Specifications
- Estimating Software
- Documenting and Photo Documentation

Production Schedules

Environmental Regulation Compliance

Mentoring in the Workplace

Surface Defect Removal

Final Check for Quality Control

Learning Resources (textbooks, lab/shop manuals, equipment, etc.):

## 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?



## DECISION NOTE

**PREPARED FOR:** Education Council

**DATE:** December 8, 2020

**ISSUE:** New Mechanical specialty in CAD & BIM Technician Diploma program

### BACKGROUND:

The CAD (Computer-Aided Draft) & BIM (Building Information Modelling) Diploma program trains drafting technicians and allows them to gain skills in two specialties over the course of the program. The Drafting department has designed a new specialty: Mechanical. Graduates trained in this specialty will have the skills to draft plans within CAD and BIM systems for plumbing, electrical, HVAC, fire suppression and process piping. Graduates with these skills are in high demand in the mining industry, chemical process plants, energy infrastructure, oil and gas, as well as mechanical systems for buildings and other types of developments.

### DISCUSSION:

Bruce McGarvie, Department Head of CAD & BIM Technologies, presented the proposals. He explained that students have the opportunity to take the mechanical specialty in Terms 2 and 3, focused on developing their skills in CAD systems, or in Term 5, focused on developing their skills at a higher level within BIM systems.

Only minor changes were requested:

- Clarifications in the program description and admission requirements
- Listing course numbers for pre-requisites
- Aligning participation grades in assessment plans to 10% for all courses with participation grades

All changes have been made.

### RECOMMENDATION:

THAT Education Council approve, in the form presented at this meeting, revisions to the CAD & BIM Technician Diploma program, adding the mechanical specialty, and 32 new courses.

**PREPARED BY:** Todd Rowlatt, Chair, Curriculum Committee

**DATE:** December 1, 2020

# Program Change Request

Date Submitted: 10/22/20 2:49 pm

## Viewing: **Computer Aided Draft (CAD) and Building Information Modelling (BIM) Technician Diploma**

Last approved: 10/16/20 8:20 am

Last edit: 12/01/20 11:50 am

Changes proposed by: bmcgarvie

Catalog Pages Using  
this Program

[Computer Aided Draft \(CAD\) and Building Information Modelling \(BIM\) Technician Di](#)

Program Name:

Computer Aided Draft (CAD) and Building Information Modelling (BIM) Technician Diploma

Credential Level: Diploma

Effective Date: September 2021

Effective Catalog Edition: 2021-2022

School/Centre: Trades, Technology & Design

Department: Drafting (4203)

Contact(s)

### In Workflow

1. **4203 Leader**
2. **CTT Dean**
3. **Curriculum Committee Chair**
4. **EDCO Chair**

### Approval Path

1. 10/22/20 3:38 pm  
Bruce McGarvie (bmcgarvie):  
Approved for 4203 Leader
2. 10/22/20 3:41 pm  
Brett Griffiths (bgriffiths):  
Approved for CTT Dean
3. 12/01/20 12:58 pm  
Todd Rowlett (trowlett): Approved for Curriculum Committee Chair

### History

1. May 13, 2019 by Nicole Degagne (ndegagne)
2. May 13, 2019 by Nicole Degagne (ndegagne)
3. Aug 21, 2019 by Nicole Degagne (ndegagne)



4. Sep 4, 2019 by Darija Rabadzija (drabadzija)
5. Sep 11, 2020 by Bruce McGarvie (bmcgarvie)
6. Oct 16, 2020 by Nicole Degagne (ndegagne)

| Name            | E-mail            | Phone/Ext. |
|-----------------|-------------------|------------|
| Bruce McGarvie  | bmcgarvie@vcc.ca  | 8536       |
| Brett Griffiths | bgriffiths@vcc.ca | 7012       |

## Program Content Guide

### Purpose

Graduates of this program will develop the Computer Aided Drafting (CAD) and Building Information Modeling (BIM) skills gained in **the study of two specialty areas. specialties of either Architectural, Civil/Structural, and/or Steel Construction Modelling with Steel Detailing. During Students will further develop their first year, they will develop skills in by adding an additional specialty of either Architectural, Civil/Structural, Mechanical Architectural or Steel Civil/Structural in Year 2 (Steel Construction Modelling with Steel Detailing. is only available in Year 1). Students will further develop their skills by adding an additional specialty of either Architectural, Mechanical or Civil/Structural in Year 2 (Steel Construction Modelling is only available in Year 1).** They will learn to analyze and apply the current practices of a 3D Integrated Design Process (IDP) and contribute to the design/build team utilizing Integrated Project Delivery (IPD) methods.

Graduates will be well prepared to work as team members on a wide variety of projects, examples of which are:

Residential housing developments, commercial buildings and institutional complexes.

A wide variety of steel and concrete structures including schools, sports stadiums, bridges, commercial buildings and high-rise offices.

And highway construction and subdivision development work.

**A wide variety of mechanical applications in the mining industry, chemical process plants, energy infrastructure, oil and gas, as well as mechanical systems for buildings and development work.**

Graduates will apply qualifications from two disciplines to become more competitive in the job market and adaptive in the work place.

Students receive a CAD and BIM Technician Diploma upon successful completion of the program.

## Admission Requirements

Grade 12 graduation or equivalent

English Language Proficiency at a grade 12 level ~~or CLB/CLBPT Listening 8, Speaking 7, Reading 8, and Writing 7~~

Knowledge of mathematics demonstrated by *one* of the following:

Workplace Mathematics 11 or equivalent, *or*

VCC Math Assessment with 80% Basic Arithmetic and ~~60%~~ **72%** Basic Algebra

Applicants may be inserted into Level 4 of the program provided they have:

Successfully completed VCC's Architectural, Civil/Structural, or Steel Modelling/Steel Detailing Technician Certificate within the last 4 years, *or*

Successfully completed a Drafting Technician Certificate (any discipline) at another institution with Department review and approval.

### Notes:

Applicants who do not meet the English language requirement may be admitted at the discretion of the Department

Applicants who have met all the above requirements and have completed high school Drafting 11 and 12 may, with Departmental approval, apply for direct entry into Level 2 of the program.

VCC CAD Technician Short Certificate graduates (granted within the last 4 years) may insert into level 2 of the program.

### Prior Learning Assessment & Recognition (PLAR)

Students may request formal recognition of prior learning attained through informal education, work, or other life experience, including Indigenous ways of knowing. Credits may be granted to students who are able to sufficiently demonstrate the learning outcomes of specific courses.

PLAR is available for the following courses:

DRFT 1010 CAD Drafting Fundamentals

DRFT 1011 CAD Drafting Applied

DRFT 1013 Construction Mathematics

Students may complete up to 20% of program credits through PLAR. Tuition and fees may still apply to PLAR candidates.

Methods of PLAR vary by course, and may include exams, portfolios, interviews, and other evaluations.

To request PLAR, please contact the department directly.

See the D.3.5 Prior Learning Assessment and Recognition [Policy](#) and [Procedures](#) for more information.

## Program Duration & Maximum Time for Completion

The program is 2 years of full-time study. The Diploma is seventy (70) credits: Forty (40) credits of the first year Certificate, and thirty (30) credits of second year courses to complete the Diploma.

Candidates have up to 5 years to complete the Diploma from the start of year one.

Upon successful completion of the first year of study and the successful completion of forty (40) credits, students may choose to exit the program and receive a Certificate credential in the specialty they completed in the first year: either (i) Architectural Technician Certificate, (ii) Civil/Structural Technician Certificate, ~~or~~ (iii) Steel Construction Modelling Technician **Certificate, or (iv) Mechanical Engineering Technician Certificate.**

## Program Learning Outcomes

Upon successful completion of **year one** of this program, students will be able to:

Use drawing techniques to complete projects in orthographic projection, sectioning, and dimensioning, auxiliary view and machine detailing.

Describe concepts in orthographic projection, sectioning, and dimensioning, auxiliary view and machine detailing.

Employ Computer Aided Drafting (CAD) and three dimensional modelling systems skills to produce drawings from data, designs and/or specifications.

Demonstrate drafting and 3D modeling skills and conventions.

Develop knowledge and related trade skills in drafting and 3D Building Information Modeling (BIM).

Utilize critical thinking, team building and interpersonal communication skills.

Prepare a comprehensive professional portfolio.

Prepare a résumé and letters of application and perform other related job search skills.

*And* one (1) set of outcomes from their chosen specialty:

### **Architectural Specialty:**

Use concepts of building construction and technology to plan and detail residential and commercial buildings in accordance with local by-laws and the BC Building Code.

Prepare Architectural drawings of residential and commercial structures, which incorporate concrete, steel and wood.

### **Civil/Structural Specialty:**

Apply concepts of civil technology and planning to produce drawings and three dimensional models for the development of a civil site.

Use structural engineering theories and BIM practices to prepare engineering drawings for three dimensional models of structures, which incorporate reinforced concrete and structural steel.

### **Steel Construction Modelling Specialty (available first year only):**

Utilize data from current building codes and fabrication standards to develop practical connections between components that are code-compliant and practical to fabricate and install on site.

Use structural engineering drawings and specifications to prepare three dimensional models of structures that utilise structural steel.

Employ current Computer Aided Drafting (CAD) and three dimensional modelling systems as a tool to

produce structural steel fabrication and arrangement drawings from data, designs and/or specifications.

### **Mechanical Specialty:**

**Apply concepts of building construction and technology to plan and detail mechanical systems for commercial and industrial facilities in accordance with local by-laws and the *BC Building Code*.**

**Utilize concepts of mechanical and process technology and planning to produce drawings and 3D models of industrial facilities.**

**Employ mechanical engineering theories and BIM practices to prepare engineering drawings from 3D model that incorporate mechanical, electrical, and plumbing (MEP) systems in building structures.**

Upon successful completion of the **second year** of this program, students will be able to:

Apply Integrated Design Process (IDP) to integrate people systems and practices into a process to reduce waste and optimize efficiency through all phases of design, fabrication and construction.

Employ current Computer Aided Drafting (CAD) and three-dimensional modelling systems as a tool to produce drawings from data, designs and/or specifications.

Apply terminology and conventions used in a project design team.

Integrate a variety of CAD models for each discipline into a complete final model using CAD drafting, 3D BIM, and related trade skills and knowledge.

Prepare a comprehensive professional portfolio.

Contribute as part of a multidisciplinary design team.

Use critical thinking, team building and interpersonal communication skills to work effectively in a team environment.

Integrate various BIM software to communicate, collaborate and cooperate with a design team.

Apply the concepts and processes of a second discipline (either **Architectural, Mechanical Architectural** or Civil/Structural), and apply those conceptions in a 3D BIM setting.

Apply personal reflection and critical thinking to the relation between the program's learning outcomes and the student's individualized learning.

Communicate effectively and work collaboratively in a design team setting.

### Instructional Strategies, Design, and Delivery Mode

This program uses project based learning strategies with in-class instructional presentations, blended online delivery, and laboratory work using Autodesk, Trimble, and other software. Students may be required to do assignments at home and lab work outside class time on both theory and individual **projects. The program may be offered in face-to-face and blended (combination of face-to-face and online) formats. projects-**

## Evaluation of Student Learning

Students are evaluated through practical projects, exams, drawings, and presentations.

### Student Program Progression

In order to be granted a Certificate or Diploma credential upon completion of the program, a student must:

- Maintain an overall minimum 2.00 GPA (C average); *and*
- Successfully complete all courses to qualify for the credential.

Note: A student will not receive a credential if they fail to maintain a C average, or if they receive an F grade in any course(s).

NOTE: Following a grade of D in any course, continuation will be permitted only upon approval of the Department Head. If such approval is given, a letter of continuation may be issued to the student indicating the reasons and conditions under which they will be allowed to continue to the next course.

Students who receive an F grade in any course within any term/level may not be allowed to progress.

See individual Course Outlines for course prerequisite details.

### Program Absences

If a student misses more than 10% of instruction contact hours in any course for any reason, the instructor may refer the student to the Department Head for review (e.g. a two (2) week course is ten (10) days, therefore 10% is one (1) day).

If the Department Head identifies a pattern of absenteeism, the student will be formally reprimanded. Further excessive absence may result in the student being required to withdraw.

## Recommended Characteristics of Students

### Related work experience

Excellent English communication skills.

Working knowledge of Windows OS is strongly recommended.

Good mathematical and mechanical comprehension.

Ability to work in imperial and metric units of measurement.

General good health, good hand-eye coordination, ability to look at computer screen for long periods of time, and manual dexterity for keyboard/mouse.

Successful work habits and an ability to work well with others.

Logical reasoning, spatial ability, and an ability to visualize objects.

An interest in all aspects of architecture, engineering, general construction and related fields.

## Courses

### Course List

| Code                             | Title                     | Credits |
|----------------------------------|---------------------------|---------|
| TERM 1                           |                           |         |
| <a href="#"><u>DRFT 1010</u></a> | CAD Drafting Fundamentals | 4       |
| <a href="#"><u>DRFT 1011</u></a> | CAD Drafting Applied      | 3       |

| Code                      | Title                          | Credits |
|---------------------------|--------------------------------|---------|
| <a href="#">DRFT 1012</a> | Office & Construct Site Safety | 1       |
| <a href="#">DRFT 1013</a> | Construction Mathematics       | 1       |
| TERM 2 AND 3              |                                | 31      |

SELECT YOUR 1ST SPECIALIZATION (Steel Construction Modelling only available in Year 1)

#### ARCHITECTURAL

|                           |                              |
|---------------------------|------------------------------|
| <a href="#">DRFT 1270</a> | Residential Design           |
| <a href="#">DRFT 1271</a> | Site Planning                |
| <a href="#">DRFT 1272</a> | Code and Regulations 1       |
| <a href="#">DRFT 1273</a> | Construction Assemblies 1    |
| <a href="#">DRFT 1274</a> | Single Family Residences     |
| <a href="#">DRFT 1275</a> | Codes and Regulations 2      |
| <a href="#">DRFT 1276</a> | Construction Assemblies 2    |
| <a href="#">DRFT 1277</a> | Multi Family Residences      |
| <a href="#">DRFT 1278</a> | Drawing Plan Reading         |
| <a href="#">DRFT 1326</a> | Job Search Skills            |
| <a href="#">DRFT 1370</a> | Technical Communications     |
| <a href="#">DRFT 1371</a> | Codes and Regulations 3      |
| <a href="#">DRFT 1372</a> | Construction Assemblies 3    |
| <a href="#">DRFT 1373</a> | Commercial Retail Buildings  |
| <a href="#">DRFT 1374</a> | Introduction to 3D and BIM   |
| <a href="#">DRFT 1375</a> | Commercial Layouts Using BIM |

#### CIVIL/STRUCTURAL

|                           |                                |
|---------------------------|--------------------------------|
| <a href="#">DRFT 1226</a> | Construction Drawing Reading   |
| <a href="#">DRFT 1280</a> | Industrial Site Layout         |
| <a href="#">DRFT 1281</a> | Autodesk Civil 3D              |
| <a href="#">DRFT 1282</a> | Road Alignment Detailing       |
| <a href="#">DRFT 1283</a> | Steel Structures               |
| <a href="#">DRFT 1284</a> | Princ for Reinforced Concrete  |
| <a href="#">DRFT 1285</a> | Foundation Design Concepts     |
| <a href="#">DRFT 1286</a> | Engineering Statics            |
| <a href="#">DRFT 1326</a> | Job Search Skills              |
| <a href="#">DRFT 1327</a> | Revit Structures               |
| <a href="#">DRFT 1330</a> | Advanced Road Design           |
| <a href="#">DRFT 1331</a> | Civil Utility Services         |
| <a href="#">DRFT 1370</a> | Technical Communications       |
| <a href="#">DRFT 1380</a> | CAD 3D and Assemblies          |
| <a href="#">DRFT 1381</a> | Miscellaneous Steel            |
| <a href="#">DRFT 1383</a> | Quantity Take Offs             |
| <a href="#">DRFT 1384</a> | Concrete Slab on Grade Flr Sys |

| Code                             | Title                         |
|----------------------------------|-------------------------------|
| <a href="#"><u>DRFT 1385</u></a> | Reinforced Concret Struc Comp |

#### STEEL CONSTRUCTION MODELLING

|                                  |                                |
|----------------------------------|--------------------------------|
| <a href="#"><u>DRFT 1290</u></a> | Struct Steel Fab Codes & Stand |
| <a href="#"><u>DRFT 1291</u></a> | Introduction to Steel Detail   |
| <a href="#"><u>DRFT 1292</u></a> | Structural Bolting & Welding   |
| <a href="#"><u>DRFT 1293</u></a> | Indust & Comm Basic Framing    |
| <a href="#"><u>DRFT 1294</u></a> | Connection & Layout Geometry   |
| <a href="#"><u>DRFT 1295</u></a> | Detail of Inclined Components  |
| <a href="#"><u>DRFT 1296</u></a> | Miscellaneous Metals Detailing |
| <a href="#"><u>DRFT 1391</u></a> | Introduction to BIM Software   |
| <a href="#"><u>DRFT 1380</u></a> | CAD 3D and Assemblies          |
| <a href="#"><u>DRFT 1392</u></a> | Working with BIM Software      |
| <a href="#"><u>DRFT 1370</u></a> | Technical Communications       |
| <a href="#"><u>DRFT 1393</u></a> | Heavy Structural Steel Framing |
| <a href="#"><u>DRFT 1326</u></a> | Job Search Skills              |
| <a href="#"><u>DRFT 1352</u></a> | Steel Trusses                  |

#### MECHANICAL

|                                  |   |
|----------------------------------|---|
| <a href="#"><u>DRFT 1256</u></a> | <b>Plumbing Systems for Buildings</b>                                   |
| <a href="#"><u>DRFT 1257</u></a> | <b>Electrical Systems for Buildings</b>                                 |
| <a href="#"><u>DRFT 1258</u></a> | <b>Utility Data and Setting-Up Projects</b>                             |
| <a href="#"><u>DRFT 1259</u></a> | <b>HVAC Systems for Buildings</b>                                       |
| <a href="#"><u>DRFT 1260</u></a> | <b>Fire Suppression and Sprinkler Systems for Buildings</b>             |
| <a href="#"><u>DRFT 1261</u></a> | <b>Process Flow Diagrams and Tank/Pump Box Fabrication</b>              |
| <a href="#"><u>DRFT 1262</u></a> | <b>Pipe Components: Pipe, Fittings, Valves, Supports and Pumps</b>      |
| <a href="#"><u>DRFT 1263</u></a> | <b>Piping and Instrumentation Diagrams &amp; Specifications</b>         |
| <a href="#"><u>DRFT 1264</u></a> | <b>Plant and Equipment Layout</b>                                       |
| <a href="#"><u>DRFT 1265</u></a> | <b>Process and Utility Piping Layout</b>                                |
| <a href="#"><u>DRFT 1266</u></a> | <b>Piping Fabrication Isometrics</b>                                    |
| <a href="#"><u>DRFT 1332</u></a> | <b>Professional Preparation</b>   |
| <a href="#"><u>DRFT 1370</u></a> | <b>Technical Communications</b>   |
| <a href="#"><u>DRFT 1362</u></a> | <b>BIM Basic for Mechanical</b>   |
| <a href="#"><u>DRFT 1363</u></a> | <b>BIM Project for MEP</b>  |
| <a href="#"><u>DRFT 1364</u></a> | <b>MEP for Pipe Fabrication</b>   |
| <a href="#"><u>DRFT 1365</u></a> | <b>Piping BIM Project &amp; Specification Setup</b>                     |
| <a href="#"><u>DRFT 1366</u></a> | <b>3D BIM Pipe, Structure, and Equipment Modeling</b>                   |
| <a href="#"><u>DRFT 1367</u></a> | <b>3D BIM Creating Orthographics, Isometrics, and Bills of Material</b> |
| <a href="#"><u>DRFT 1394</u></a> | <b>Industrial Building Modeling</b>                                     |
| <a href="#"><u>DRFT 1395</u></a> | <b>Mechanical Equipment Modeling and Layout</b>                         |
| <a href="#"><u>DRFT 1396</u></a> | <b>Piping Systems Modeling and Layout</b>                               |

| Code             | Title                  |    |
|------------------|------------------------|----|
| TERM 4           |                        |    |
| <u>DRFT 2100</u> | Integrated BIM Project | 9  |
| TERM 5           |                        | 15 |

SELECT YOUR 2ND SPECIALIZATION (MUST BE DIFFERENT FROM YOUR FIRST)

#### ARCHITECTURAL

- DRFT 2270 Diploma Residential Design
- DRFT 2271 Diploma Site Planning
- DRFT 2272 Diploma Codes and Regulations 1
- DRFT 2273 Diploma Construction Assemblies 1
- DRFT 2274 Diploma Single Family Residences
- DRFT 2275 Diploma Codes and Regulations 2
- DRFT 2276 Diploma Construction Assemblies 2
- DRFT 2277 Diploma Multi Family Residences
- DRFT 2278 Diploma Drawing Plan Reading

#### CIVIL/STRUCTURAL

- DRFT 2226 Diploma Construction Drawing Reading
- DRFT 2280 Diploma Industrial Site Layout
- DRFT 2281 Diploma Autodesk Civil 3D
- DRFT 2282 Diploma Road Alignment Detailing
- DRFT 2283 Diploma Steel Structures
- DRFT 2284 Diploma Principles of Reinforced Concrete
- DRFT 2285 Diploma Foundation Design Concepts
- DRFT 1286 Engineering Statics

#### MECHANICAL

- DRFT 2256 **Diploma Plumbing Systems for Buildings**
- DRFT 2257 **Diploma Electrical Systems for Buildings**
- DRFT 2258 **Diploma Utility Data and Setting-Up Projects**
- DRFT 2259 **Diploma HVAC Systems for Buildings**
- DRFT 2260 **Diploma Fire Suppression and Sprinkler Systems for Buildings**
- DRFT 2261 **Diploma Process Flow Diagrams and Tank/Pump Box Fabrication**
- DRFT 2262 **Diploma Pipe Components: Pipe, Fittings, Valves, Supports and Pumps**
- DRFT 2263 **Diploma Piping and Instrumentation Diagrams & Specifications**
- DRFT 2264 **Diploma Plant and Equipment Layout**
- DRFT 2265 **Diploma Process and Utility Piping Layout**
- DRFT 2266 **Diploma Piping Fabrication Isometrics**

|                  |                            |    |
|------------------|----------------------------|----|
| TERM 6           |                            |    |
| <u>DRFT 2107</u> | Capstone Project using BIM | 6  |
| Total Credits    |                            | 70 |



## 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:

### Grading Standard

#### Transcript of Achievement

| Grade                   | Percentage | Description   | Grade Point Equivalency |
|-------------------------|------------|---|-------------------------|
| A+                      | 96-100     |   | 4.33                    |
| A                       | 91-95      |   | 4.00                    |
| A-                      | 86-90      |   | 3.67                    |
| B+                      | 81-85      |   | 3.33                    |
| B                       | 76-80      |   | 3.00                    |
| B-                      | 71-75      |   | 2.67                    |
| C+                      | 66-70      |   | 2.33                    |
| C                       | 60-65      |   | 2.00                    |
| C-                      | 56-59      |   | 1.67                    |
| D                       | 50-55      | Minimum Pass  | 1.00                    |
| F                       | 0-49       | Failing Grade   | 0.00                    |
| S                       |            | Satisfactory – student has met and mastered a clearly defined body of skills and performances to required standards       | N/A                     |
| U                       |            | Unsatisfactory – student has not met and mastered a clearly defined body of skills and performances to required standards | N/A                     |
| I                       |            | Incomplete  | N/A                     |
| IP                      |            | Course in Progress  | N/A                     |
| W                       |            | Withdrawal  | N/A                     |
| <b>Course Standings</b> |            |   |                         |
| R                       |            | Audit. No Credit  | N/A                     |
| EX                      |            | Exempt. Credit Granted  | N/A                     |
| TC                      |            | Transfer Credit   | N/A                     |

### 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

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Provide a rationale for this proposal.

Graduates will work on a wide variety of mechanical applications in the mining industry, chemical process plants, energy infrastructure, oil and gas, as well as mechanical systems for buildings and development work.

The design of this new specialty supports the College's Strategic Initiatives and Education Plan, as demonstrated by the following:

- The specialty is designed to support the BC Government's "Labour Market 2025" forecast for increased demand for Drafting technologists and technicians in the technical and trades segment for the energy industry infrastructure, LNG and major hydro projects. All of which involve the mechanical engineering technical services.
- The new specialty aligns with the learning outcomes outlined in the accreditation standard for Applied Science Technologists and Technicians of BC (ASTTBC) and the Technology Accreditations Canada (TAC).
- This specialty addresses the special needs of newcomers to Canada as well as international students looking to gain knowledge in the local industry.
- This specialty is well suited for students with certain physical disabilities provided the computer work station can be adapted for their use. This reduces barriers for those in wheelchairs or with walking difficulties.
- This specialty is designed to include a high level of technical knowledge and an increased ability in Building Information Modelling. As such, it is more relevant to industry needs.
- The focus of this new specialty is to provide relevant high-quality curriculum that leads to student success, and to maintain (a) the positive reputation of VCC' programs and graduates in the community.

This new specialty will provide the most current training required by the building and design industry today. VCC has many supports for students to facilitate success: such as the Learning Centre, Counselling Services, and Library Services. The CAD & BIM Technologies Department refers students to these services in support of student success. Several strategies are built into the program to help students gain success.

The CAD & BIM Technologies Department has many partnerships and collaborations. Numerous informal affiliation relationships exist in support of student placements. Many engineering firms, architectural firms and contracting/development companies in the greater Vancouver area seek out our graduates for placement.

The regulatory body ASTTBC and our Program Advisory Committee have been asking VCC to develop a mechanical program for some time now. We value the positive partnership we have with these stakeholders.

The VCC Drafting program has historically achieved the highest standards of graduates. As such, it is known

in the design and building community for its positive reputation. This new design and technological upgrade to the program will continue this tradition in the years to come.

There is a consistent demand for engineering drafting, CAD and BIM technicians in British Columbia. The drafting program at VCC has been providing skilled drafters for the engineering and construction industries for over five decades. By meeting industry demands through this new mechanical specialty, the department will be well suited to continue to provide highly skilled technicians ready for today's market place.

From Employment and Social Development Canada projection (COPS) July 2018 :

“Occupational Outlook: Shortage

This occupational group is expected to face labour shortage conditions at the national level over the period of 2017-2026. The section below contains more detailed information regarding the outlook for this occupational group.”

“The analysis of key labour market indicators such as employment and wage growth as well as the unemployment rate suggests that the number of job openings exceeded substantially the number of job seekers in this occupational group over the 2014-2016 period.

For Mechanical engineering technologists and technician, over the period 2017-2026, new job openings (arising from expansion demand and replacement demand) are expected to total 7,200, while 7,700 new job seekers (arising from school leavers, immigration and mobility) are expected to be available to fill them.

As job openings and job seekers are projected to be relatively similar over the 2017-2026 period, the labour shortage conditions seen in recent years are expected to continue over the projection period. A more detailed analysis of the outlook of this occupation will be released in the coming weeks.”

Are there any expected costs to this proposal.

No

Consultations

| Consultated Area                                   | Consultation Comments   |
|--|---|
| Centre for Teaching, Learning, and Research (CTRL) | <p>Consulted with Francesco Barillaro and Elle Ting<br/>Exchanged preliminary PCG and Course Outlines Sept 30.<br/>Meet to consult Oct 5th.<br/>Received comments on course material and updated submission to Course Leaf.</p> |

| Consultated Area         | Consultation Comments   |
|--------------------------|---|
| Registrar's Office       | <p>Consulued with Les Apouchtine<br/>Via several emails Sept 29 – Oct 8, 2020<br/>Emails sent, supports submission.</p> <p>Course numbers supplied.</p> <p>Several areas raised:<br/>Alignment of program Levels with regular semester structure and the reasoning why the Levels do not align.<br/>Addressed question of many 1 and 2 credit courses and the reasoning behind this decision.<br/>Addressed question of integration of this new Certificate within the CAD &amp; BIM Tech. Diploma.</p> |
| Faculty/Department       | Supports proposal   |
| Department Support Staff | PA supports proposal  |
| Advising & Recruitment   | <p>Consultes with Wendy LaFrance<br/>Email sent Sept 30. 2020<br/>Supports submission</p>   |
| Assessment Centre        | <p>Consulted with Patricia Mori<br/>Email sent Sept 30. 2020<br/>Supports submission<br/>Advised of assessment score minimum changes for Apprenticeship and Workplace Math 11. Now are the Basic Arithmetic with 80% and Basic Algebra with 60%. PCG revised to suit.</p>   |
| Counselling              | <p>Consulted with Nona Coles<br/>Email sent Sept 30. 2020<br/>Supports submission</p>   |
| Disabilities Services    | <p>Consulted with Ron Kee<br/>Email sent Sept 30. 2020<br/>Supports submission</p>  |

| Consultated Area            | Consultation Comments  |
|-----------------------------|--|
| Information Technology (IT) | <p>Consulted with Rick Smith<br/>Feb 04, 2020<br/>Supports submission.</p> <p>The anticipated results of a pilot project between CAD &amp; BIM and IT with hosting software on the Citrix server, and not installing individual PC's in classrooms. If successful, then any classroom in the college with computers can be used. One additional monitor will be required (so each station has two monitors).</p> |
| Institutional Research (IR) | <p>Consulted with Janet Latter, Patris Aghakian copied<br/>Email sent Sept 30. 2020<br/>Supports submission</p>  |
| International Education     | <p>Consulted with Jennifer Gossen</p> <p>Email sent Sept 30. 2020<br/>Supports submission</p> <p>Open to IE students but not primarily.</p> <p>English proficiency requirements same as other CAD &amp; BIM programs.</p> <p>Program is designed so that international students will be eligible for student visas, same as other CAD &amp; BIM programs.</p>  |
| Learning Centre             | <p>Consulted with Emily Simpson</p> <p>Email sent Sept 30. 2020<br/>Supports submission</p> <p>Advised re-wording of some Program Learning Outcomes to clarify wording.</p>  |
| Library                     | <p>Consulted with Todd Rowlatt<br/>Feb 04, 2020 in person meeting<br/>Supports submission</p>  |

| Consultated Area           | Consultation Comments   |
|----------------------------|---|
| Marketing & Communications | <p>Consulted with Reg Romero<br/>Feb 6, 2020</p> <p>Use new Comp. Tech. program launch as a good template for this program.</p> <p>Currently (Oct 2020) working on marketing campaign for launch in early 2021</p> <p>Demographics are those fresh out of high school, those in mid-twenties looking for a career, International students, tradespeople looking to retrain, new Canadians who's foreign credentials are not recognized, and a few others.</p> |
| Safety & Security          | <p>Consulted with Surinder Aulakh<br/>Email sent Sept 30. 2020<br/>Supports submission</p>  |
| PAC/CEG                    | Supports submission   |

### Additional Information

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Provide any additional information if necessary.

Supporting  
documentation:

### Marketing Information

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*FOR MARKETING PURPOSES ONLY. DO NOT EDIT.*

*These fields are NOT required for governance approval. The wording in these fields is written by Marketing for a specific purpose and must be consistent with all other College publications. If changes are needed, contact [webmaster@vcc.ca](mailto:webmaster@vcc.ca).*

This program is for:    Domestic  
   International

# Course Change Request

## New Course Proposal

Date Submitted: 11/05/20 3:47 pm

Viewing: **DRFT 1256 : Plumbing Systems for Buildings**

Last edit: 12/01/20 11:53 am

Changes proposed by: bmcgarvie

Programs  
referencing this  
course

[106: Computer Aided Draft \(CAD\) and Building Information Modelling \(BIM\) Technician Diploma](#)

Course Name:

Plumbing Systems for Buildings

Effective Date: September 2021

School/Centre: Trades, Technology & Design

Department: Drafting (4203)

Contact(s)

### In Workflow

1. **4203 Leader**
2. **CTT Dean**
3. **Curriculum Committee Chair**
4. **EDCO Chair**
5. Records
6. Banner

### Approval Path

1. 11/05/20 4:19 pm  
Bruce McGarvie  
(bmcgarvie):  
Approved for 4203  
Leader
2. 11/06/20 9:33 am  
Brett Griffiths  
(bgriffiths):  
Approved for CTT  
Dean
3. 12/01/20 12:58 pm  
Todd Rowlatt  
(trowlatt): Approved  
for Curriculum  
Committee Chair

| Name           | E-mail           | Phone/Ext. |
|----------------|------------------|------------|
| Bruce McGarvie | bmcgarvie@vcc.ca | 8536       |

Banner Course Name: Plumbing Systems for Buildings

Subject Code: DRFT - Drafting

Course Number: 1256

Year of Study            1st Year Post-secondary

Credits:                    1

**Course Description:**

This course introduces the student to the overall layout of plumbing and mechanical equipment for buildings for the mechanical engineering industry.

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

DRFT 1010 CAD Drafting Fundamentals  
 DRFT 1011 CAD Drafting Applied  
 DRFT 1012 Office & Construction Site Safety  
 DRFT 1013 Construction Mathematics

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

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

No

**Course Learning**

**Outcomes (CLO):**

|        | <b>Upon successful completion of this course, students will be able to:</b>                         |
|--------|---|
| CLO #1 | Determine the entrance and exit locations of utilities (gas, water, sewer, storm drainage)          |
| CLO #2 | Determine plumbing fixture locations and requirements   |
| CLO #3 | Determine shaft spaces, chase sizes for fixtures, mounts, carrier and overhead clearances           |
| CLO #4 | Evaluate pipe routing options   |
| CLO #5 | Prepare drawing layouts for small projects and executing redlines from designers for large projects |
| CLO #6 | Apply code system requirements to plumbing system   |

**Instructional**

**Strategies:**

Lectures, video presentations, project-/problem-based learning, lab activities. The course may be offered face-to-face or in a blended format (mix of face-to-face and online)

**Evaluation and Grading**



Grading System: Letter Grade (A-F)

Passing grade:

D

Evaluation Plan:

| Type          | Percentage | Brief description of assessment activity                                   |
|---------------|------------|--|
| Project       | 60         | Minimum of 3 project-based major assignments of approximately equal value. |
| Quizzes/Tests | 10         |  |
| Final Exam    | 30         |  |

## Hours by Learning Environment Type

---

Lecture, Seminar, Online

10

Lab, Clinical, Shop, Kitchen,  
Studio, Simulation

20

Practicum

Self Paced / Individual Learning

Course Topics

| Course Topics:   |
|--|
| Utility information onsite   |
| Civil engineer contact or the city regarding project utilities       |
| Site plans, services, elevations, etc. necessary to plumbing systems |

Learning Resources (textbooks, lab/shop manuals, equipment, etc.):

## Rationale and Consultations

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# Course Change Request

## New Course Proposal

Date Submitted: 11/05/20 3:48 pm

Viewing: **DRFT 1257 : Electrical Systems for Bldgs**

Last edit: 12/01/20 11:54 am

Changes proposed by: bmcgarvie

Programs  
referencing this  
course

[106: Computer Aided Draft \(CAD\) and Building Information Modelling \(BIM\) Technician Diploma](#)

Course Name:

Electrical Systems for Buildings

Effective Date: September 2021

School/Centre: Trades, Technology & Design

Department: Drafting (4203)

Contact(s)

### In Workflow

1. **4203 Leader**
2. **CTT Dean**
3. **Curriculum Committee Chair**
4. **EDCO Chair**
5. Records
6. Banner

### Approval Path

1. 11/05/20 4:19 pm  
Bruce McGarvie  
(bmcgarvie):  
Approved for 4203  
Leader
2. 11/06/20 9:33 am  
Brett Griffiths  
(bgriffiths):  
Approved for CTT  
Dean
3. 12/01/20 12:58 pm  
Todd Rowlatt  
(trowlatt): Approved  
for Curriculum  
Committee Chair

| Name           | E-mail           | Phone/Ext. |
|----------------|------------------|------------|
| Bruce McGarvie | bmcgarvie@vcc.ca | 8536       |

Banner Course Name: Electrical Systems for Bldgs

Subject Code: DRFT - Drafting

Course Number: 1257

Year of Study            1st Year Post-secondary

Credits:                    1

**Course Description:**

This course introduces the student to the overall layout of wiring and electrical equipment for buildings for the electrical engineering industry.

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

DRFT 1010 CAD Drafting Fundamentals  
 DRFT 1011 CAD Drafting Applied  
 DRFT 1012 Office & Construction Site Safety  
 DRFT 1013 Construction Mathematics

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

=

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

No

**Course Learning**

**Outcomes (CLO):**

|        | <b>Upon successful completion of this course, students will be able to:</b>                         |
|--------|---|
| CLO #1 | Determine the entrance and exit locations of utilities (gas, water, sewer, storm drainage)          |
| CLO #2 | Describe electrical components for buildings  |
| CLO #3 | Describe electrical circuits for buildings  |
| CLO #4 | Evaluate wiring routing options for buildings   |
| CLO #5 | Prepare drawing layouts for small projects and executing redlines from designers for large projects |
| CLO #6 | Apply code system requirements to electrical system   |

**Instructional**

**Strategies:**

Lectures, video presentations, project-/problem-based learning, lab activities

The course may be offered face-to-face or in a blended format (mix of face-to-face and online)

**Evaluation and Grading**

Grading System: Letter Grade (A-F)

Passing grade:

D

Evaluation Plan:

| Type          | Percentage | Brief description of assessment activity                                   |
|---------------|------------|--|
| Project       | 60         | Minimum of 3 project-based major assignments of approximately equal value. |
| Quizzes/Tests | 10         |  |
| Final Exam    | 30         |  |

## Hours by Learning Environment Type

---

Lecture, Seminar, Online

10

Lab, Clinical, Shop, Kitchen,  
Studio, Simulation

20

Practicum

Self Paced / Individual Learning

Course Topics

| Course Topics:  |
|---|
| Gather electrical utility information onsite                            |
| Contact the electrical engineer or the city regarding project utilities |
| Obtain site plans, services, elevations, etc.                           |

Learning Resources (textbooks, lab/shop manuals, equipment, etc.):

## Rationale and Consultations

---

# Course Change Request

## New Course Proposal

Date Submitted: 11/05/20 3:48 pm

Viewing: **DRFT 1258 : Utility Data**

Last edit: 12/01/20 11:55 am

Changes proposed by: bmcgarvie

Programs  
referencing this  
course

[106: Computer Aided Draft \(CAD\) and Building Information Modelling \(BIM\) Technician Diploma](#)

Course Name:

Utility Data and Setting-Up Projects

Effective Date: September 2021

School/Centre: Trades, Technology & Design

Department: Drafting (4203)

Contact(s)

### In Workflow

1. **4203 Leader**
2. **CTT Dean**
3. **Curriculum Committee Chair**
4. **EDCO Chair**
5. Records
6. Banner

### Approval Path

1. 11/05/20 4:19 pm  
Bruce McGarvie  
(bmcgarvie):  
Approved for 4203  
Leader
2. 11/06/20 9:33 am  
Brett Griffiths  
(bgriffiths):  
Approved for CTT  
Dean
3. 12/01/20 12:58 pm  
Todd Rowlett  
(trowlett): Approved  
for Curriculum  
Committee Chair

| Name           | E-mail           | Phone/Ext. |
|----------------|------------------|------------|
| Bruce McGarvie | bmcgarvie@vcc.ca | 8536       |

Banner Course      Utility Data  
Name:

Subject Code:      DRFT - Drafting

Course Number      1258

Year of Study            1st Year Post-secondary

Credits:                    1

**Course Description:**

This course introduces students to the public utilities serving building projects. Students assess information about public utilities (e.g. availability, size, location, depth, material, pressure, and capacity) and prepare a set of drawing sheets to convey this information.

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

DRFT 1010 CAD Drafting Fundamentals  
 DRFT 1011 CAD Drafting Applied  
 DRFT 1012 Office & Construction Site Safety  
 DRFT 1013 Construction Mathematics

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

=

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

No

**Course Learning**

**Outcomes (CLO):**

| <b>Upon successful completion of this course, students will be able to:</b> |   |
|---|---|
| CLO #1  | Collect utility information onsite (gas, water, sewer, storm drainage)  |
| CLO #2  | Obtain and use site plans, services, elevations, to facilitate setting up projects  |
| CLO #3  | Set up a project folder to accepted industry standards to detail information  |
| CLO #4  | Create plot sheets (plumbing, fire, orientations)   |
| CLO #5  | Consolidate available information (e.g., as-built drawings and operation and maintenance manuals) to facilitate setting up projects |

**Instructional**

**Strategies:**

Lectures, video presentations, project-/problem-based learning, lab activities. The course may be offered face-to-face or in a blended format (mix of face-to-face and online)

## Evaluation and Grading

---

Grading System: Letter Grade (A-F) Passing grade:  
D

Evaluation Plan:

| Type          | Percentage | Brief description of assessment activity                                   |
|---------------|------------|--|
| Project       | 60         | Minimum of 3 project-based major assignments of approximately equal value. |
| Quizzes/Tests | 10         |  |
| Final Exam    | 30         |  |

## Hours by Learning Environment Type

---

Lecture, Seminar, Online

10

Lab, Clinical, Shop, Kitchen,  
Studio, Simulation

20

Practicum

Self Paced / Individual Learning

Course Topics

| Course Topics:   |
|--|
| Onsite utility information   |
| Civil engineer contact or the city contact regarding project utilities |
| Site plans, services, elevations, etc. to facilitate project setup.    |

Learning Resources (textbooks, lab/shop manuals, equipment, etc.):

# Course Change Request

## New Course Proposal

Date Submitted: 11/05/20 3:49 pm

Viewing: **DRFT 1259 : HVAC Systems for Buildings**

Last edit: 12/01/20 11:55 am

Changes proposed by: bmcgarvie

Programs  
referencing this  
course

[106: Computer Aided Draft \(CAD\) and Building Information Modelling \(BIM\) Technician Diploma](#)

Course Name:

HVAC Systems for Buildings

Effective Date: September 2021

School/Centre: Trades, Technology & Design

Department: Drafting (4203)

Contact(s)

### In Workflow

1. **4203 Leader**
2. **CTT Dean**
3. **Curriculum Committee Chair**
4. **EDCO Chair**
5. Records
6. Banner

### Approval Path

1. 11/05/20 4:19 pm  
Bruce McGarvie  
(bmcgarvie):  
Approved for 4203  
Leader
2. 11/06/20 9:33 am  
Brett Griffiths  
(bgriffiths):  
Approved for CTT  
Dean
3. 12/01/20 12:58 pm  
Todd Rowlatt  
(trowlatt): Approved  
for Curriculum  
Committee Chair

| Name           | E-mail           | Phone/Ext. |
|----------------|------------------|------------|
| Bruce McGarvie | bmcgarvie@vcc.ca | 8536       |

Banner Course Name: HVAC Systems for Buildings

Subject Code: DRFT - Drafting

Course Number: 1259



Year of Study            1st Year Post-secondary

Credits:                    3

**Course Description:**

This course introduces the student to the overall layout of ducting and equipment for buildings for the heating, ventilation, and air conditioning systems for the mechanical engineering industry.

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

DRFT 1010 CAD Drafting Fundamentals  
 DRFT 1011 CAD Drafting Applied  
 DRFT 1012 Office & Construction Site Safety  
 DRFT 1013 Construction Mathematics

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

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

No

**Course Learning**

**Outcomes (CLO):**

|        | <b>Upon successful completion of this course, students will be able to:</b>   |
|--------|---|
| CLO #1 | Determine duct sizing and layout for buildings  |
| CLO #2 | Describe thermal and air-quality air requirements for buildings   |
| CLO #3 | Describe ventilation requirements for buildings   |
| CLO #4 | Evaluate duct routing options for buildings   |
| CLO #5 | Describe heating and cooling equipment, and air outlets   |
| CLO #6 | Discuss American Society of Heating and Air-Conditioning Engineers (ASHAE), BC Building Code and other codes and standards. |

**Instructional**

**Strategies:**

Lectures, video presentations, project-/problem-based learning, lab activities. The course may be offered face-to-face or in a blended format (mix of face-to-face and online).

## Evaluation and Grading

---

Grading System: Letter Grade (A-F)  
D

Passing grade:

Evaluation Plan:

| Type          | Percentage | Brief description of assessment activity                                   |
|---------------|------------|--|
| Project       | 60         | Minimum of 3 project-based major assignments of approximately equal value. |
| Quizzes/Tests | 10         |  |
| Final Exam    | 30         |  |

## Hours by Learning Environment Type

---

Lecture, Seminar, Online

30

Lab, Clinical, Shop, Kitchen,  
Studio, Simulation

60

Practicum

Self Paced / Individual Learning

Course Topics

### Course Topics:

Federal, provincial and industrial HVAC standards .

Building construction systems

Building automation and control

Coordinating With Other Disciplines

Riser schematics, schedules, and details

# Course Change Request

## New Course Proposal

Date Submitted: 11/05/20 3:49 pm

Viewing: **DRFT 1260 : Fire Suppression Systems**

Last edit: 12/01/20 11:56 am

Changes proposed by: bmcgarvie

Programs  
referencing this  
course

[106: Computer Aided Draft \(CAD\) and Building Information Modelling \(BIM\) Technician Diploma](#)

Course Name:

Fire Suppression and Sprinkler Systems for Buildings

Effective Date: September 2021

School/Centre: Trades, Technology & Design

Department: Drafting (4203)

Contact(s)

### In Workflow

1. **4203 Leader**
2. **CTT Dean**
3. **Curriculum Committee Chair**
4. **EDCO Chair**
5. Records
6. Banner

### Approval Path

1. 11/05/20 4:19 pm  
Bruce McGarvie  
(bmcgarvie):  
Approved for 4203  
Leader
2. 11/06/20 9:33 am  
Brett Griffiths  
(bgriffiths):  
Approved for CTT  
Dean
3. 12/01/20 12:58 pm  
Todd Rowlatt  
(trowlatt): Approved  
for Curriculum  
Committee Chair

| Name           | E-mail           | Phone/Ext. |
|----------------|------------------|------------|
| Bruce McGarvie | bmcgarvie@vcc.ca | 8536       |

Banner Course Name: Fire Suppression Systems

Subject Code: DRFT - Drafting

Course Number: 1260

Year of Study            1st Year Post-secondary

Credits:                    1

#### Course Description:

This course introduces the student to the overall layout of piping and equipment for buildings for the fire suppression systems for the mechanical engineering industry.

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

DRFT 1010 CAD Drafting Fundamentals  
 DRFT 1011 CAD Drafting Applied  
 DRFT 1012 Office & Construction Site Safety  
 DRFT 1013 Construction Mathematics

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

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

No

#### Course Learning

#### Outcomes (CLO):

|        | <b>Upon successful completion of this course, students will be able to:</b>                           |
|--------|---|
| CLO #1 | Determine sprinkler pipe layout and positioning   |
| CLO #2 | Explain operations and performance objectives of sprinkler and standpipe systems                      |
| CLO #3 | Describe different types of fire sprinkler systems and components.                                    |
| CLO #4 | Define the applicable building code and bylaw requirements for fire sprinkler and standpipes systems. |
| CLO #5 | Prepare drawing layouts for small projects and executing redlines from designers for large projects   |

#### Instructional

#### Strategies:

Lectures, video presentations, project-/problem-based learning, lab activities

The course may be offered face-to-face or in a blended format (mix of face-to-face and online)

## Evaluation and Grading

---

Grading System: Letter Grade (A-F)  
D

Passing grade:

Evaluation Plan:

| Type          | Percentage | Brief description of assessment activity                                   |
|---------------|------------|--|
| Project       | 60         | Minimum of 3 project-based major assignments of approximately equal value. |
| Quizzes/Tests | 10         |  |
| Final Exam    | 30         |  |

## Hours by Learning Environment Type

---

Lecture, Seminar, Online

10

Lab, Clinical, Shop, Kitchen,  
Studio, Simulation

20

Practicum

Self Paced / Individual Learning

Course Topics

### Course Topics:

Federal, provincial, and industrial Fire Suppression standards.

NFPA 13 sprinkler design and installation criteria

Pipe schedules, sprinkler spacing, layout and positioning requirements.

Coordinating with other disciplines

# Course Change Request

## New Course Proposal

Date Submitted: 11/05/20 3:52 pm

Viewing: **DRFT 1261 : Process Flow Diagrams**

Last edit: 12/01/20 11:56 am

Changes proposed by: bmcgarvie

Programs  
referencing this  
course

[106: Computer Aided Draft \(CAD\) and Building Information Modelling \(BIM\) Technician Diploma](#)

Course Name:

Process Flow Diagrams and Tank/Pump Box Fabrication

Effective Date: September 2021

School/Centre: Trades, Technology & Design

Department: Drafting (4203)

Contact(s)

### In Workflow

1. **4203 Leader**
2. **CTT Dean**
3. **Curriculum Committee Chair**
4. **EDCO Chair**
5. Records
6. Banner

### Approval Path

1. 11/05/20 4:19 pm  
Bruce McGarvie  
(bmcgarvie):  
Approved for 4203  
Leader
2. 11/06/20 9:33 am  
Brett Griffiths  
(bgriffiths):  
Approved for CTT  
Dean
3. 12/01/20 12:58 pm  
Todd Rowlatt  
(trowlatt): Approved  
for Curriculum  
Committee Chair

| Name           | E-mail           | Phone/Ext. |
|----------------|------------------|------------|
| Bruce McGarvie | bmcgarvie@vcc.ca | 8536       |

Banner Course Name: Process Flow Diagrams

Subject Code: DRFT - Drafting

Course Number: 1261

Year of Study            1st Year Post-secondary

Credits:                    2

**Course Description:**

Students learn about process flow diagrams, tank design, and general arrangements, and how they are used in industrial design.

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

DRFT 1010 CAD Drafting Fundamentals  
 DRFT 1011 CAD Drafting Applied  
 DRFT 1012 Office & Construction Site Safety  
 DRFT 1013 Construction Mathematics

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

None

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

No

**Course Learning Outcomes (CLO):**

|        | <b>Upon successful completion of this course, students will be able to:</b>                   |
|--------|---|
| CLO #1 | Describe process flow diagrams and how they are used in the plant design process.             |
| CLO #2 | Analyze the mass balance contained in the process flow diagram and determine its correctness. |
| CLO #3 | Create a process flow diagram using standard industry design symbology.                       |
| CLO #4 | Discuss the design parameters needed to be considered when designing a tank or pump box.      |
| CLO #5 | Identify the different components contained in a tank or pump box.                            |
| CLO #6 | Calculate the volume of tanks and pump boxes based on given engineering data.                 |
| CLO #7 | Draw a typical tank layout using standard engineering drawing conventions.                    |

**Instructional Strategies:**

Lectures, video presentations, project-/problem-based learning, lab activities. The course may be offered face-to-face or in a blended format (mix of face-to-face and online)

## Evaluation and Grading

---

Grading System: Letter Grade (A-F) Passing grade:  
D

Evaluation Plan:

| Type          | Percentage | Brief description of assessment activity                                   |
|---------------|------------|--|
| Project       | 60         | Minimum of 3 project-based major assignments of approximately equal value. |
| Quizzes/Tests | 10         |  |
| Final Exam    | 30         |  |

## Hours by Learning Environment Type

---

Lecture, Seminar, Online

20

Lab, Clinical, Shop, Kitchen,  
Studio, Simulation

40

Practicum

Self Paced / Individual Learning

Course Topics

### Course Topics:

Terminology, abbreviations, & symbols within the flow diagram and pump box specialties.

Process Flow Diagram Fundamentals



**Course Topics:**

Project Mass Balance

Interpretation of Flow Values

Equipment Numbers

Tank Construction and Volume

Tank Drawing Fundamentals

Learning Resources (textbooks, lab/shop manuals, equipment, etc.):

## 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

PCG

Provide a rationale  
for this proposal:

Are there any

### Additional Information

---

Provide any additional information if necessary.

Supporting  
documentation:

Reviewer

Comments

# Course Change Request

## New Course Proposal

Date Submitted: 11/05/20 3:52 pm

Viewing: **DRFT 1262 : Pipe Components**

Last edit: 12/01/20 11:56 am

Changes proposed by: bmcgarvie

Programs  
referencing this  
course

[106: Computer Aided Draft \(CAD\) and Building Information Modelling \(BIM\) Technician Diploma](#)

Course Name:

Pipe Components: Pipe, Fittings, Valves, Supports and Pumps

Effective Date: September 2021

School/Centre: Trades, Technology & Design

Department: Drafting (4203)

Contact(s)

### In Workflow

1. **4203 Leader**
2. **CTT Dean**
3. **Curriculum Committee Chair**
4. **EDCO Chair**
5. Records
6. Banner

### Approval Path

1. 11/05/20 4:19 pm  
Bruce McGarvie  
(bmcgarvie):  
Approved for 4203  
Leader
2. 11/06/20 9:33 am  
Brett Griffiths  
(bgriffiths):  
Approved for CTT  
Dean
3. 12/01/20 12:58 pm  
Todd Rowlatt  
(trowlatt): Approved  
for Curriculum  
Committee Chair

| Name           | E-mail           | Phone/Ext. |
|----------------|------------------|------------|
| Bruce McGarvie | bmcgarvie@vcc.ca | 8536       |

Banner Course Name: Pipe Components

Subject Code: DRFT - Drafting

Course Number: 1262

Year of Study            1st Year Post-secondary

Credits:                    1

**Course Description:**

Students will learn the components used in process and utility piping systems. Industry standard sizes, ratings and designations will be discussed.

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

DRFT 1010 CAD Drafting Fundamentals  
 DRFT 1011 CAD Drafting Applied  
 DRFT 1012 Office & Construction Site Safety  
 DRFT 1013 Construction Mathematics

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

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

No

**Course Learning**

**Outcomes (CLO):**

|        | <b>Upon successful completion of this course, students will be able to:</b>                            |
|--------|--|
| CLO #1 | Explain how pipe wall schedules are determined and documented.   |
| CLO #2 | Identify the different types of pipe, fittings, flanges, pumps and connections used in piping systems. |
| CLO #3 | Compare the different materials used for the piping systems and where they are commonly used.          |
| CLO #4 | Identify the different types of valves and how they are used in piping systems.                        |
| CLO #5 | Discuss the different pipe support and hangers and where they might be used.                           |
| CLO #6 | Create a block library of piping symbols to be used in piping layout drawings.                         |

**Instructional**

**Strategies:**

Lectures, video presentations, project-/problem-based learning, lab activities. The course may be offered face-to-face or in a blended format (mix of face-to-face and online)

## Evaluation and Grading

---

Grading System: Letter Grade (A-F)  
D

Passing grade:

Evaluation Plan:

| Type          | Percentage | Brief description of assessment activity                                   |
|---------------|------------|--|
| Project       | 60         | Minimum of 3 project-based major assignments of approximately equal value. |
| Quizzes/Tests | 10         |  |
| Final Exam    | 30         |  |

## Hours by Learning Environment Type

---

Lecture, Seminar, Online

10

Lab, Clinical, Shop, Kitchen,  
Studio, Simulation

20

Practicum

Self Paced / Individual Learning

Course Topics

### Course Topics:

Terminology, Abbreviations, & Symbols in pipe components

Pipe Schedules

Pipe Fittings, Flanges and Supports

**Course Topics:**

Piping Component Connections

Valves and Pumps: Types and Application.

Creating Blocks from Vendor Catalogs.

Learning Resources (textbooks, lab/shop manuals, equipment, etc.):

## 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

PCG

## Additional Information

---

Provide any additional information if necessary.

Supporting  
documentation:

Reviewer  
Comments

## Marketing Information

---

*FOR MARKETING PURPOSES ONLY. NOT REQUIRED FOR GOVERNANCE APPROVAL.*

*This section is used by Marketing to help populate course information on the website. If you have any questions about this section, contact [webmaster@vcc.ca](mailto:webmaster@vcc.ca).*

# Course Change Request

## New Course Proposal

Date Submitted: 11/05/20 3:53 pm

Viewing: **DRFT 1263 : Piping and Instrumentation**

Last edit: 12/01/20 12:03 pm

Changes proposed by: bmcgarvie

Programs  
referencing this  
course

[106: Computer Aided Draft \(CAD\) and Building Information Modelling \(BIM\) Technician Diploma](#)

Course Name:

Piping and Instrumentation Diagrams & Specifications

Effective Date: September 2021

School/Centre: Trades, Technology & Design

Department: Drafting (4203)

Contact(s)

### In Workflow

1. **4203 Leader**
2. **CTT Dean**
3. **Curriculum Committee Chair**
4. **EDCO Chair**
5. Records
6. Banner

### Approval Path

1. 11/05/20 4:19 pm  
Bruce McGarvie  
(bmcgarvie):  
Approved for 4203  
Leader
2. 11/06/20 9:33 am  
Brett Griffiths  
(bgriffiths):  
Approved for CTT  
Dean
3. 12/01/20 12:58 pm  
Todd Rowlatt  
(trowlatt): Approved  
for Curriculum  
Committee Chair

| Name           | E-mail           | Phone/Ext. |
|----------------|------------------|------------|
| Bruce McGarvie | bmcgarvie@vcc.ca | 8536       |

Banner Course Name: Piping and Instrumentation

Subject Code: DRFT - Drafting

Course Number: 1263

Year of Study            1st Year Post-secondary

Credits:                    1

**Course Description:**

Students learn how Piping and Instrumentation Diagrams (P&IDs) are created from Process Flow Diagrams. They use standard industry symbols to create a P&ID. Students learn how to interpret piping specifications and apply them when creating P&IDs.

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

DRFT 1010 CAD Drafting Fundamentals  
 DRFT 1011 CAD Drafting Applied  
 DRFT 1012 Office & Construction Site Safety  
 DRFT 1013 Construction Mathematics

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

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

No

**Course Learning**

**Outcomes (CLO):**

|        | <b>Upon successful completion of this course, students will be able to:</b>                    |
|--------|--|
| CLO #1 | Explain how piping and instrumentation diagrams are created from process flow diagrams.        |
| CLO #2 | Identify the different symbols of pipe, fittings, flanges, pumps and connections used in P&IDs |
| CLO #3 | Identify equipment numbers and describe how they are unique to each piece of equipment.        |
| CLO #4 | Create a P&ID using a given process flow diagram.  |
| CLO #5 | Create an industry standard line list from the P&ID.   |
| CLO #6 | Determine pipe sizes based on the flow taken from the process flow diagram                     |
| CLO #7 | Interpret pipe specifications for industrial applications.                                     |
| CLO #8 | Create a block library of piping symbols to be used in P&IDs.                                  |

**Instructional****Strategies:**

Lectures, video presentations, project-/problem-based learning, lab activities. The course may be offered face-to-face or in a blended format (mix of face-to-face and online)

## Evaluation and Grading

---

Grading System: Letter Grade (A-F)

Passing grade:

D

Evaluation Plan:

| Type          | Percentage | Brief description of assessment activity                                   |
|---------------|------------|--|
| Project       | 60         | Minimum of 3 project-based major assignments of approximately equal value. |
| Quizzes/Tests | 10         |  |
| Final Exam    | 30         |  |

## Hours by Learning Environment Type

---

Lecture, Seminar, Online

10

Lab, Clinical, Shop, Kitchen,  
Studio, Simulation

20

Practicum

Self Paced / Individual Learning

Course Topics

**Course Topics:**



**Course Topics:**

Terminology, Abbreviations, & Symbols for the piping instrumentation applications

Piping and Instrumentation Diagram Fundamentals

Equipment & Line Numbers.

Line List Requirements

Preliminary Pipe Sizing

Pipe Specifications

Learning Resources (textbooks, lab/shop manuals, equipment, etc.):

## 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

PCG

### Additional Information

---

Provide any additional information if necessary.

# Course Change Request

## New Course Proposal

Date Submitted: 11/05/20 3:54 pm

Viewing: **DRFT 1264 : Plant and Equipment Layout**

Last edit: 12/01/20 12:03 pm

Changes proposed by: bmcgarvie

Programs  
referencing this  
course

[106: Computer Aided Draft \(CAD\) and Building Information Modelling \(BIM\) Technician Diploma](#)

Course Name:

Plant and Equipment Layout

Effective Date: September 2021

School/Centre: Trades, Technology & Design

Department: Drafting (4203)

Contact(s)

### In Workflow

1. **4203 Leader**
2. **CTT Dean**
3. **Curriculum Committee Chair**
4. **EDCO Chair**
5. Records
6. Banner

### Approval Path

1. 11/05/20 4:19 pm  
Bruce McGarvie  
(bmcgarvie):  
Approved for 4203  
Leader
2. 11/06/20 9:33 am  
Brett Griffiths  
(bgriffiths):  
Approved for CTT  
Dean
3. 12/01/20 12:58 pm  
Todd Rowlatt  
(trowlatt): Approved  
for Curriculum  
Committee Chair

| Name           | E-mail           | Phone/Ext. |
|----------------|------------------|------------|
| Bruce McGarvie | bmcgarvie@vcc.ca | 8536       |

Banner Course Name: Plant and Equipment Layout

Subject Code: DRFT - Drafting

Course Number: 1264

Year of Study            1st Year Post-secondary

Credits:                    2

**Course Description:**

This course is designed to teach students to lay out equipment in an industrial building and produce plans, sections and elevations. They will learn what is needed to ensure the equipment is laid out to promote optimal flow of material and access for maintenance and replacement.

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

DRFT 1010 CAD Drafting Fundamentals  
 DRFT 1011 CAD Drafting Applied  
 DRFT 1012 Office & Construction Site Safety  
 DRFT 1013 Construction Mathematics

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

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

No

**Course Learning**

**Outcomes (CLO):**

|        | <b>Upon successful completion of this course, students will be able to:</b>                          |
|--------|--|
| CLO #1 | Prepare a set of mechanical plans, sections, and elevations.   |
| CLO #2 | Design the equipment layout to optimize material process flow.                                       |
| CLO #3 | Properly size the structural components in the layouts.  |
| CLO #4 | Apply industrial clearance standards to allow for maintenance and replacement of equipment.          |
| CLO #5 | Create the blocks required to complete the drawings.   |
| CLO #6 | Analyze the building layout to ensure each discipline has the required room to run their components. |
| CLO #7 | Discuss safety in the workplace and the need to ensure the safety of the workers.                    |

**Instructional****Strategies:**

Lectures, video presentations, project-/problem-based learning, lab activities. The course may be offered face-to-face or in a blended format (mix of face-to-face and online)

## Evaluation and Grading

---

Grading System: Letter Grade (A-F)

Passing grade:

D

Evaluation Plan:

| Type          | Percentage | Brief description of assessment activity                                   |
|---------------|------------|--|
| Project       | 60         | Minimum of 3 project-based major assignments of approximately equal value. |
| Quizzes/Tests | 10         |  |
| Final Exam    | 30         |  |

## Hours by Learning Environment Type

---

Lecture, Seminar, Online

20

Lab, Clinical, Shop, Kitchen,  
Studio, Simulation

40

Practicum

Self Paced / Individual Learning

Course Topics

**Course Topics:**

**Course Topics:**

Terminology , abbreviations, & symbols within the plant equipment application.

Mechanical Orthographic Drawing Fundamentals

Equipment Spacing Requirements

Preliminary Structural Steel Sizes

Optimization of process material flow

Maintenance Clearances

Locating Pipe Racks

Workplace safety.

Learning Resources (textbooks, lab/shop manuals, equipment, etc.):

## 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

PCG

## Additional Information

---

# Course Change Request

## New Course Proposal

Date Submitted: 11/05/20 3:55 pm

Viewing: **DRFT 1265 : Process and Utility Piping**

Last edit: 12/01/20 12:03 pm

Changes proposed by: bmcgarvie

Programs  
referencing this  
course

[106: Computer Aided Draft \(CAD\) and Building Information Modelling \(BIM\) Technician Diploma](#)

Course Name:

Process and Utility Piping Layout

Effective Date: September 2021

School/Centre: Trades, Technology & Design

Department: Drafting (4203)

Contact(s)

### In Workflow

1. **4203 Leader**
2. **CTT Dean**
3. **Curriculum Committee Chair**
4. **EDCO Chair**
5. Records
6. Banner

### Approval Path

1. 11/05/20 4:19 pm  
Bruce McGarvie  
(bmcgarvie):  
Approved for 4203  
Leader
2. 11/06/20 9:33 am  
Brett Griffiths  
(bgriffiths):  
Approved for CTT  
Dean
3. 12/01/20 12:58 pm  
Todd Rowlatt  
(trowlatt): Approved  
for Curriculum  
Committee Chair

| Name           | E-mail           | Phone/Ext. |
|----------------|------------------|------------|
| Bruce McGarvie | bmcgarvie@vcc.ca | 8536       |

Banner Course Name: Process and Utility Piping

Subject Code: DRFT - Drafting

Course Number: 1265

Year of Study            1st Year Post-secondary

Credits:                    1

**Course Description:**

This course is designed to teach students to route process and utility piping safely in an industrial project and allow access to all components for maintenance and replacement.

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

DRFT 1010 CAD Drafting Fundamentals  
 DRFT 1011 CAD Drafting Applied  
 DRFT 1012 Office & Construction Site Safety  
 DRFT 1013 Construction Mathematics

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

None

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

No

**Course Learning**

**Outcomes (CLO):**

|        | <b>Upon successful completion of this course, students will be able to:</b>                    |
|--------|--|
| CLO #1 | Prepare a set of piping plans, sections, and elevations.                                       |
| CLO #2 | Design the piping layout to optimize fluid flow and pipe support.                              |
| CLO #3 | Properly space the piping components in the layouts  |
| CLO #4 | Apply industrial clearance standards to allow for maintenance and replacement of piping system |
| CLO #5 | Co-ordinate clearances between the piping and other engineering disciplines                    |
| CLO #6 | Create the blocks required to complete the drawings.   |

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

|        |   |
|--------|---|
| CLO #7 | Discuss safety in the workplace and the need to ensure the safety of the workers within the context of piping layout. |
|--------|---|

Instructional

Strategies:

Lectures, video presentations, project-/problem-based learning, lab activities. The course may be offered face-to-face or in a blended format (mix of face-to-face and online)

## Evaluation and Grading

---

Grading System: Letter Grade (A-F)

Passing grade:

D

Evaluation Plan:

| Type          | Percentage | Brief description of assessment activity                                   |
|---------------|------------|--|
| Project       | 60         | Minimum of 3 project-based major assignments of approximately equal value. |
| Quizzes/Tests | 10         |  |
| Final Exam    | 30         |  |

## Hours by Learning Environment Type

---

Lecture, Seminar, Online

10

Lab, Clinical, Shop, Kitchen,

Studio, Simulation

20

Practicum

Self Paced / Individual Learning

Course Topics

**Course Topics:**



**Course Topics:**

Terminology , abbreviations, & symbols within the piping layout specialty.

Piping Plans, Sections, and Elevations

Piping Routing Fundamentals

Piping Supports and Racking

Pump Suction Requirements

Engineering Discipline Co-ordination

Workplace safety.

Learning Resources (textbooks, lab/shop manuals, equipment, etc.):

## 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

PCG

## Additional Information

---

# Course Change Request

## New Course Proposal

Date Submitted: 11/05/20 3:55 pm

Viewing: **DRFT 1266 : Piping Fabrication Isometrics**

Last edit: 12/01/20 12:05 pm

Changes proposed by: bmcgarvie

Programs  
referencing this  
course

[106: Computer Aided Draft \(CAD\) and Building Information Modelling \(BIM\) Technician Diploma](#)

Course Name:

Piping Fabrication Isometrics

Effective Date: September 2021

School/Centre: Trades, Technology & Design

Department: Drafting (4203)

Contact(s)

### In Workflow

1. **4203 Leader**
2. **CTT Dean**
3. **Curriculum Committee Chair**
4. **EDCO Chair**
5. Records
6. Banner

### Approval Path

1. 11/05/20 4:19 pm  
Bruce McGarvie  
(bmcgarvie):  
Approved for 4203  
Leader
2. 11/06/20 9:33 am  
Brett Griffiths  
(bgriffiths):  
Approved for CTT  
Dean
3. 12/01/20 12:58 pm  
Todd Rowlatt  
(trowlatt): Approved  
for Curriculum  
Committee Chair

| Name           | E-mail           | Phone/Ext. |
|----------------|------------------|------------|
| Bruce McGarvie | bmcgarvie@vcc.ca | 8536       |

Banner Course Name: Piping Fabrication Isometrics

Subject Code: DRFT - Drafting

Course Number: 1266

Year of Study            1st Year Post-secondary

Credits:                    1

**Course Description:**

This course is designed to teach students how to create fabrication isometrics from piping orthographic drawings and identify the information required on the isometrics for fabrication and field installation.

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

DRFT 1010 CAD Drafting Fundamentals  
 DRFT 1011 CAD Drafting Applied  
 DRFT 1012 Office & Construction Site Safety  
 DRFT 1013 Construction Mathematics

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

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

No

**Course Learning**

**Outcomes (CLO):**

|        | <b>Upon successful completion of this course, students will be able to:</b> |
|--------|---|
| CLO #1 | Create isometric drawings from piping orthographics                         |
| CLO #2 | Locate field welds to optimize shipping and installation                    |
| CLO #3 | Prepare a bill of materials   |
| CLO #4 | Distinguish shop materials from field materials                             |
| CLO #5 | Apply mark numbers to the individual fabrication sections                   |
| CLO #6 | Create the blocks required to complete the drawings                         |

**Instructional****Strategies:**

Lectures, video presentations, project-/problem-based learning, lab activities. The course may be offered face-to-face or in a blended format (mix of face-to-face and online)

## Evaluation and Grading

---

Grading System: Letter Grade (A-F)

Passing grade:

D

Evaluation Plan:

| Type          | Percentage | Brief description of assessment activity                                   |
|---------------|------------|--|
| Project       | 60         | Minimum of 3 project-based major assignments of approximately equal value. |
| Quizzes/Tests | 10         |  |
| Final Exam    | 30         |  |

## Hours by Learning Environment Type

---

Lecture, Seminar, Online

10

Lab, Clinical, Shop, Kitchen,  
Studio, Simulation

20

Practicum

Self Paced / Individual Learning

Course Topics

**Course Topics:**

**Course Topics:**

Terminology, abbreviations, & symbols related to the piping fabrication industry

Isometric Drawing Fundamentals

Field Weld Placement

Shipping Restrictions

Mark Numbers

Shop and Field Bills of Material

Learning Resources (textbooks, lab/shop manuals, equipment, etc.):

## 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

PCG

### Additional Information

---

Provide any additional information if necessary.

# Course Change Request

## New Course Proposal

Date Submitted: 11/05/20 4:16 pm

Viewing: **DRFT 1332 : Professional Preparation**

Last edit: 12/01/20 12:25 pm

Changes proposed by: bmcgarvie

Programs  
referencing this  
course

[106: Computer Aided Draft \(CAD\) and Building Information Modelling \(BIM\) Technician Diploma](#)

Course Name:

Professional Preparation

Effective Date: September 2021

School/Centre: Trades, Technology & Design

Department: Drafting (4203)

Contact(s)

### In Workflow

1. **4203 Leader**
2. **CTT Dean**
3. **Curriculum Committee Chair**
4. **EDCO Chair**
5. Records
6. Banner

### Approval Path

1. 11/05/20 4:19 pm  
Bruce McGarvie  
(bmcgarvie):  
Approved for 4203  
Leader
2. 11/06/20 9:33 am  
Brett Griffiths  
(bgriffiths):  
Approved for CTT  
Dean
3. 12/01/20 12:58 pm  
Todd Rowlatt  
(trowlatt): Approved  
for Curriculum  
Committee Chair

| Name           | E-mail           | Phone/Ext. |
|----------------|------------------|------------|
| Bruce McGarvie | bmcgarvie@vcc.ca | 8536       |

Banner Course Name: Professional Preparation

Subject Code: DRFT - Drafting

Course Number: 1332

Year of Study            1st Year Post-secondary

Credits:                    1

**Course Description:**

Students learn the basic skills needed to read, study and understand construction drawings. Students also develop job search strategies including resume and cover letter writing, locating job vacancies, and assessing marketable skills.

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

DRFT 1010 CAD Drafting Fundamentals  
 DRFT 1011 CAD Drafting Applied  
 DRFT 1012 Office & Construction Site Safety  
 DRFT 1013 Construction Mathematics

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

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

No

**Course Learning**

**Outcomes (CLO):**

| <b>Upon successful completion of this course, students will be able to:</b> |   |
|---|---|
| CLO #1  | Read and interpret a set of construction drawings   |
| CLO #2  | Identify and describe standard symbols used in construction drawings                      |
| CLO #3  | Define and interpret standard terminology and abbreviations used in construction drawings |

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

|        |   |
|--------|---|
| CLO #4 | Evaluate and assess their personal marketable skills to meet career goals |
| CLO #5 | Research prospective employers using a systematic job search              |
| CLO #6 | Describe and apply techniques for successful job interviews               |

Instructional

Strategies:

Lectures, video presentations, project-/problem-based learning, lab activities. The course may be offered face-to-face or in a blended format (mix of face-to-face and online)

## Evaluation and Grading

---

Grading System: Letter Grade (A-F)

Passing grade:

D

Evaluation Plan:

| Type          | Percentage | Brief description of assessment activity  |
|---------------|------------|---|
| Project       | 40         | Company report, résumé, cover letter, job interview   |
| Quizzes/Tests | 10         | 1 test of Terms & Abbreviations   |
| Participation | 10         |   |
| Quizzes/Tests | 40         | Minimum of 2 tests of reading a set of residential and commercial construction drawings of approximately equal value. |

## Hours by Learning Environment Type

---

Lecture, Seminar, Online

10

Lab, Clinical, Shop, Kitchen,  
Studio, Simulation

20



## Practicum

Self Paced / Individual Learning

## Course Topics

**Course Topics:**

Standard symbols used in construction drawings

Standard terminology and abbreviations used in construction drawings

Drafting techniques &amp; conventions used in construction drawings

Locating job vacancies

Résumé and cover letter writing

Company research

Interview preparation and skills

Learning Resources (textbooks, lab/shop manuals, equipment, etc.):

## 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?

# Course Change Request

## New Course Proposal

Date Submitted: 11/05/20 4:00 pm

Viewing: **DRFT 1362 : BIM Basic for Mechanical**

Last edit: 12/01/20 12:08 pm

Changes proposed by: bmcgarvie

Programs  
referencing this  
course

[106: Computer Aided Draft \(CAD\) and Building Information Modelling \(BIM\) Technician Diploma](#)

Course Name:

BIM Basic for Mechanical

Effective Date: September 2021

School/Centre: Trades, Technology & Design

Department: Drafting (4203)

Contact(s)

### In Workflow

1. **4203 Leader**
2. **CTT Dean**
3. **Curriculum Committee Chair**
4. **EDCO Chair**
5. Records
6. Banner

### Approval Path

1. 11/05/20 4:19 pm  
Bruce McGarvie  
(bmcgarvie):  
Approved for 4203  
Leader
2. 11/06/20 9:33 am  
Brett Griffiths  
(bgriffiths):  
Approved for CTT  
Dean
3. 12/01/20 12:58 pm  
Todd Rowlatt  
(trowlatt): Approved  
for Curriculum  
Committee Chair

| Name           | E-mail           | Phone/Ext. |
|----------------|------------------|------------|
| Bruce McGarvie | bmcgarvie@vcc.ca | 8536       |

Banner Course Name: BIM Basic for Mechanical

Subject Code: DRFT - Drafting

Course Number: 1362

Year of Study            1st Year Post-secondary

Credits:                 2.0

**Course Description:**

This course introduces the student to the software's user interface and the basic HVAC, electrical, and piping/plumbing components that make BIM software a powerful and flexible engineering modeling tool.

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

DRFT 1256 Plumbing Systems for Buildings  
 DRFT 1257 Electrical Systems for Buildings  
 DRFT 1258 Utility Data and Setting-Up Projects  
 DRFT 1259 HVAC Systems for Buildings  
 DRFT 1260 Fire Suppression and Sprinkler Systems for Buildings  
 DRFT 1261 Process Flow Diagrams and Tank/Pump Box Fabrication  
 DRFT 1262 Pipe Components: Pipe, Fittings, Valves, Supports and Pumps  
 DRFT 1263 Piping and Instrumentation Diagrams & Specifications  
 DRFT 1264 Plant and Equipment Layout  
 DRFT 1265 Process and Utility Piping Layout  
 DRFT 1266 Piping Fabrication Isometrics

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

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

No

**Course Learning**

**Outcomes (CLO):**

| <b>Upon successful completion of this course, students will be able to:</b> |  |
|---|--|
| CLO #1  | Create 3D parametric models of Mechanical, Electrical, and Plumbing (MEP) systems using BIM software |

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

|        |   |
|--------|---|
| CLO #2 | Describe the basics of HVAC, electrical, and piping/plumbing  |
| CLO #3 | Create construction documents, create schedules and add details                                     |
| CLO #4 | Explain the basics of a complete MEP project  |
| CLO #5 | Prepare drawing layouts for small projects and executing redlines from designers for large projects |
| CLO #6 | Apply system requirements   |

Instructional

Strategies:

Lectures, video presentations, project-/problem-based learning, lab activities. The course may be offered face-to-face or in a blended format (mix of face-to-face and online)

## Evaluation and Grading

---

Grading System: Letter Grade (A-F)

Passing grade:

D

Evaluation Plan:

| Type          | Percentage | Brief description of assessment activity                                   |
|---------------|------------|--|
| Project       | 60         | Minimum of 3 project-based major assignments of approximately equal value. |
| Quizzes/Tests | 10         |  |
| Final Exam    | 30         |  |

## Hours by Learning Environment Type

---

Lecture, Seminar, Online

20

Lab, Clinical, Shop, Kitchen,  
Studio, Simulation

40

Practicum

Self Paced / Individual Learning

## Course Topics

**Course Topics:**

Inserting and connecting MEP components and using the System Browser

Creating HVAC networks with air terminals, mechanical equipment, ducts, and pipes

Creating electrical circuits with electrical equipment, devices, and lighting fixtures and adding cable trays and conduits

Creating HVAC and plumbing systems with automatic duct and piping layouts

Creating and annotating construction documents

Adding tags and creating schedules

Learning Resources (textbooks, lab/shop manuals, equipment, etc.):

## 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

# Course Change Request

## New Course Proposal

Date Submitted: 11/05/20 4:00 pm

Viewing: **DRFT 1363 : BIM Basic for Mechanical**

Last edit: 12/01/20 12:26 pm

Changes proposed by: bmcgarvie

Programs  
referencing this  
course

[106: Computer Aided Draft \(CAD\) and Building Information Modelling \(BIM\) Technician Diploma](#)

Course Name:

BIM Project for MEP

Effective Date: September 2021

School/Centre: Trades, Technology & Design

Department: Drafting (4203)

Contact(s)

### In Workflow

1. **4203 Leader**
2. **CTT Dean**
3. **Curriculum Committee Chair**
4. **EDCO Chair**
5. Records
6. Banner

### Approval Path

1. 11/05/20 4:19 pm  
Bruce McGarvie  
(bmcgarvie):  
Approved for 4203  
Leader
2. 11/06/20 9:33 am  
Brett Griffiths  
(bgriffiths):  
Approved for CTT  
Dean
3. 12/01/20 12:58 pm  
Todd Rowlatt  
(trowlatt): Approved  
for Curriculum  
Committee Chair

| Name           | E-mail           | Phone/Ext. |
|----------------|------------------|------------|
| Bruce McGarvie | bmcgarvie@vcc.ca | 8536       |

Banner Course Name: BIM Basic for Mechanical

Subject Code: DRFT - Drafting

Course Number: 1363

Year of Study            1st Year Post-secondary

Credits:                    2

**Course Description:**

This course introduces students to working within a mechanical design team setting to create a 3D parametric building model of the mechanical, electrical and plumbing (MEP) systems within a BIM project for a building.

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

DRFT 1256 Plumbing Systems for Buildings  
 DRFT 1257 Electrical Systems for Buildings  
 DRFT 1258 Utility Data and Setting-Up Projects  
 DRFT 1259 HVAC Systems for Buildings  
 DRFT 1260 Fire Suppression and Sprinkler Systems for Buildings  
 DRFT 1261 Process Flow Diagrams and Tank/Pump Box Fabrication  
 DRFT 1262 Pipe Components: Pipe, Fittings, Valves, Supports and Pumps  
 DRFT 1263 Piping and Instrumentation Diagrams & Specifications  
 DRFT 1264 Plant and Equipment Layout  
 DRFT 1265 Process and Utility Piping Layout  
 DRFT 1266 Piping Fabrication Isometrics

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

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

No

**Course Learning**

**Outcomes (CLO):**

| <b>Upon successful completion of this course, students will be able to:</b> |  |
|---|--|
| CLO #1  | Add and modify plumbing fixtures, equipment, and pipes to 3D models and drawings |

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

|        |  |
|--------|--|
| CLO #2 | Add mechanical equipment and air terminals to 3D models and drawings |
| CLO #3 | Add and modifying ducts and pipes to 3D models and drawings          |
| CLO #4 | Add electrical equipment to 3D models and drawings                   |
| CLO #5 | Create electrical circuits to 3D models and drawings                 |
| CLO #6 | Add cable trays and conduit to 3D models and drawings                |

Instructional

Strategies:

Lectures, video presentations, project-/problem-based learning, lab activities. The course may be offered face-to-face or in a blended format (mix of face-to-face and online)

## Evaluation and Grading

---

Grading System: Letter Grade (A-F)

Passing grade:

D

Evaluation Plan:

| Type          | Percentage | Brief description of assessment activity                                   |
|---------------|------------|--|
| Project       | 60         | Minimum of 3 project-based major assignments of approximately equal value. |
| Quizzes/Tests | 10         |  |
| Final Exam    | 30         |  |

## Hours by Learning Environment Type

---

Lecture, Seminar, Online

20



Lab, Clinical, Shop, Kitchen,  
Studio, Simulation

40

Practicum

Self Paced / Individual Learning

### Course Topics

#### Course Topics:

MEP components and the System Browser

HVAC networks with air terminals, mechanical equipment, ducts, and pipes

Electrical circuits with electrical equipment, devices, and lighting fixtures, and cable trays and conduits

Annotate construction documents

Tags and schedules

Learning Resources (textbooks, lab/shop manuals, equipment, etc.):

## 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

# Course Change Request

## New Course Proposal

Date Submitted: 11/05/20 4:01 pm

Viewing: **DRFT 1364 : MEP for Pipe Fabrication**

Last edit: 12/01/20 12:09 pm

Changes proposed by: bmcgarvie

Programs  
referencing this  
course

[106: Computer Aided Draft \(CAD\) and Building Information Modelling \(BIM\) Technician Diploma](#)

Course Name:

MEP for Pipe Fabrication

Effective Date: September 2021

School/Centre: Trades, Technology & Design

Department: Drafting (4203)

Contact(s)

### In Workflow

1. **4203 Leader**
2. **CTT Dean**
3. **Curriculum Committee Chair**
4. **EDCO Chair**
5. Records
6. Banner

### Approval Path

1. 11/05/20 4:19 pm  
Bruce McGarvie  
(bmcgarvie):  
Approved for 4203  
Leader
2. 11/06/20 9:33 am  
Brett Griffiths  
(bgriffiths):  
Approved for CTT  
Dean
3. 12/01/20 12:58 pm  
Todd Rowlatt  
(trowlatt): Approved  
for Curriculum  
Committee Chair

| Name           | E-mail           | Phone/Ext. |
|----------------|------------------|------------|
| Bruce McGarvie | bmcgarvie@vcc.ca | 8536       |

Banner Course Name: MEP for Pipe Fabrication

Subject Code: DRFT - Drafting

Course Number: 1364

Year of Study            1st Year Post-secondary

Credits:                    3

**Course Description:**

This course introduces students to working from a mechanical piping layout of a building to produce spool drawings, piping isometrics, and fabrication drawings.

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

DRFT 1256 Plumbing Systems for Buildings  
 DRFT 1257 Electrical Systems for Buildings  
 DRFT 1258 Utility Data and Setting-Up Projects  
 DRFT 1259 HVAC Systems for Buildings  
 DRFT 1260 Fire Suppression and Sprinkler Systems for Buildings  
 DRFT 1261 Process Flow Diagrams and Tank/Pump Box Fabrication  
 DRFT 1262 Pipe Components: Pipe, Fittings, Valves, Supports and Pumps  
 DRFT 1263 Piping and Instrumentation Diagrams & Specifications  
 DRFT 1264 Plant and Equipment Layout  
 DRFT 1265 Process and Utility Piping Layout  
 DRFT 1266 Piping Fabrication Isometrics

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

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

No

**Course Learning**

**Outcomes (CLO):**

| <b>Upon successful completion of this course, students will be able to:</b> |   |
|---|---|
| CLO #1  | Perform clash detections for the project team |

| <b>Upon successful completion of this course, students will be able to:</b> |   |
|---|---|
| CLO #2  | Apply fabrication shop practices and procedures   |
| CLO #3  | Generate scaled cross section drawing and detail views to check for sub assembly placement / interferences. |
| CLO #4  | Prepare detailed drawings using models and drawing templates  |
| CLO #5  | Make additions to models and drawings as needed to complete detail drawings.                                |
| CLO #6  | Create all necessary documents and drawings required for drawing revisions and fabrication requirements     |

Instructional

Strategies:

Lectures, video presentations, project-/problem-based learning, lab activities. The course may be offered face-to-face or in a blended format (mix of face-to-face and online)

## Evaluation and Grading

---

Grading System: Letter Grade (A-F)

Passing grade:

D

Evaluation Plan:

| Type          | Percentage | Brief description of assessment activity                                   |
|---------------|------------|--|
| Project       | 70         | Minimum of 3 project-based major assignments of approximately equal value. |
| Quizzes/Tests | 10         |  |
| Participation | 20         |  |

## Hours by Learning Environment Type

---

Lecture, Seminar, Online

30

Lab, Clinical, Shop, Kitchen,  
Studio, Simulation

60

Practicum

Self Paced / Individual Learning

### Course Topics

#### Course Topics:

Piping design software for 3D modeling

Review job assignment and reference documents, including vendor shop drawings, with the mechanical engineer.

Reviewing 'Issued for Construction' (IFC) drawings and identify the construction compatibility.

Building construction and commercial building systems.

Learning Resources (textbooks, lab/shop manuals, equipment, etc.):

## 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

PCG

# Course Change Request

## New Course Proposal

Date Submitted: 11/05/20 4:02 pm

Viewing: **DRFT 1365 : Piping BIM Project**

Last edit: 12/01/20 12:13 pm

Changes proposed by: bmcgarvie

Programs  
referencing this  
course

[106: Computer Aided Draft \(CAD\) and Building Information Modelling \(BIM\) Technician Diploma](#)

Course Name:

Piping BIM Project & Specification Setup

Effective Date: September 2021

School/Centre: Trades, Technology & Design

Department: Drafting (4203)

Contact(s)

### In Workflow

1. **4203 Leader**
2. **CTT Dean**
3. **Curriculum Committee Chair**
4. **EDCO Chair**
5. Records
6. Banner

### Approval Path

1. 11/05/20 4:19 pm  
Bruce McGarvie  
(bmcgarvie):  
Approved for 4203  
Leader
2. 11/06/20 9:33 am  
Brett Griffiths  
(bgriffiths):  
Approved for CTT  
Dean
3. 12/01/20 12:58 pm  
Todd Rowlatt  
(trowlatt): Approved  
for Curriculum  
Committee Chair

| Name           | E-mail           | Phone/Ext. |
|----------------|------------------|------------|
| Bruce McGarvie | bmcgarvie@vcc.ca | 8536       |

Banner Course Name: Piping BIM Project

Subject Code: DRFT - Drafting

Course Number: 1365

Year of Study            1st Year Post-secondary

Credits:                 1.0

**Course Description:**

This course is designed to teach students how to use the BIM Project Manager to create and manage a project and create new 3D models. Students will also learn how to use BIM Piping and Instrumentation Diagram (P&ID) tools to create drawings linked to piping specifications. Piping specifications will for the projects will be created by modifying existing pipe specifications.

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

DRFT 1256 Plumbing Systems for Buildings

DRFT 1257 Electrical Systems for Buildings

DRFT 1258 Utility Data and Setting-Up Projects

DRFT 1259 HVAC Systems for Buildings

DRFT 1260 Fire Suppression and Sprinkler Systems for Buildings

DRFT 1261 Process Flow Diagrams and Tank/Pump Box Fabrication

DRFT 1262 Pipe Components: Pipe, Fittings, Valves, Supports and Pumps

DRFT 1263 Piping and Instrumentation Diagrams & Specifications

DRFT 1264 Plant and Equipment Layout

DRFT 1265 Process and Utility Piping Layout

DRFT 1266 Piping Fabrication Isometrics

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

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

No

**Course Learning**

**Outcomes (CLO):**

| <b>Upon successful completion of this course, students will be able to:</b> |   |
|---|---|
| CLO #1  | Create projects using the piping BIM software |

| Upon successful completion of this course, students will be able to:   |   |
|--|---|
| CLO #2   | Set up drawing files for creation of P&IDs & 3D models          |
| CLO #3   | Use the BIM 3D Spec Editor to create piping specifications      |
| CLO #4   | Create 3D Blocks applicable to the project                      |
| CLO #5   | Use the tools required to create projects and specification     |
| CLO #6   | Create intelligent P&IDs linked to piping specifications        |
| CLO #7   | Construct equipment and pump symbology required for the project |
| <p>Instructional Strategies:</p> <p>Lectures, video presentations, project-/problem-based learning, lab activities. The course may be offered face-to-face or in a blended format (mix of face-to-face and online)</p> |   |

## Evaluation and Grading

---

Grading System: Letter Grade (A-F)  
D

Passing grade:

Evaluation Plan:

| Type          | Percentage | Brief description of assessment activity                                   |
|---------------|------------|--|
| Project       | 70         | Minimum of 3 project-based major assignments of approximately equal value. |
| Quizzes/Tests | 10         |  |
| Participation | 20         |  |

## Hours by Learning Environment Type

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Lecture, Seminar, Online

10

Lab, Clinical, Shop, Kitchen,  
Studio, Simulation

20

Practicum

Self Paced / Individual Learning

### Course Topics

#### Course Topics:

Create Projects in the Piping BIM Software

Setup drawing files for creation of P&ID's & 3D Models

Use the BIM 3D Spec Editor to create Piping Specifications.

Create 3D Blocks applicable to the Project

Explore the Tools required to create Projects and Specifications

P&ID Drawing Fundamentals, Palettes and Tools

Link Lines to Pipe Specifications

Grouping Process Lines to Group

Learning Resources (textbooks, lab/shop manuals, equipment, etc.):

## Rationale and Consultations

---

# Course Change Request

## New Course Proposal

Date Submitted: 11/05/20 4:03 pm

Viewing: **DRFT 1366 : 3D BIM Pipe and Structure**

Last edit: 12/01/20 12:14 pm

Changes proposed by: bmcgarvie

Programs  
referencing this  
course

[106: Computer Aided Draft \(CAD\) and Building Information Modelling \(BIM\) Technician Diploma](#)

Course Name:

3D BIM Pipe, Structure, and Equipment Modeling

Effective Date: September 2021

School/Centre: Trades, Technology & Design

Department: Drafting (4203)

Contact(s)

### In Workflow

1. **4203 Leader**
2. **CTT Dean**
3. **Curriculum Committee Chair**
4. **EDCO Chair**
5. Records
6. Banner

### Approval Path

1. 11/05/20 4:20 pm  
Bruce McGarvie  
(bmcgarvie):  
Approved for 4203  
Leader
2. 11/06/20 9:34 am  
Brett Griffiths  
(bgriffiths):  
Approved for CTT  
Dean
3. 12/01/20 12:58 pm  
Todd Rowlett  
(trowlett): Approved  
for Curriculum  
Committee Chair

| Name           | E-mail           | Phone/Ext. |
|----------------|------------------|------------|
| Bruce McGarvie | bmcgarvie@vcc.ca | 8536       |

Banner Course Name: 3D BIM Pipe and Structure

Subject Code: DRFT - Drafting

Course Number: 1366

Year of Study            1st Year Post-secondary

Credits:                    1

**Course Description:**

Students learn how to use the 3D BIM modeling software to create an industrial installation. Students use the tools contained in the software to create support structures, equipment models and process pipe systems in 3D.

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

DRFT 1256 Plumbing Systems for Buildings  
 DRFT 1257 Electrical Systems for Buildings  
 DRFT 1258 Utility Data and Setting-Up Projects  
 DRFT 1259 HVAC Systems for Buildings  
 DRFT 1260 Fire Suppression and Sprinkler Systems for Buildings  
 DRFT 1261 Process Flow Diagrams and Tank/Pump Box Fabrication  
 DRFT 1262 Pipe Components: Pipe, Fittings, Valves, Supports and Pumps  
 DRFT 1263 Piping and Instrumentation Diagrams & Specifications  
 DRFT 1264 Plant and Equipment Layout  
 DRFT 1265 Process and Utility Piping Layout  
 DRFT 1266 Piping Fabrication Isometrics

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

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

No

**Course Learning**

**Outcomes (CLO):**

| <b>Upon successful completion of this course, students will be able to:</b> |  |
|---|--|
| CLO #1  | Create support structures using the 3D BIM software tool |

| <b>Upon successful completion of this course, students will be able to:</b>   |  |
|---|--|
| CLO #2  | Utilize the structural modification tools to change the structures |
| CLO #3  | Construct 3D tanks and pump models to be used in the project       |
| CLO #4  | Design process piping systems using the 3D BIM software tool       |
| CLO #5  | Insert pipe supports and pipe racks using the 3D BIM software      |
| <p>Instructional Strategies:<br/>Lectures, video presentations, project-/problem-based learning, lab activities. The course may be offered face-to-face or in a blended format (mix of face-to-face and online)</p> |  |

## Evaluation and Grading

---

Grading System: Letter Grade (A-F)

Passing grade:

D

Evaluation Plan:

| Type          | Percentage | Brief description of assessment activity                                   |
|---------------|------------|--|
| Project       | 70         | Minimum of 3 project-based major assignments of approximately equal value. |
| Quizzes/Tests | 10         |  |
| Participation | 20         |  |

## Hours by Learning Environment Type

---

Lecture, Seminar, Online

10

Lab, Clinical, Shop, Kitchen,  
Studio, Simulation

20

Practicum

Self Paced / Individual Learning

### Course Topics

#### Course Topics:

Terminology and tools specific to 3D modeling of mechanical systems for buildings.

Structural Steel and Concrete Creation and Modification Tools

Tank, Pump and Equipment Modeling Tools

Pipe Modeling Tools and Methods

Pipe Supports and Rack Design

Learning Resources (textbooks, lab/shop manuals, equipment, etc.):

## 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?

# Course Change Request

## New Course Proposal

Date Submitted: 11/05/20 4:03 pm

Viewing: **DRFT 1367 : 3D BIM Ortho Iso and BOM**

Last edit: 12/01/20 12:16 pm

Changes proposed by: bmcgarvie

Programs  
referencing this  
course

[106: Computer Aided Draft \(CAD\) and Building Information Modelling \(BIM\) Technician Diploma](#)

Course Name:

3D BIM Creating Orthographics, Isometrics, and Bills of Material

Effective Date: September 2021

School/Centre: Trades, Technology & Design

Department: Drafting (4203)

Contact(s)

### In Workflow

1. **4203 Leader**
2. **CTT Dean**
3. **Curriculum Committee Chair**
4. **EDCO Chair**
5. Records
6. Banner

### Approval Path

1. 11/05/20 4:20 pm  
Bruce McGarvie  
(bmcgarvie):  
Approved for 4203  
Leader
2. 11/06/20 9:34 am  
Brett Griffiths  
(bgriffiths):  
Approved for CTT  
Dean
3. 12/01/20 12:58 pm  
Todd Rowlatt  
(trowlatt): Approved  
for Curriculum  
Committee Chair

| Name           | E-mail           | Phone/Ext. |
|----------------|------------------|------------|
| Bruce McGarvie | bmcgarvie@vcc.ca | 8536       |

Banner Course Name: 3D BIM Ortho Iso and BOM

Subject Code: DRFT - Drafting

Course Number: 1367

Year of Study            1st Year Post-secondary

Credits:                    1

**Course Description:**

This course is designed to teach the students how to use the 3D BIM Modeling Software to extract orthographic, fabrication isometric drawings and Bills of Material from the completed 3D Model. Students will dimension and annotate the drawings.

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

DRFT 1256 Plumbing Systems for Buildings  
 DRFT 1257 Electrical Systems for Buildings  
 DRFT 1258 Utility Data and Setting-Up Projects  
 DRFT 1259 HVAC Systems for Buildings  
 DRFT 1260 Fire Suppression and Sprinkler Systems for Buildings  
 DRFT 1261 Process Flow Diagrams and Tank/Pump Box Fabrication  
 DRFT 1262 Pipe Components: Pipe, Fittings, Valves, Supports and Pumps  
 DRFT 1263 Piping and Instrumentation Diagrams & Specifications  
 DRFT 1264 Plant and Equipment Layout  
 DRFT 1265 Process and Utility Piping Layout  
 DRFT 1266 Piping Fabrication Isometrics

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

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

No

**Course Learning**

**Outcomes (CLO):**

| <b>Upon successful completion of this course, students will be able to:</b> |  |
|---|--|
| CLO #1  | Create and annotate orthographic drawings from completed 3D models |

| Upon successful completion of this course, students will be able to:   |  |
|--|--|
| CLO #2   | Extract and annotate fabrication isometrics from completed 3D models |
| CLO #3   | Prepare Bills of Material (BOM) from the isometric drawings          |
| CLO #4   | Describe the methods used to create orthographic, isometric and BOMs |
| Instructional Strategies:<br>Lectures, video presentations, project-/problem-based learning, lab activities.<br>The course may be offered face-to-face or in a blended format (mix of face-to-face and online) |  |

## Evaluation and Grading

---

Grading System: Letter Grade (A-F)

Passing grade:

D

Evaluation Plan:

| Type          | Percentage | Brief description of assessment activity                                   |
|---------------|------------|--|
| Project       | 70         | Minimum of 3 project-based major assignments of approximately equal value. |
| Quizzes/Tests | 10         |  |
| Participation | 20         |  |

## Hours by Learning Environment Type

---

Lecture, Seminar, Online

10

Lab, Clinical, Shop, Kitchen,

Studio, Simulation



20

Practicum

Self Paced / Individual Learning

## Course Topics

**Course Topics:**

Terminology and Tools used in the software and methodology

Orthographic Creation Tools

Isometric Extraction Tools

Bill of Material Creation Tools

Annotation and Documentation Methods

Learning Resources (textbooks, lab/shop manuals, equipment, etc.):

## 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

# Course Change Request

## New Course Proposal

Date Submitted: 11/05/20 4:05 pm

### Viewing: **DRFT 1394 : Industrial Building Modeling**

Last edit: 12/01/20 12:17 pm

Changes proposed by: bmcgarvie

Programs  
referencing this  
course

[106: Computer Aided Draft \(CAD\) and Building Information Modelling \(BIM\) Technician Diploma](#)

Course Name:

Industrial Building Modeling

Effective Date: September 2021

School/Centre: Trades, Technology & Design

Department: Drafting (4203)

Contact(s)

### In Workflow

1. **4203 Leader**
2. **CTT Dean**
3. **Curriculum Committee Chair**
4. **EDCO Chair**
5. Records
6. Banner

### Approval Path

1. 11/05/20 4:20 pm  
Bruce McGarvie  
(bmcgarvie):  
Approved for 4203  
Leader
2. 11/06/20 9:34 am  
Brett Griffiths  
(bgriffiths):  
Approved for CTT  
Dean
3. 12/01/20 12:58 pm  
Todd Rowlatt  
(trowlatt): Approved  
for Curriculum  
Committee Chair

| Name           | E-mail           | Phone/Ext. |
|----------------|------------------|------------|
| Bruce McGarvie | bmcgarvie@vcc.ca | 8536       |

Banner Course Name: Industrial Building Modeling

Subject Code: DRFT - Drafting

Course Number: 1394

Year of Study            1st Year Post-secondary

Credits:                    2

**Course Description:**

Students create a 3D Model of an industrial building using 3D piping BIM software.

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

DRFT 1256 Plumbing Systems for Buildings  
 DRFT 1257 Electrical Systems for Buildings  
 DRFT 1258 Utility Data and Setting-Up Projects  
 DRFT 1259 HVAC Systems for Buildings  
 DRFT 1260 Fire Suppression and Sprinkler Systems for Buildings  
 DRFT 1261 Process Flow Diagrams and Tank/Pump Box Fabrication  
 DRFT 1262 Pipe Components: Pipe, Fittings, Valves, Supports and Pumps  
 DRFT 1263 Piping and Instrumentation Diagrams & Specifications  
 DRFT 1264 Plant and Equipment Layout  
 DRFT 1265 Process and Utility Piping Layout  
 DRFT 1266 Piping Fabrication Isometrics

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

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

No

**Course Learning**

**Outcomes (CLO):**

| <b>Upon successful completion of this course, students will be able to:</b> |  |
|---|--|
| CLO #1  | Design a basic building structure from engineering design notes and sketches |

| <b>Upon successful completion of this course, students will be able to:</b>   |  |
|---|--|
| CLO #2  | Assign preliminary sizes to structural steel components                                      |
| CLO #3  | Create all structural components required using the tools contained in the modeling software |
| CLO #4  | Determine sizes for the concrete foundations and supports                                    |
| CLO #5  | Model concrete foundations using the tools contained in the modeling software                |
| <p>Instructional Strategies:<br/>Lectures, video presentations, project-/problem-based learning, lab activities. The course may be offered face-to-face or in a blended format (mix of face-to-face and online)</p> |  |

## Evaluation and Grading

---

Grading System: Letter Grade (A-F)                      Passing grade:  
D

Evaluation Plan:

| Type          | Percentage | Brief description of assessment activity                                   |
|---------------|------------|--|
| Project       | 70         | Minimum of 3 project-based major assignments of approximately equal value. |
| Quizzes/Tests | 10         |  |
| Participation | 20         |  |

## Hours by Learning Environment Type

---

Lecture, Seminar, Online

20

Lab, Clinical, Shop, Kitchen,  
Studio, Simulation

40

Practicum

Self Paced / Individual Learning

### Course Topics

**Course Topics:**

Terminology and tools specifically used in this specialty modeling.

Structural Steel Sizing

Concrete Foundations and Footings

Clearances Required for Installation

Advanced Structural Modeling Techniques

Learning Resources (textbooks, lab/shop manuals, equipment, etc.):

## Rationale and Consultations

---

# Course Change Request

## New Course Proposal

Date Submitted: 11/05/20 4:05 pm

Viewing: **DRFT 1395 : Mechanical Equipment Modeling**

Last edit: 12/01/20 12:17 pm

Changes proposed by: bmcgarvie

Programs  
referencing this  
course

[106: Computer Aided Draft \(CAD\) and Building Information Modelling \(BIM\) Technician Diploma](#)

Course Name:  
Mechanical Equipment Modeling and Layout

Effective Date: September 2021

School/Centre: Trades, Technology & Design

Department: Drafting (4203)

Contact(s)

### In Workflow

1. **4203 Leader**
2. **CTT Dean**
3. **Curriculum Committee Chair**
4. **EDCO Chair**
5. Records
6. Banner

### Approval Path

1. 11/05/20 4:20 pm  
Bruce McGarvie  
(bmcgarvie):  
Approved for 4203  
Leader
2. 11/06/20 9:34 am  
Brett Griffiths  
(bgriffiths):  
Approved for CTT  
Dean
3. 12/01/20 12:59 pm  
Todd Rowlatt  
(trowlatt): Approved  
for Curriculum  
Committee Chair

| Name           | E-mail           | Phone/Ext. |
|----------------|------------------|------------|
| Bruce McGarvie | bmcgarvie@vcc.ca | 8536       |

Banner Course Name: Mechanical Equipment Modeling

Subject Code: DRFT - Drafting

Course Number: 1395

Year of Study            1st Year Post-secondary

Credits:                    1

**Course Description:**

Students create models of the mechanical equipment required to complete an industrial project using vendor equipment dimensions and sizes. The models will be used to lay out the industrial project and create engineering documents from 3D Models using BIM software. Students create orthographic plans, sections, elevations, fabrication isometrics and bills of material.

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

DRFT 1256 Plumbing Systems for Buildings  
 DRFT 1257 Electrical Systems for Buildings  
 DRFT 1258 Utility Data and Setting-Up Projects  
 DRFT 1259 HVAC Systems for Buildings  
 DRFT 1260 Fire Suppression and Sprinkler Systems for Buildings  
 DRFT 1261 Process Flow Diagrams and Tank/Pump Box Fabrication  
 DRFT 1262 Pipe Components: Pipe, Fittings, Valves, Supports and Pumps  
 DRFT 1263 Piping and Instrumentation Diagrams & Specifications  
 DRFT 1264 Plant and Equipment Layout  
 DRFT 1265 Process and Utility Piping Layout  
 DRFT 1266 Piping Fabrication Isometrics

**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 | Design a mechanical layout from engineering design notes and sketches                        |
| CLO #2 | Evaluate spacing of equipment based on required installation and maintenance clearances      |
| CLO #3 | Create all mechanical components required using the tools contained in the modeling software |
| CLO #4 | Identify and correct areas hazardous to workers  |
| CLO #5 | Create orthographic plans, sections and elevations from 3D models.                           |
| CLO #6 | Apply the required dimensions and annotations to the drawings                                |

Instructional

Strategies:

Lectures, video presentations, project-/problem-based learning, lab activities. The course may be offered face-to-face or in a blended format (mix of face-to-face and online)

## Evaluation and Grading

---

Grading System: Letter Grade (A-F)

Passing grade:

D

Evaluation Plan:

| Type | Percentage | Brief description of assessment activity |
|------|------------|--|
|------|------------|--|



| Type          | Percentage | Brief description of assessment activity                                   |
|---------------|------------|--|
| Project       | 70         | Minimum of 3 project-based major assignments of approximately equal value. |
| Quizzes/Tests | 10         |  |
| Participation | 20         |  |

## Hours by Learning Environment Type

---

Lecture, Seminar, Online

10

Lab, Clinical, Shop, Kitchen,  
Studio, Simulation

20

Practicum

Self Paced / Individual Learning

### Course Topics

#### Course Topics:

Terminology and tools using in modeling mechanical equipment.

Certified Vendor's Drawings

**Course Topics:**

Required Access Clearances

Equipment Support Requirements

Safe Storage of Chemicals and Spill Containment

Advanced Mechanical Modeling Techniques

Industrial Cranes

Orthographic Creation Methods

Dimensioning and Annotation

Learning Resources (textbooks, lab/shop manuals, equipment, etc.):

## 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

PCG

Provide a rationale  
for this proposal:

Are there any

### Additional Information

---

# Course Change Request

## New Course Proposal

Date Submitted: 11/05/20 4:05 pm

Viewing: **DRFT 1396 : Piping Systems Modeling**

Last edit: 12/01/20 12:18 pm

Changes proposed by: bmcgarvie

Programs  
referencing this  
course

[106: Computer Aided Draft \(CAD\) and Building Information Modelling \(BIM\) Technician Diploma](#)

Course Name:

Piping Systems Modeling and Layout

Effective Date: September 2021

School/Centre: Trades, Technology & Design

Department: Drafting (4203)

Contact(s)

### In Workflow

1. **4203 Leader**
2. **CTT Dean**
3. **Curriculum Committee Chair**
4. **EDCO Chair**
5. Records
6. Banner

### Approval Path

1. 11/05/20 4:20 pm  
Bruce McGarvie  
(bmcgarvie):  
Approved for 4203  
Leader
2. 11/06/20 9:34 am  
Brett Griffiths  
(bgriffiths):  
Approved for CTT  
Dean
3. 12/01/20 12:59 pm  
Todd Rowlatt  
(trowlatt): Approved  
for Curriculum  
Committee Chair

| Name           | E-mail           | Phone/Ext. |
|----------------|------------------|------------|
| Bruce McGarvie | bmcgarvie@vcc.ca | 8536       |

Banner Course Name: Piping Systems Modeling

Subject Code: DRFT - Drafting

Course Number: 1396

Year of Study            1st Year Post-secondary

Credits:                    1

**Course Description:**

Students taking this course will design the process and utility piping systems required to complete an industrial project. Students will create engineering documents from 3D piping models using piping BIM software.

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

DRFT 1256 Plumbing Systems for Buildings  
 DRFT 1257 Electrical Systems for Buildings  
 DRFT 1258 Utility Data and Setting-Up Projects  
 DRFT 1259 HVAC Systems for Buildings  
 DRFT 1260 Fire Suppression and Sprinkler Systems for Buildings  
 DRFT 1261 Process Flow Diagrams and Tank/Pump Box Fabrication  
 DRFT 1262 Pipe Components: Pipe, Fittings, Valves, Supports and Pumps  
 DRFT 1263 Piping and Instrumentation Diagrams & Specifications  
 DRFT 1264 Plant and Equipment Layout  
 DRFT 1265 Process and Utility Piping Layout  
 DRFT 1266 Piping Fabrication Isometrics

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

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

No

**Course Learning**

**Outcomes (CLO):**

| <b>Upon successful completion of this course, students will be able to:</b> |  |
|---|--|
| CLO #1  | Design process piping layouts from engineering design notes and sketches |

| <b>Upon successful completion of this course, students will be able to:</b>  |  |
|--|--|
| CLO #2   | Evaluate routing and spacing of pipes for efficiency, installation and maintenance |
| CLO #3   | Arrange the piping in racks according to accepted practices                        |
| CLO #4   | Determine support and anchoring requirements of the piping systems                 |
| CLO #5   | Assess clearances required for electrical and HVAC components                      |
| CLO #6   | Complete extraction of fabrication isometrics from 3D piping models                |
| CLO #7   | Prepare bills of materials from fabrication isometrics                             |
| <p>Instructional Strategies:</p> <p>Lectures, video presentations, project-/problem-based learning, lab activities. The course may be offered face-to-face or in a blended format (mix of face-to-face and online)</p> |  |

## Evaluation and Grading

---

Grading System: Letter Grade (A-F)

Passing grade:

D

Evaluation Plan:

| Type          | Percentage | Brief description of assessment activity                                   |
|---------------|------------|--|
| Project       | 70         | Minimum of 3 project-based major assignments of approximately equal value. |
| Quizzes/Tests | 10         |  |
| Participation | 20         |  |

## Hours by Learning Environment Type

---

Lecture, Seminar, Online

20

Lab, Clinical, Shop, Kitchen,  
Studio, Simulation

40

Practicum

Self Paced / Individual Learning

### Course Topics

| Course Topics:  |
|---|
| Terminology and tools used in the piping modeling specialty |
| Advanced Pipe Routing Methods                               |
| Required Access Clearances                                  |
| Installation and Maintenance                                |
| Pipe Racks and Supports                                     |

**Course Topics:**

Valve and Utility Stations

Isometric Creation Methods

Preparation of Standard Bills of Material

Automated Spool Fabrication Files

Learning Resources (textbooks, lab/shop manuals, equipment, etc.):

## 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

PCG

## Additional Information

---

Provide any additional information if necessary.

Supporting  
documentation:

Reviewer  
Comments

## Marketing Information

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# Course Change Request

## New Course Proposal

Date Submitted: 11/05/20 5:11 pm

Viewing: **DRFT 2256 : Diploma Plumbing Systems**

Last edit: 12/01/20 12:19 pm

Changes proposed by: bmcgarvie

Programs  
referencing this  
course

[106: Computer Aided Draft \(CAD\) and Building Information Modelling \(BIM\) Technician Diploma](#)

Course Name:

Diploma Plumbing Systems for Buildings

Effective Date: September 2021

School/Centre: Trades, Technology & Design

Department: Drafting (4203)

Contact(s)

### In Workflow

1. **4203 Leader**
2. **CTT Dean**
3. **Curriculum Committee Chair**
4. **EDCO Chair**
5. Records
6. Banner

### Approval Path

1. 11/05/20 5:17 pm  
Bruce McGarvie  
(bmcgarvie):  
Approved for 4203  
Leader
2. 11/06/20 9:34 am  
Brett Griffiths  
(bgriffiths):  
Approved for CTT  
Dean
3. 12/01/20 12:59 pm  
Todd Rowlatt  
(trowlatt): Approved  
for Curriculum  
Committee Chair

| Name           | E-mail           | Phone/Ext. |
|----------------|------------------|------------|
| Bruce McGarvie | bmcgarvie@vcc.ca | 8536       |

Banner Course Name: Diploma Plumbing Systems

Subject Code: DRFT - Drafting

Course Number: 2256



Year of Study            2nd Year Post-secondary

Credits:                    1

**Course Description:**

This course introduces the student to the overall layout of plumbing and mechanical equipment for buildings for the mechanical engineering industry.

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

DRFT 2100 Integrated BIM Project

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

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

No

**Course Learning**

**Outcomes (CLO):**

|        | <b>Upon successful completion of this course, students will be able to:</b>                         |
|--------|---|
| CLO #1 | Determine the entrance and exit locations of utilities (gas, water, sewer, storm drainage)          |
| CLO #2 | Determine plumbing fixture locations and requirements   |
| CLO #3 | Determine shaft spaces, chase sizes for fixtures, mounts, carrier and overhead clearances           |
| CLO #4 | Evaluate pipe routing options   |
| CLO #5 | Prepare drawing layouts for small projects and executing redlines from designers for large projects |
| CLO #6 | Apply code system requirements to plumbing system.  |
| CLO #7 | Apply the concepts and processes at a higher level, in a 3D Building Information Modeling setting   |

**Instructional**

**Strategies:**

Lectures, video presentations, project-/problem-based learning, lab activities. The course may be offered face-to-face or in a blended format (mix of face-to-face and online)

## Evaluation and Grading

---

Grading System: Letter Grade (A-F)

Passing grade:

D

Evaluation Plan:

| Type          | Percentage | Brief description of assessment activity                                   |
|---------------|------------|--|
| Project       | 60         | Minimum of 3 project-based major assignments of approximately equal value. |
| Quizzes/Tests | 10         |  |
| Final Exam    | 30         |  |

## Hours by Learning Environment Type

---

Lecture, Seminar, Online

10

Lab, Clinical, Shop, Kitchen,  
Studio, Simulation

20

Practicum

Self Paced / Individual Learning

Course Topics

| Course Topics:   |
|--|
| Utility information onsite   |
| Civil engineer contact or the city regarding project utilities       |
| Site plans, services, elevations, etc. necessary to plumbing systems |

Learning Resources (textbooks, lab/shop manuals, equipment, etc.):

## Rationale and Consultations

---

# Course Change Request

## New Course Proposal

Date Submitted: 11/05/20 5:10 pm

Viewing: **DRFT 2257 : Diploma Electrical Systems**

Last edit: 12/01/20 12:20 pm

Changes proposed by: bmcgarvie

Programs  
referencing this  
course

[106: Computer Aided Draft \(CAD\) and Building Information Modelling \(BIM\) Technician Diploma](#)

Course Name:

Diploma Electrical Systems for Buildings

Effective Date: September 2021

School/Centre: Trades, Technology & Design

Department: Drafting (4203)

Contact(s)

### In Workflow

1. **4203 Leader**
2. **CTT Dean**
3. **Curriculum Committee Chair**
4. **EDCO Chair**
5. Records
6. Banner

### Approval Path

1. 11/05/20 5:17 pm  
Bruce McGarvie  
(bmcgarvie):  
Approved for 4203  
Leader
2. 11/06/20 9:34 am  
Brett Griffiths  
(bgriffiths):  
Approved for CTT  
Dean
3. 12/01/20 12:59 pm  
Todd Rowlatt  
(trowlatt): Approved  
for Curriculum  
Committee Chair

| Name           | E-mail           | Phone/Ext. |
|----------------|------------------|------------|
| Bruce McGarvie | bmcgarvie@vcc.ca | 8536       |

Banner Course Name: Diploma Electrical Systems

Subject Code: DRFT - Drafting

Course Number: 2257

Year of Study            2nd Year Post-secondary

Credits:                    1

**Course Description:**

This course introduces the student to the overall layout of wiring and electrical equipment for buildings for the electrical engineering industry.

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

DRFT 2100 Integrated BIM Project

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

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

No

**Course Learning**

**Outcomes (CLO):**

|        | <b>Upon successful completion of this course, students will be able to:</b>                         |
|--------|---|
| CLO #1 | Determine the entrance and exit locations of utilities (gas, water, sewer, storm drainage)          |
| CLO #2 | Describe electrical components for buildings  |
| CLO #3 | Describe electrical circuits for buildings  |
| CLO #4 | Evaluate wiring routing options for buildings   |
| CLO #5 | Prepare drawing layouts for small projects and executing redlines from designers for large projects |
| CLO #6 | Apply code system requirements to electrical system.  |
| CLO #7 | Apply the concepts and processes at a higher level, in a 3D Building Information Modeling setting   |

**Instructional**

**Strategies:**

Lectures, video presentations, project-/problem-based learning, lab activities

The course may be offered face-to-face or in a blended format (mix of face-to-face and online)

## Evaluation and Grading

---

Grading System: Letter Grade (A-F)  
D

Passing grade:

Evaluation Plan:

| Type          | Percentage | Brief description of assessment activity                                   |
|---------------|------------|--|
| Project       | 60         | Minimum of 3 project-based major assignments of approximately equal value. |
| Quizzes/Tests | 10         |  |
| Final Exam    | 30         |  |

## Hours by Learning Environment Type

---

Lecture, Seminar, Online

10

Lab, Clinical, Shop, Kitchen,  
Studio, Simulation

20

Practicum

Self Paced / Individual Learning

Course Topics

### Course Topics:

Gather electrical utility information onsite

Contact the electrical engineer or the city regarding project utilities

Obtain site plans, services, elevations, etc.

Learning Resources (textbooks, lab/shop manuals, equipment, etc.):

## Rationale and Consultations

---

# Course Change Request

## New Course Proposal

Date Submitted: 11/05/20 5:11 pm

Viewing: **DRFT 2258 : Diploma Utility Data**

Last edit: 12/01/20 12:20 pm

Changes proposed by: bmcgarvie

Programs  
referencing this  
course

[106: Computer Aided Draft \(CAD\) and Building Information Modelling \(BIM\) Technician Diploma](#)

Course Name:

Diploma Utility Data and Setting-Up Projects

Effective Date: September 2021

School/Centre: Trades, Technology & Design

Department: Drafting (4203)

Contact(s)

### In Workflow

1. **4203 Leader**
2. **CTT Dean**
3. **Curriculum Committee Chair**
4. **EDCO Chair**
5. Records
6. Banner

### Approval Path

1. 11/05/20 5:17 pm  
Bruce McGarvie  
(bmcgarvie):  
Approved for 4203  
Leader
2. 11/06/20 9:34 am  
Brett Griffiths  
(bgriffiths):  
Approved for CTT  
Dean
3. 12/01/20 12:59 pm  
Todd Rowlatt  
(trowlatt): Approved  
for Curriculum  
Committee Chair

| Name           | E-mail           | Phone/Ext. |
|----------------|------------------|------------|
| Bruce McGarvie | bmcgarvie@vcc.ca | 8536       |

Banner Course Name: Diploma Utility Data

Subject Code: DRFT - Drafting

Course Number: 2258

Year of Study            2nd Year Post-secondary

Credits:                    1

**Course Description:**

This course introduces students to the public utilities serving building projects. Students assess information about public utilities (e.g. availability, size, location, depth, material, pressure, and capacity) and prepare a set of drawing sheets to convey this information.

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

DRFT 2100 Integrated BIM Project

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

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

No

**Course Learning**

**Outcomes (CLO):**

|        | <b>Upon successful completion of this course, students will be able to:</b>   |
|--------|---|
| CLO #1 | Collect utility information onsite (gas, water, sewer, storm drainage)  |
| CLO #2 | Obtain and use site plans, services, elevations, to facilitate setting up projects  |
| CLO #3 | Set up a project folder to accepted industry standards to detail information  |
| CLO #4 | Create plot sheets (plumbing, fire, orientations)   |
| CLO #5 | Consolidate available information (e.g., as-built drawings and operation and maintenance manuals) to facilitate setting up projects |
| CLO #6 | Apply the concepts and processes at a higher level, in a 3D Building Information Modeling setting                                   |

**Instructional**

**Strategies:**

Lectures, video presentations, project-/problem-based learning, lab activities. The course may be offered face-to-face or in a blended format (mix of face-to-face and online)

## Evaluation and Grading

---

Grading System: Letter Grade (A-F)  
D

Passing grade:

Evaluation Plan:

| Type          | Percentage | Brief description of assessment activity                                   |
|---------------|------------|--|
| Project       | 60         | Minimum of 3 project-based major assignments of approximately equal value. |
| Quizzes/Tests | 10         |  |
| Final Exam    | 30         |  |

## Hours by Learning Environment Type

---

Lecture, Seminar, Online

10

Lab, Clinical, Shop, Kitchen,  
Studio, Simulation

20

Practicum

Self Paced / Individual Learning

Course Topics

### Course Topics:

Onsite utility information

Civil engineer contact or the city contact regarding project utilities

Site plans, services, elevations, etc. to facilitate project setup.

Learning Resources (textbooks, lab/shop manuals, equipment, etc.):



# Course Change Request

## New Course Proposal

Date Submitted: 11/05/20 5:12 pm

Viewing: **DRFT 2259 : HVAC Systems for Buildings**

Last edit: 12/01/20 12:21 pm

Changes proposed by: bmcgarvie

Programs  
referencing this  
course

[106: Computer Aided Draft \(CAD\) and Building Information Modelling \(BIM\) Technician Diploma](#)

Course Name:

Diploma HVAC Systems for Buildings

Effective Date: September 2021

School/Centre: Trades, Technology & Design

Department: Drafting (4203)

Contact(s)

### In Workflow

1. **4203 Leader**
2. **CTT Dean**
3. **Curriculum Committee Chair**
4. **EDCO Chair**
5. Records
6. Banner

### Approval Path

1. 11/05/20 5:17 pm  
Bruce McGarvie  
(bmcgarvie):  
Approved for 4203  
Leader
2. 11/06/20 9:34 am  
Brett Griffiths  
(bgriffiths):  
Approved for CTT  
Dean
3. 12/01/20 12:59 pm  
Todd Rowlatt  
(trowlatt): Approved  
for Curriculum  
Committee Chair

| Name           | E-mail           | Phone/Ext. |
|----------------|------------------|------------|
| Bruce McGarvie | bmcgarvie@vcc.ca | 8536       |

Banner Course Name: HVAC Systems for Buildings

Subject Code: DRFT - Drafting

Course Number: 2259

Year of Study            2nd Year Post-secondary

Credits:                    3

**Course Description:**

This course introduces the student to the overall layout of ducting and equipment for buildings for the heating, ventilation, and air conditioning systems for the mechanical engineering industry.

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

DRFT 2100 Integrated BIM Project

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

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

No

**Course Learning**

**Outcomes (CLO):**

|        | <b>Upon successful completion of this course, students will be able to:</b>   |
|--------|---|
| CLO #1 | Determine duct sizing and layout for buildings  |
| CLO #2 | Describe thermal and air-quality air requirements for buildings   |
| CLO #3 | Describe ventilation requirements for buildings   |
| CLO #4 | Evaluate duct routing options for buildings   |
| CLO #5 | Describe heating and cooling equipment, and air outlets   |
| CLO #6 | Discuss American Society of Heating and Air-Conditioning Engineers (ASHAE), BC Building Code and other codes and standards. |
| CLO #7 | Apply the concepts and processes at a higher level, in a 3D Building Information Modeling setting                           |

**Instructional**

**Strategies:**

Lectures, video presentations, project-/problem-based learning, lab activities. The course may be offered face-to-face or in a blended format (mix of face-to-face and online)

## Evaluation and Grading

---

Grading System: Letter Grade (A-F)  
D

Passing grade:

Evaluation Plan:

| Type          | Percentage | Brief description of assessment activity                                   |
|---------------|------------|--|
| Project       | 60         | Minimum of 3 project-based major assignments of approximately equal value. |
| Quizzes/Tests | 10         |  |
| Final Exam    | 30         |  |

## Hours by Learning Environment Type

---

Lecture, Seminar, Online

30

Lab, Clinical, Shop, Kitchen,  
Studio, Simulation

60

Practicum

Self Paced / Individual Learning

Course Topics

### Course Topics:

Federal, provincial and industrial HVAC standards .

Building construction systems

Building automation and control

Coordinating With Other Disciplines

Riser schematics, schedules, and details

# Course Change Request

## New Course Proposal

Date Submitted: 11/05/20 5:12 pm

Viewing: **DRFT 2260 : Diploma Fire Suppression Sys**

Last edit: 12/01/20 12:21 pm

Changes proposed by: bmcgarvie

Programs  
referencing this  
course

[106: Computer Aided Draft \(CAD\) and Building Information Modelling \(BIM\) Technician Diploma](#)

Course Name:

Diploma Fire Suppression and Sprinkler Systems for Buildings

Effective Date: September 2021

School/Centre: Trades, Technology & Design

Department: Drafting (4203)

Contact(s)

### In Workflow

1. **4203 Leader**
2. **CTT Dean**
3. **Curriculum Committee Chair**
4. **EDCO Chair**
5. Records
6. Banner

### Approval Path

1. 11/05/20 5:17 pm  
Bruce McGarvie  
(bmcgarvie):  
Approved for 4203  
Leader
2. 11/06/20 9:34 am  
Brett Griffiths  
(bgriffiths):  
Approved for CTT  
Dean
3. 12/01/20 12:59 pm  
Todd Rowlatt  
(trowlatt): Approved  
for Curriculum  
Committee Chair

| Name           | E-mail           | Phone/Ext. |
|----------------|------------------|------------|
| Bruce McGarvie | bmcgarvie@vcc.ca | 8536       |

Banner Course Name: Diploma Fire Suppression Sys

Subject Code: DRFT - Drafting

Course Number: 2260

Year of Study            2nd Year Post-secondary

Credits:                    1

**Course Description:**

This course introduces the student to the overall layout of piping and equipment for buildings for the fire suppression systems for the mechanical engineering industry.

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

DRFT 2100 Integrated BIM Project

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

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

No

**Course Learning**

**Outcomes (CLO):**

|        | <b>Upon successful completion of this course, students will be able to:</b>                           |
|--------|---|
| CLO #1 | Determine sprinkler pipe layout and positioning   |
| CLO #2 | Explain operations and performance objectives of sprinkler and standpipe systems                      |
| CLO #3 | Describe different types of fire sprinkler systems and components.                                    |
| CLO #4 | Define the applicable building code and bylaw requirements for fire sprinkler and standpipes systems. |
| CLO #5 | Prepare drawing layouts for small projects and executing redlines from designers for large projects   |
| CLO #6 | Apply the concepts and processes at a higher level, in a 3D Building Information Modeling setting     |

**Instructional**

**Strategies:**

Lectures, video presentations, project-/problem-based learning, lab activities

The course may be offered face-to-face or in a blended format (mix of face-to-face and online)

## Evaluation and Grading

---

Grading System: Letter Grade (A-F)

Passing grade:

D

Evaluation Plan:

| Type          | Percentage | Brief description of assessment activity                                   |
|---------------|------------|--|
| Project       | 60         | Minimum of 3 project-based major assignments of approximately equal value. |
| Quizzes/Tests | 10         |  |
| Final Exam    | 30         |  |

## Hours by Learning Environment Type

---

Lecture, Seminar, Online

10

Lab, Clinical, Shop, Kitchen,  
Studio, Simulation

20

Practicum

Self Paced / Individual Learning

Course Topics

| Course Topics:  |
|---|
| Federal, provincial, and industrial Fire Suppression standards.         |
| NFPA 13 sprinkler design and installation criteria                      |
| Pipe schedules, sprinkler spacing, layout and positioning requirements. |
| Coordinating with other disciplines                                     |

Learning Resources (textbooks, lab/shop manuals, equipment, etc.):

# Course Change Request

## New Course Proposal

Date Submitted: 11/05/20 5:14 pm

## Viewing: DRFT 2261 : Diploma Process Flow Diagrams

Last edit: 12/01/20 12:21 pm

Changes proposed by: bmcgarvie

Programs  
referencing this  
course

[106: Computer Aided Draft \(CAD\) and Building Information Modelling \(BIM\) Technician Diploma](#)

Course Name:

Diploma Process Flow Diagrams and Tank/Pump Box Fabrication

Effective Date: September 2021

School/Centre: Trades, Technology & Design

Department: Drafting (4203)

Contact(s)

### In Workflow

1. **4203 Leader**
2. **CTT Dean**
3. **Curriculum Committee Chair**
4. **EDCO Chair**
5. Records
6. Banner

### Approval Path

1. 11/05/20 5:17 pm  
Bruce McGarvie  
(bmcgarvie):  
Approved for 4203  
Leader
2. 11/06/20 9:34 am  
Brett Griffiths  
(bgriffiths):  
Approved for CTT  
Dean
3. 12/01/20 12:59 pm  
Todd Rowlatt  
(trowlatt): Approved  
for Curriculum  
Committee Chair

| Name           | E-mail           | Phone/Ext. |
|----------------|------------------|------------|
| Bruce McGarvie | bmcgarvie@vcc.ca | 8536       |

Banner Course Name: Diploma Process Flow Diagrams

Subject Code: DRFT - Drafting

Course Number: 2261

Year of Study            2nd Year Post-secondary

Credits:                    2

**Course Description:**

Students learn about process flow diagrams, tank design, and general arrangements, and how they are used in industrial design.

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

DRFT 2100 Integrated BIM Project

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

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

No

**Course Learning**

**Outcomes (CLO):**

|        | <b>Upon successful completion of this course, students will be able to:</b>                       |
|--------|---|
| CLO #1 | Describe process flow diagrams and how they are used in the plant design process.                 |
| CLO #2 | Analyze the mass balance contained in the process flow diagram and determine its correctness.     |
| CLO #3 | Create a process flow diagram using standard industry design symbology.                           |
| CLO #4 | Discuss the design parameters needed to be considered when designing a tank or pump box.          |
| CLO #5 | Identify the different components contained in a tank or pump box.                                |
| CLO #6 | Calculate the volume of tanks and pump boxes based on given engineering data.                     |
| CLO #7 | Draw a typical tank layout using standard engineering drawing conventions.                        |
| CLO #8 | Apply the concepts and processes at a higher level, in a 3D Building Information Modeling setting |

**Instructional**

**Strategies:**

Lectures, video presentations, project-/problem-based learning, lab activities. The course may be offered face-to-face or in a blended format (mix of face-to-face and online)



## Evaluation and Grading

---

Grading System: Letter Grade (A-F)  
D

Passing grade:

Evaluation Plan:

| Type          | Percentage | Brief description of assessment activity                                   |
|---------------|------------|--|
| Project       | 60         | Minimum of 3 project-based major assignments of approximately equal value. |
| Quizzes/Tests | 10         |  |
| Final Exam    | 30         |  |

## Hours by Learning Environment Type

---

Lecture, Seminar, Online

20

Lab, Clinical, Shop, Kitchen,  
Studio, Simulation

40

Practicum

Self Paced / Individual Learning

Course Topics

### Course Topics:

Terminology, abbreviations, & symbols within the flow diagram and pump box specialties.

Process Flow Diagram Fundamentals

Project Mass Balance

Interpretation of Flow Values

**Course Topics:**

Equipment Numbers

Tank Construction and Volume

Tank Drawing Fundamentals

Learning Resources (textbooks, lab/shop manuals, equipment, etc.):

## 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

PCG

## Additional Information

---

Provide any additional information if necessary.

Supporting  
documentation:Reviewer  
Comments

## Marketing Information

---

*FOR MARKETING PURPOSES ONLY. NOT REQUIRED FOR GOVERNANCE APPROVAL.*

*This section is used by Marketing to help populate course information on the website. If you have any questions about this section, contact [webmaster@vcc.ca](mailto:webmaster@vcc.ca).*

# Course Change Request

## New Course Proposal

Date Submitted: 11/05/20 5:14 pm

Viewing: **DRFT 2262 : Diploma Pipe Components**

Last edit: 12/01/20 12:22 pm

Changes proposed by: bmcgarvie

Programs  
referencing this  
course

[106: Computer Aided Draft \(CAD\) and Building Information Modelling \(BIM\) Technician Diploma](#)

Course Name:

Diploma Pipe Components: Pipe, Fittings, Valves, Supports and Pumps

Effective Date: September 2021

School/Centre: Trades, Technology & Design

Department: Drafting (4203)

Contact(s)

### In Workflow

1. **4203 Leader**
2. **CTT Dean**
3. **Curriculum Committee Chair**
4. **EDCO Chair**
5. Records
6. Banner

### Approval Path

1. 11/05/20 5:17 pm  
Bruce McGarvie  
(bmcgarvie):  
Approved for 4203  
Leader
2. 11/06/20 9:34 am  
Brett Griffiths  
(bgriffiths):  
Approved for CTT  
Dean
3. 12/01/20 12:59 pm  
Todd Rowlatt  
(trowlatt): Approved  
for Curriculum  
Committee Chair

| Name           | E-mail           | Phone/Ext. |
|----------------|------------------|------------|
| Bruce McGarvie | bmcgarvie@vcc.ca | 8536       |

Banner Course Name: Diploma Pipe Components

Subject Code: DRFT - Drafting

Course Number: 2262

Year of Study            2nd Year Post-secondary

Credits:                    1

**Course Description:**

Students will learn the components used in process and utility piping systems. Industry standard sizes, ratings and designations will be discussed.

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

DRFT 2100 Integrated BIM Project

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

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

No

**Course Learning**

**Outcomes (CLO):**

|        | <b>Upon successful completion of this course, students will be able to:</b>                            |
|--------|--|
| CLO #1 | Explain how pipe wall schedules are determined and documented.   |
| CLO #2 | Identify the different types of pipe, fittings, flanges, pumps and connections used in piping systems. |
| CLO #3 | Compare the different materials used for the piping systems and where they are commonly used.          |
| CLO #4 | Identify the different types of valves and how they are used in piping systems.                        |
| CLO #5 | Discuss the different pipe support and hangers and where they might be used.                           |
| CLO #6 | Create a block library of piping symbols to be used in piping layout drawings.                         |
| CLO #7 | Apply the concepts and processes at a higher level, in a 3D Building Information Modeling setting      |

**Instructional**

**Strategies:**

Lectures, video presentations, project-/problem-based learning, lab activities. The course may be offered face-to-face or in a blended format (mix of face-to-face and online)

## Evaluation and Grading

---

Grading System: Letter Grade (A-F)

Passing grade:

D

Evaluation Plan:

| Type          | Percentage | Brief description of assessment activity                                   |
|---------------|------------|--|
| Project       | 60         | Minimum of 3 project-based major assignments of approximately equal value. |
| Quizzes/Tests | 10         |  |
| Final Exam    | 30         |  |

## Hours by Learning Environment Type

---

Lecture, Seminar, Online

10

Lab, Clinical, Shop, Kitchen,  
Studio, Simulation

20

Practicum

Self Paced / Individual Learning

Course Topics

### Course Topics:

Terminology, Abbreviations, & Symbols in pipe components

Pipe Schedules

Pipe Fittings, Flanges and Supports

**Course Topics:**

Piping Component Connections

Valves and Pumps: Types and Application.

Creating Blocks from Vendor Catalogs.

Learning Resources (textbooks, lab/shop manuals, equipment, etc.):

## 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

PCG

## Additional Information

---

Provide any additional information if necessary.

Supporting  
documentation:

Reviewer  
Comments

## Marketing Information

---

*FOR MARKETING PURPOSES ONLY. NOT REQUIRED FOR GOVERNANCE APPROVAL.*

*This section is used by Marketing to help populate course information on the website. If you have any questions about this section, contact [webmaster@vcc.ca](mailto:webmaster@vcc.ca).*

# Course Change Request

## New Course Proposal

Date Submitted: 11/05/20 5:14 pm

## Viewing: DRFT 2263 : Diploma Pipe & Instrumentation

Last edit: 12/01/20 12:22 pm

Changes proposed by: bmcgarvie

Programs  
referencing this  
course

[106: Computer Aided Draft \(CAD\) and Building Information Modelling \(BIM\) Technician Diploma](#)

Course Name:

Diploma Piping and Instrumentation Diagrams & Specifications

Effective Date: September 2021

School/Centre: Trades, Technology & Design

Department: Drafting (4203)

Contact(s)

### In Workflow

1. **4203 Leader**
2. **CTT Dean**
3. **Curriculum Committee Chair**
4. **EDCO Chair**
5. Records
6. Banner

### Approval Path

1. 11/05/20 5:17 pm  
Bruce McGarvie  
(bmcgarvie):  
Approved for 4203  
Leader
2. 11/06/20 9:34 am  
Brett Griffiths  
(bgriffiths):  
Approved for CTT  
Dean
3. 12/01/20 12:59 pm  
Todd Rowlatt  
(trowlatt): Approved  
for Curriculum  
Committee Chair

| Name           | E-mail           | Phone/Ext. |
|----------------|------------------|------------|
| Bruce McGarvie | bmcgarvie@vcc.ca | 8536       |

Banner Course Name: Diploma Pipe & Instrumentation

Subject Code: DRFT - Drafting

Course Number: 2263

Year of Study            1st Year Post-secondary

Credits:                    1

**Course Description:**

Students learn how Piping and Instrumentation Diagrams (P&IDs) are created from Process Flow Diagrams. They use standard industry symbols to create a P&ID. Students learn how to interpret Piping Specifications and apply them when creating P&IDs.

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

DRFT 2100 Integrated BIM Project

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

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

No

**Course Learning**

**Outcomes (CLO):**

|        | <b>Upon successful completion of this course, students will be able to:</b>                       |
|--------|---|
| CLO #1 | Explain how piping and instrumentation diagrams are created from process flow diagrams            |
| CLO #2 | Identify the different symbols of pipe, fittings, flanges, pumps and connections used in P&ID's   |
| CLO #3 | Identify equipment numbers and describe how they are unique to each piece of equipment            |
| CLO #4 | Create a P&ID using a given process flow diagram  |
| CLO #5 | Create an industry standard line list from the P&ID   |
| CLO #6 | Determine pipe sizes based on the flow taken from the process flow diagram                        |
| CLO #7 | Interpret pipe specifications for industrial applications   |
| CLO #8 | Create a block library of piping symbols to be used in P&IDs                                      |
| CLO #9 | Apply the concepts and processes at a higher level, in a 3D Building Information Modeling setting |

**Instructional  
Strategies:**



Lectures, video presentations, project-/problem-based learning, lab activities. The course may be offered face-to-face or in a blended format (mix of face-to-face and online)

## Evaluation and Grading

---

Grading System: Letter Grade (A-F) Passing grade:  
D

Evaluation Plan:

| Type          | Percentage | Brief description of assessment activity                                   |
|---------------|------------|--|
| Project       | 60         | Minimum of 3 project-based major assignments of approximately equal value. |
| Quizzes/Tests | 10         |  |
| Final Exam    | 30         |  |

## Hours by Learning Environment Type

---

Lecture, Seminar, Online

10

Lab, Clinical, Shop, Kitchen,  
Studio, Simulation

20

Practicum

Self Paced / Individual Learning

Course Topics

### Course Topics:

Terminology, Abbreviations, & Symbols for the piping instrumentation applications

Piping and Instrumentation Diagram Fundamentals

**Course Topics:**

Equipment &amp; Line Numbers.

Line List Requirements

Preliminary Pipe Sizing

Pipe Specifications

Learning Resources (textbooks, lab/shop manuals, equipment, etc.):

## 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

PCG

Provide

## Additional Information

---

Provide any additional information if necessary.

Supporting

documentation:

Reviewer

Comments

## Marketing Information

---

# Course Change Request

## New Course Proposal

Date Submitted: 11/05/20 5:15 pm

Viewing: **DRFT 2264 : Diploma Plant and Equipment**

Last edit: 12/01/20 12:23 pm

Changes proposed by: bmcgarvie

Programs  
referencing this  
course

[106: Computer Aided Draft \(CAD\) and Building Information Modelling \(BIM\) Technician Diploma](#)

Course Name:

Diploma Plant and Equipment Layout

Effective Date: September 2021

School/Centre: Trades, Technology & Design

Department: Drafting (4203)

Contact(s)

### In Workflow

1. **4203 Leader**
2. **CTT Dean**
3. **Curriculum Committee Chair**
4. **EDCO Chair**
5. Records
6. Banner

### Approval Path

1. 11/05/20 5:18 pm  
Bruce McGarvie  
(bmcgarvie):  
Approved for 4203  
Leader
2. 11/06/20 9:34 am  
Brett Griffiths  
(bgriffiths):  
Approved for CTT  
Dean
3. 12/01/20 12:59 pm  
Todd Rowlatt  
(trowlatt): Approved  
for Curriculum  
Committee Chair

| Name           | E-mail           | Phone/Ext. |
|----------------|------------------|------------|
| Bruce McGarvie | bmcgarvie@vcc.ca | 8536       |

Banner Course Name: Diploma Plant and Equipment

Subject Code: DRFT - Drafting

Course Number: 2264

Year of Study            2nd Year Post-secondary

Credits:                    2

**Course Description:**

This course is designed to teach students to lay out equipment in an industrial building and produce plans, sections and elevations. They will learn what is needed to ensure the equipment is laid out to promote optimal flow of material and access for maintenance and replacement.

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

DRFT 2100 Integrated BIM Project

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

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

No

**Course Learning**

**Outcomes (CLO):**

|        | <b>Upon successful completion of this course, students will be able to:</b>                         |
|--------|---|
| CLO #1 | Prepare a set of mechanical plans, sections, and elevations   |
| CLO #2 | Design the equipment layout to optimize material process flow                                       |
| CLO #3 | Properly size the structural components in the layouts  |
| CLO #4 | Apply industrial clearance standards to allow for maintenance and replacement of equipment          |
| CLO #5 | Create the blocks required to complete the drawings   |
| CLO #6 | Analyze the building layout to ensure each discipline has the required room to run their components |
| CLO #7 | Discuss safety in the workplace and the need to ensure the safety of the workers                    |
| CLO #8 | Apply the concepts and processes at a higher level, in a 3D Building Information Modeling setting   |

**Instructional****Strategies:**

Lectures, video presentations, project-/problem-based learning, lab activities. The course may be offered face-to-face or in a blended format (mix of face-to-face and online)

## Evaluation and Grading

---

Grading System: Letter Grade (A-F)

Passing grade:

D

Evaluation Plan:

| Type          | Percentage | Brief description of assessment activity                                   |
|---------------|------------|--|
| Project       | 60         | Minimum of 3 project-based major assignments of approximately equal value. |
| Quizzes/Tests | 10         |  |
| Final Exam    | 30         |  |

## Hours by Learning Environment Type

---

Lecture, Seminar, Online

20

Lab, Clinical, Shop, Kitchen,  
Studio, Simulation

40

Practicum

Self Paced / Individual Learning

Course Topics

**Course Topics:**

**Course Topics:**

Terminology , abbreviations, & symbols within the plant equipment application.

Mechanical Orthographic Drawing Fundamentals

Equipment Spacing Requirements

Preliminary Structural Steel Sizes

Optimization of process material flow

Maintenance Clearances

Locating Pipe Racks

Workplace safety.

Learning Resources (textbooks, lab/shop manuals, equipment, etc.):

## 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

PCG

## Additional Information

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# Course Change Request

## New Course Proposal

Date Submitted: 11/05/20 5:16 pm

Viewing: **DRFT 2265 : Diploma Process Piping**

Last edit: 11/05/20 5:16 pm

Changes proposed by: bmcgarvie

Programs  
referencing this  
course

[106: Computer Aided Draft \(CAD\) and Building Information Modelling \(BIM\) Technician Diploma](#)

Course Name:

Diploma Process and Utility Piping Layout

Effective Date: September 2021

School/Centre: Trades, Technology & Design

Department: Drafting (4203)

Contact(s)

### In Workflow

1. **4203 Leader**
2. **CTT Dean**
3. **Curriculum Committee Chair**
4. **EDCO Chair**
5. Records
6. Banner

### Approval Path

1. 11/05/20 5:18 pm  
Bruce McGarvie  
(bmcgarvie):  
Approved for 4203  
Leader
2. 11/06/20 9:34 am  
Brett Griffiths  
(bgriffiths):  
Approved for CTT  
Dean
3. 12/01/20 12:59 pm  
Todd Rowlatt  
(trowlatt): Approved  
for Curriculum  
Committee Chair

| Name           | E-mail           | Phone/Ext. |
|----------------|------------------|------------|
| Bruce McGarvie | bmcgarvie@vcc.ca | 8536       |

Banner Course Name: Diploma Process Piping

Subject Code: DRFT - Drafting

Course Number: 2265

Year of Study            2nd Year Post-secondary

Credits:                    1.0

**Course Description:**

This course is designed to teach students to route process and utility piping safely in an industrial project and allow access to all components for maintenance and replacement..

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

DRFT 2100 Integrated BIM Project

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

None

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

No

**Course Learning**

**Outcomes (CLO):**

|        | <b>Upon successful completion of this course, students will be able to:</b>   |
|--------|---|
| CLO #1 | Prepare a set of piping plans, sections, and elevations.  |
| CLO #2 | Design the piping layout to optimize fluid flow and pipe support.   |
| CLO #3 | Properly space the piping components in the layouts   |
| CLO #4 | Apply industrial clearance standards to allow for maintenance and replacement of piping system                        |
| CLO #5 | Co-ordinate clearances between the piping and other engineering disciplines   |
| CLO #6 | Create the blocks required to complete the drawings.  |
| CLO #7 | Discuss safety in the workplace and the need to ensure the safety of the workers within the context of piping layout. |
| CLO #8 | Apply the concepts and processes at a higher level, in a 3D Building Information Modeling setting                     |



**Instructional****Strategies:**

Lectures, video presentations, project-/problem-based learning, lab activities. The course may be offered face-to-face or in a blended format (mix of face-to-face and online)

## Evaluation and Grading

---

Grading System: Letter Grade (A-F)

Passing grade:

D

Evaluation Plan:

| Type          | Percentage | Brief description of assessment activity                                   |
|---------------|------------|--|
| Project       | 60         | Minimum of 3 project-based major assignments of approximately equal value. |
| Quizzes/Tests | 10         |  |
| Final Exam    | 30         |  |

## Hours by Learning Environment Type

---

Lecture, Seminar, Online

10

Lab, Clinical, Shop, Kitchen,  
Studio, Simulation

20

Practicum

Self Paced / Individual Learning

Course Topics

**Course Topics:**

**Course Topics:**

Terminology , abbreviations, & symbols within the piping layout specialty.

Piping Plans, Sections, and Elevations

Piping Routing Fundamentals

Piping Supports and Racking

Pump Suction Requirements

Engineering Discipline Co-ordination

Workplace safety.

Learning Resources (textbooks, lab/shop manuals, equipment, etc.):

## 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

PCG

## Additional Information

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# Course Change Request

## New Course Proposal

Date Submitted: 11/05/20 5:16 pm

Viewing: **DRFT 2266 : Diploma Piping Isometrics**

Last edit: 12/01/20 12:24 pm

Changes proposed by: bmcgarvie

Programs  
referencing this  
course

[106: Computer Aided Draft \(CAD\) and Building Information Modelling \(BIM\) Technician Diploma](#)

Course Name:

Diploma Piping Fabrication Isometrics

Effective Date: September 2021

School/Centre: Trades, Technology & Design

Department: Drafting (4203)

Contact(s)

### In Workflow

1. **4203 Leader**
2. **CTT Dean**
3. **Curriculum Committee Chair**
4. **EDCO Chair**
5. Records
6. Banner

### Approval Path

1. 11/05/20 5:18 pm  
Bruce McGarvie  
(bmcgarvie):  
Approved for 4203  
Leader
2. 11/06/20 9:34 am  
Brett Griffiths  
(bgriffiths):  
Approved for CTT  
Dean
3. 12/01/20 12:59 pm  
Todd Rowlatt  
(trowlatt): Approved  
for Curriculum  
Committee Chair

| Name           | E-mail           | Phone/Ext. |
|----------------|------------------|------------|
| Bruce McGarvie | bmcgarvie@vcc.ca | 8536       |

Banner Course Name: Diploma Piping Isometrics

Subject Code: DRFT - Drafting

Course Number: 2266

Year of Study            2nd Year Post-secondary

Credits:                    1

**Course Description:**

This course is designed to teach students how to create fabrication isometrics from piping orthographic drawings and identify the information required on the isometrics for fabrication and field installation.

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

DRFT 2100 Integrated BIM Project

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

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

No

**Course Learning**

**Outcomes (CLO):**

|        | <b>Upon successful completion of this course, students will be able to:</b>                       |
|--------|---|
| CLO #1 | Create isometric drawings from piping orthographics   |
| CLO #2 | Locate field welds to optimize shipping and installation  |
| CLO #3 | Prepare a Bill of Materials   |
| CLO #4 | Distinguish shop materials from field materials   |
| CLO #5 | Apply mark numbers to the individual fabrication sections   |
| CLO #6 | Create the blocks required to complete the drawings   |
| CLO #7 | Apply the concepts and processes at a higher level, in a 3D Building Information Modeling setting |

**Instructional**

**Strategies:**

Lectures, video presentations, project-/problem-based learning, lab activities. The course may be offered face-to-face or in a blended format (mix of face-to-face and online)

## Evaluation and Grading

---

Grading System: Letter Grade (A-F) Passing grade:  
D

Evaluation Plan:

| Type          | Percentage | Brief description of assessment activity                                   |
|---------------|------------|--|
| Project       | 60         | Minimum of 3 project-based major assignments of approximately equal value. |
| Quizzes/Tests | 10         |  |
| Final Exam    | 30         |  |

## Hours by Learning Environment Type

---

Lecture, Seminar, Online

10

Lab, Clinical, Shop, Kitchen,  
Studio, Simulation

20

Practicum

Self Paced / Individual Learning

Course Topics

### Course Topics:

Terminology, abbreviations, & symbols related to the piping fabrication industry

**Course Topics:**

Isometric Drawing Fundamentals

Field Weld Placement

Shipping Restrictions

Mark Numbers

Shop and Field Bills of Material

Learning Resources (textbooks, lab/shop manuals, equipment, etc.):

## 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

PCG

## Additional Information

---

Provide any additional information if necessary.

Supporting  
documentation:

Reviewer

Comments



## DECISION NOTE

**PREPARED FOR:** Education Council

**DATE:** December 8, 2020

**ISSUE:** Approval process for deactivating courses and programs within Courseleaf

### BACKGROUND:

The College has been using the Courseleaf CIM curriculum management software for several years and is about to launch the Courseleaf Catalog product as well. Part of the process for managing curriculum is deactivating courses and programs that are either no longer taught or that have been superseded by new courses or new programs.

Education Council and Curriculum Committee do not have a clear process for approval of these deactivations. Currently, the Chair of Curriculum Committee, the Coordinator Curriculum & Policy, the Education Council Assistant, and the Associate Registrars are actively discussing specific courses, consulting with departments as needed. In obvious cases, deactivations are completed without additional governance approvals; in other cases, deactivations have been approved at either the Curriculum Committee level or at EDCO.

### DISCUSSION:

Most deactivations are a direct result of new curriculum being approved that includes new course numbers or new program names. It is a very simple process to identify which courses should then be deactivated and only requires consultation with the departments to confirm the timing for the deactivations. As the new curriculum is already approved by Education Council, it seems redundant to bring the deactivations forward for approval as well. As such, my recommendation is that EDCO assign the task of managing deactivations to Curriculum Committee to ensure that deactivations are still recorded in the minutes of a governance body, but without the additional EDCO step.

As part of this process, a set of guidelines would be created for the various deactivation scenarios, including:

- When courses/programs are replaced by new curriculum
- When courses have not run for a number of years
- When courses need to be removed temporarily from the website

However, Education Council should be explicit that programs and courses that fall under Policy C.3.3 Suspension and/or Discontinuance of Programs are not eligible for this type of deactivation until all requirements of Policy C.3.3 have been met.

**RECOMMENDATION:**

THAT Education Council approve Curriculum Committee as the approval body for course and program deactivations within Courseleaf CIM, except for those programs and courses that are within the process of suspension and/or discontinuance as governed by Policy C.3.3.

**PREPARED BY:** Todd Rowlett, Chair, Curriculum Committee

**DATE:** October 29, 2020



## Additional Course Evaluation Questions, Specifically Re: Online Learning

Include a header – e.g. Online/Blended Learning

1. The content in Moodle was well-organized and easy to navigate
2. The content in Moodle was easy to understand
3. The Zoom (or MS Teams) sessions were interactive and engaging
4. The online activities I completed on my own (e.g. in Moodle) were helpful in my learning
5. The live real-time sessions (e.g. Zoom) were helpful in my learning
6. There was a good balance between Zoom or in-person classes and the online activities completed on your own (e.g. in Moodle) ...
7. What additional comments do you have regarding your online learning experience or the online learning environment?