STEEL CONSTRUCTION MODELLING TECHNICIAN CERTIFICATE

Purpose

Graduates of this program will have developed the drafting and 3D modelling skills which will enable them to enter the workforce in many areas as team members principally in structural steel fabrication companies, miscellaneous metals fabrication companies, and steel detailing offices. Graduates will be prepared to work on a wide variety of structures in North America, including schools, sports stadiums, bridges, commercial buildings and high-rise offices.

Duration

Ten (10) months, comprised of three terms. Maximum time to complete the program: 3 years.

Learning Outcomes

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

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

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

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

4. Develop drafting and related trade knowledge.

5. Develop 3D modeling and related trade skills and knowledge.

6. Utilize critical thinking, team building and interpersonal communication skills.

7. 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.

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

9. 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.

10. Prepare a comprehensive professional portfolio.

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

Admission Requirements

- Grade 12 graduation or equivalent
- English Language Proficiency (https://can01.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.vcc.ca%2Fapplying%2Fregistration-services%2Fenglish-language-proficiency-requirements%2F&data=05%7C01%7Cfbarillaro%40vcc.ca%7C78d9b2260f924e72aaa608db66b256c0%7C9d83cfc7633047d5b18d45bafe3%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWw%7C3000%7C%7C%7C&sdata=v714NbbPWIDIhTtCnPCtt%2FFI74%2B7i7oPnr%2BJFRZaltM%3D&reserved=0) at a grade 12 level
- Knowledge of mathematics demonstrated by *one* of the following:
  - Workplace Mathematics 11 or equivalent, *or*
  - VCC Math Assessment with 80% Basic Arithmetic and 60% Basic Algebra

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 Short Certificate graduates may insert into level 2 of the program.
- For assistance with meeting the entrance requirements, please contact Advising Services to schedule an appointment with an Advisor.

Program Requirements

Term One		**Credits**
DRFT 1010	CAD Drafting Fundamentals	4
DRFT 1011	CAD Drafting Applied	3
DRFT 1012	Office & Construct Site Safety	1
DRFT 1013	Construction Mathematics	1
	Credits	**9**
Term Two		
DRFT 1290	Struct Steel Fab Codes & Stand	1
DRFT 1291	Introduction to Steel Detail	1
DRFT 1292	Structural Bolting & Welding	1
DRFT 1293	Indust & Comm Basic Framing	4
DRFT 1294	Connection & Layout Geometry	2
DRFT 1295	Detail of Inclined Components	4
DRFT 1296	Miscellaneous Metals Detailing	2
	Credits	**15**
Term Three		
DRFT 1380	CAD 3D and Assemblies	2
DRFT 1391	Introduction to BIM Software	3
DRFT 1392	Working with BIM Software	3
DRFT 1370	Technical Communications	1
DRFT 1393	Heavy Structural Steel Framing	4.5
DRFT 1326	Job Search Skills	0.5
DRFT 1352	Steel Trusses	2
	Credits	**16**
	Total Credits	**40**

This guide is intended as a general guideline only. The college reserves the right to make changes as appropriate.

Evaluation of Student Learning

Students are evaluated by:

- practical projects
- exams
- drawings
- presentations

Prior Learning Assessment and 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 D.3.5 Prior Learning Assessment and Recognition Policy and Procedures for more information.

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

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	61-65		2.00
C-	56-60		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
Course Standings			
R		Audit. No Credits	N/A
EX		Exempt. Credit Granted	N/A
TC		Transfer Credit	N/A

Grade Point Average (GPA)

1. The course grade points shall be calculated as the product of the course credit value and the grade value.
2. 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.
3. 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.