

DRAFTING (DRFT)

DRFT 1010 Credits: 4

CAD Drafting Fundamentals Total Hours: 120

This course introduces students to the world of technical drafting and the tools, terminology and media required to create working drawings of simple and more complex shapes. Students learn and apply the techniques for accurately drawing components, and fully representing them graphically. This course is part of the full-time Architectural Technician, Civil/Structural Technician, Steel Detailing Technician Certificate Programs.

Prior Learning Assessment is available.

DRFT 1011 Credits: 3

CAD Drafting Applied Total Hours: 90

In this course, the student builds on the graphical emphasis of DRFT 1010 by studying and applying the conventions of drawing annotation and completing a capstone project. This course is part of the full-time Architectural Technician, Civil/Structural Technician, Steel Detailing Technician Certificate Programs.

Prior Learning Assessment is available.

DRFT 1012 Credits: 1

Office & Construct Site Safety Total Hours: 30

In this course, the students examine the safety aspects of a career in a construction-related field, with particular reference to precautions taken on entering a working construction site, as well as precautions related to workplace harassment and violence prevention. This course is part of the full-time Architectural Technician, Civil/Structural Technician, Steel Detailing Technician Certificate Programs.

DRFT 1013 Credits: 1

Construction Mathematics Total Hours: 30

In this course, students will apply a wide variety of mathematical techniques with the degree of accuracy required to solve technical problems appropriate for a CAD technician. This course is part of the full-time Architectural Technician, Civil/Structural Technician, Steel Detailing Technician Certificate Programs.

Prior Learning Assessment is available.

DRFT 1226 Credits: 1

Construction Drawing Reading Total Hours: 30

In this course, the student will learn the basic skills needed to read, study and understand construction drawings. This course is part of the full-time Architectural Technician, Civil/Structural Technician, Steel Detailing Technician Certificate Programs.

DRFT 1255 Credits: 4.5

Residential Plans and Framing Total Hours: 135

This course introduces students to architectural drafting practices for residential single family detached houses, architectural construction, building codes, and wood framing for a full residential wood framed project.

Prior Learning Assessment is available.

DRFT 1256 Credits: 1

Plumbing Systems for Buildings Total Hours: 30

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

Pre-requisite(s): DRFT 1010, DRFT 1011, DRFT 1012, DRFT 1013

DRFT 1257 Credits: 1

Electrical Systems for Bldgs Total Hours: 30

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

Pre-requisite(s): DRFT 1010, DRFT 1011, DRFT 1012, DRFT 1013

DRFT 1258 Credits: 1

Utility Data Total Hours: 30

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.

Pre-requisite(s): DRFT 1010, DRFT 1011, DRFT 1012, DRFT 1013

DRFT 1259 Credits: 3

HVAC Systems for Buildings Total Hours: 90

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.

Pre-requisite(s): DRFT 1010, DRFT 1011, DRFT 1012, DRFT 1013

DRFT 1260 Credits: 1

Fire Suppression Systems Total Hours: 30

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.

Pre-requisite(s): DRFT 1010, DRFT 1011, DRFT 1012, DRFT 1013

DRFT 1261 Credits: 2

Process Flow Diagrams Total Hours: 60

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

Pre-requisite(s): DRFT 1010, DRFT 1011, DRFT 1012, DRFT 1013

DRFT 1262 Credits: 1

Pipe Components Total Hours: 30

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

Pre-requisite(s): DRFT 1010, DRFT 1011, DRFT 1012, DRFT 1013

DRFT 1263 Credits: 1

Piping and Instrumentation Total Hours: 30

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.

Pre-requisite(s): DRFT 1010, DRFT 1011, DRFT 1012, DRFT 1013

DRFT 1264 Credits: 2

Plant and Equipment Layout Total Hours: 60

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.

Pre-requisite(s): DRFT 1010, DRFT 1011, DRFT 1012, DRFT 1013

DRFT 1265 Credits: 1

Process and Utility Piping Total Hours: 30

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.

Pre-requisite(s): DRFT 1010, DRFT 1011, DRFT 1012, DRFT 1013

DRFT 1266 Credits: 1**Piping Fabrication Isometrics Total Hours: 30**

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.

Pre-requisite(s): DRFT 1010, DRFT 1011, DRFT 1012, DRFT 1013

DRFT 1270 Credits: 1**Residential Design Total Hours: 30**

In this course, students will identify the roles of engineering and architectural professionals. Students will study and apply architectural theory, sustainable development initiatives such as LEED and the development and design processes. This course is part of the full-time Architectural Technician, Civil/Structural Technician, Steel Detailing Technician Certificate Programs.

Pre-requisite(s): DRFT 1010, DRFT 1011, DRFT 1012

DRFT 1271 Credits: 1**Site Planning Total Hours: 30**

In this course, students will study site development and follow best practice design required for a typical residence. Students will prepare a site plan following the applicable standards and conventions. This course is part of the full-time Architectural Technician, Civil/Structural Technician, Steel Detailing Technician Certificate Programs.

Pre-requisite(s): DRFT 1013, DRFT 1270

DRFT 1272 Credits: 1**Codes and Regulations 1 Total Hours: 30**

In this course, students are introduced to the B.C. Building Code (BCBC) Part 9 and the National Building Code as related to the Canadian Wood-Frame House Construction Guide by CMHC. Students develop knowledge in acceptable building practices and standards of light wood frame construction. This course is part of the full-time Architectural Technician, Civil/Structural Technician, Steel Detailing Technician Certificate Programs.

Pre-requisite(s): DRFT 1271

DRFT 1273 Credits: 1**Construction Assemblies 1 Total Hours: 30**

In this course, students are introduced to conventional building assemblies and building envelope design and materials used in the coastal climate of B.C. Students prepare a typical wall section required for course DRFT 1274, Single Family Residences. This course is part of the full-time Architectural Technician, Civil/Structural Technician, Steel Detailing Technician Certificate Programs.

Pre-requisite(s): DRFT 1272

DRFT 1274 Credits: 5**Single Family Residences Total Hours: 150**

In this course students build on architectural residential design practices by applying the appropriate codes and theory of wood framing for residential structures. Students develop knowledge in acceptable standards for preparing a set of framing drawings of a residential wood framed residence. This course is part of the full-time Architectural Technician, Civil/Structural Technician, Steel Detailing Technician Certificate Programs.

Pre-requisite(s): DRFT 1273

DRFT 1275 Credits: 1**Codes and Regulations 2 Total Hours: 30**

In this course students are introduced to Part 9 of the Vancouver Building Bylaw (VBBL) and to the Zoning and Development Bylaw RM-5 as it applies to multi-family dwellings. Students develop a preliminary site plan layout to determine the allowable building coverage and size as determined by the VBBL. This course is part of the full-time Architectural Technician, Civil/Structural Technician, Steel Detailing Technician Certificate Programs.

Pre-requisite(s): DRFT 1272, DRFT 1274

DRFT 1276 Credits: 1**Construction Assemblies 2 Total Hours: 30**

In this course students build knowledge by applying more advanced methods of building assemblies. Students prepare various assembly views required for course DRFT 1277, Multi Family Residences. This course is part of the full-time Architectural Technician, Civil/Structural Technician, Steel Detailing Technician Certificate Programs.

Pre-requisite(s): DRFT 1273, DRFT 1275

DRFT 1277 Credits: 3.5**Multi Family Residences Total Hours: 105**

In this course students apply the appropriate codes and zoning requirements as set out in the Vancouver Building Bylaw (VBBL) for multi-family wood framed structures. Using previous courses, DRFT 1275 and DRFT 1276, students follow a typical design workflow process to prepare a set of architectural drawings. This course is part of the full-time Architectural Technician, Civil/Structural Technician, Steel Detailing Technician Certificate Programs.

Pre-requisite(s): DRFT 1276

DRFT 1278 Credits: .5**Drawing Plan Reading Total Hours: 18**

In this course, students are introduced to the basic skills needed to read, study and understand construction drawings. This course is part of the full-time Architectural Technician, Civil/Structural Technician, Steel Detailing Technician Certificate Programs.

Pre-requisite(s): DRFT 1277

DRFT 1280 Credits: 3**Industrial Site Layout Total Hours: 60**

This course introduces the student to the overall layout of site development, mapping and plotting techniques, cut and fill practices, drainage and sub-surface investigation for the Civil engineering industry.

DRFT 1281 Credits: 2**Autodesk Civil 3D Total Hours: 60**

In this course, the student will be introduced to using Autodesk Civil 3D Software for road layouts, land subdivision, terrain models, and corridor design. This course is part of the full-time Architectural Technician, Civil/Structural Technician, Steel Detailing Technician Certificate Programs.

DRFT 1282 Credits: 2**Road Alignment Detailing Total Hours: 60**

This course introduces the student to road layouts, horizontal and vertical alignments, and highway intersections. This course is part of the full-time Architectural Technician, Civil/Structural Technician, Steel Detailing Technician Certificate Programs.

DRFT 1283 Credits: 3**Steel Structures Total Hours: 90**

This course introduces the student to framing systems and the layout of steel structure construction drawings and steel drafting conventions. This course is part of the full-time Architectural Technician, Civil/Structural Technician, Steel Detailing Technician Certificate Programs.

DRFT 1284 Credits: 1**Princ for Reinforced Concrete Total Hours: 30**

This course introduces the student to the basic concepts and properties of steel reinforced concrete, characteristics and design principles. This course is part of the full-time Architectural Technician, Civil/Structural Technician, Steel Detailing Technician Certificate Programs.

DRFT 1285 Credits: 1**Foundation Design Concepts Total Hours: 30**

This course introduces the student to concrete foundations concepts, foundation plans and concrete grade beam drawings. This course is part of the full-time Architectural Technician, Civil/Structural Technician, Steel Detailing Technician Certificate Programs.

DRFT 1286 Credits: 2**Engineering Statics Total Hours: 60**

In this course, students are introduced to the relationship between applied loads and the resultant support reactions, and the internal forces developed in statically determinate members and structures. This course is part of the full-time Architectural Technician, Civil/Structural Technician, Steel Detailing Technician Certificate Programs.

DRFT 1290 Credits: 1**Struct Steel Fab Codes & Stand Total Hours: 30**

This course introduces the students to the codes and standards that govern the Canadian steel construction industry at both national and local levels, including those documents developed by fabricators. The student will use the data in those documents to develop details that comply with current standards. This course is part of the full-time Architectural Technician, Civil/Structural Technician, Steel Detailing Technician Certificate Programs.

DRFT 1291 Credits: 1**Introduction to Steel Detail Total Hours: 30**

The course introduces the students to the structural steel sections used in steel construction, the processes used in the fabrication shop to manufacture the building components, and the drawings used and created by the steel detailer. This course is part of the full-time Architectural Technician, Civil/Structural Technician, Steel Detailing Technician Certificate Programs.

DRFT 1292 Credits: 1**Structural Bolting & Welding Total Hours: 30**

In this course, the students apply the knowledge gained in DRFT 1290 and DRFT 1291 to practical bolting and welding situations. Through use of tables and standards data, students will develop fully detailed bolted and welded connections, employ appropriate symbols, and gain an understanding of the differences in these operations in the fabrication shop and on the construction site. This course is part of the full-time Architectural Technician, Civil/Structural Technician, Steel Detailing Technician Certificate Programs.

DRFT 1293 Credits: 4**Indust & Comm Basic Framing Total Hours: 120**

This course introduces students to the basic concepts behind structural steel square framing, and prepares them for the development of their first steel detailing project drawings. This course is part of the full-time Architectural Technician, Civil/Structural Technician, Steel Detailing Technician Certificate Programs.

DRFT 1294 Credits: 2**Connection & Layout Geometry Total Hours: 60**

Students are introduced to details and connections for inclined components, the procedures for calculating their dimensions, and the appropriate ways to show those dimensions on the shop drawings.

DRFT 1295 Credits: 4**Detail of Inclined Components Total Hours: 120**

This course builds on the concepts and techniques learned in DRFT 1293 and DRFT 1294 to enable the students to detail representative components of a complex steel structure that includes sloping structural members. This course is part of the full-time Architectural Technician, Civil/Structural Technician, Steel Detailing Technician Certificate Programs.

DRFT 1296 Credits: 2**Miscellaneous Metals Detailing Total Hours: 60**

This course builds on the concepts learned in DRFT 1295, and introduces the students to the different detailing rules and conventions required to produce drawings of the lighter components, specifically guardrails, stair handrails, welded frame platforms and steel flooring materials. This course is part of the full-time Architectural Technician, Civil/Structural Technician, Steel Detailing Technician Certificate Programs.

DRFT 1326 Credits: .5**Job Search Skills Total Hours: 15**

The student will prepare a resume and letter of application. Locating job vacancies, assessing marketable skills and interviewing skills will be covered. This course is part of the full-time Architectural Technician, Civil/Structural Technician, Steel Detailing Technician Certificate Programs.

DRFT 1327 Credits: 2**Revit Structures Total Hours: 60**

This course introduces the student to the fundamentals of the Building Information Modeling (BIM) process using Autodesk Revit Structure software. This course is part of the full-time Architectural Technician, Civil/Structural Technician, Steel Detailing Technician Certificate Programs.

DRFT 1330 Credits: 2**Advanced Road Design Total Hours: 60**

Using Civil 3D software, students will apply sophisticated Civil Drafting techniques to advance the Site and Road design modules from the previous level. They will create drawings for a subdivision using advanced Corridor Modeling that will meet municipal and industry design standards.

Pre-requisite(s): DRFT 1280, DRFT 1281, DRFT 1282

DRFT 1331 Credits: 2**Civil Utility Services Total Hours: 60**

Building on the Advanced Road Design course, students will expand their knowledge and skill of pipe networks by creating drawings for a subdivision storm and sanitary system. Additionally, students will model profiles and cross sections applicable to municipal and industry design standards.

Pre-requisite(s): DRFT 1280, DRFT 1281, DRFT 1282

DRFT 1332 Credits: 1**Professional Preparation Total Hours: 30**

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.

Pre-requisite(s): DRFT 1010, DRFT 1011, DRFT 1012, DRFT 1013

DRFT 1352 Credits: 2**Steel Trusses Total Hours: 60**

This course prepares the students to read and interpret engineering drawing and tabular data relating to structural steel trusses, and to generate from this information shop fabrication drawings of welded and bolted steel trusses. This course is part of the full-time Architectural Technician, Civil/Structural Technician, Steel Detailing Technician Certificate Programs.

DRFT 1362 Credits: 2**BIM Basic for Mechanical Total Hours: 60**

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.

Pre-requisite(s): DRFT 1256, DRFT 1257, DRFT 1258, DRFT 1259, DRFT 1260, DRFT 1261, DRFT 1262, DRFT 1263, DRFT 1264, DRFT 1265, DRFT 1266

DRFT 1363 Credits: 2**BIM Project for MEP Total Hours: 60**

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.

Pre-requisite(s): DRFT 1256, DRFT 1257, DRFT 1258, DRFT 1259, DRFT 1260, DRFT 1261, DRFT 1262, DRFT 1263, DRFT 1264, DRFT 1265, DRFT 1266

DRFT 1364 Credits: 3**MEP for Pipe Fabrication Total Hours: 90**

This course introduces students to working from a mechanical piping layout of a building to produce spool drawings, piping isometrics, and fabrication drawings.

Pre-requisite(s): DRFT 1256, DRFT 1257, DRFT 1258, DRFT 1259, DRFT 1260, DRFT 1261, DRFT 1262, DRFT 1263, DRFT 1264, DRFT 1265, DRFT 1266

DRFT 1365 Credits: 1**Piping BIM Proj & Spec Setup Total Hours: 30**

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 for the projects will be created by modifying existing pipe specifications.

Pre-requisite(s): DRFT 1256, DRFT 1257, DRFT 1258, DRFT 1259, DRFT 1260, DRFT 1261, DRFT 1262, DRFT 1263, DRFT 1264, DRFT 1265, DRFT 1266

DRFT 1366 Credits: 1**3D BIM Pipe Struc Equip Model Total Hours: 30**

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.

Pre-requisite(s): DRFT 1256, DRFT 1257, DRFT 1258, DRFT 1259, DRFT 1260, DRFT 1261, DRFT 1262, DRFT 1263, DRFT 1264, DRFT 1265, DRFT 1266

DRFT 1367 Credits: 1**3D BIM Ortho Iso and BOM Total Hours: 30**

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.

Pre-requisite(s): DRFT 1256, DRFT 1257, DRFT 1258, DRFT 1259, DRFT 1260, DRFT 1261, DRFT 1262, DRFT 1263, DRFT 1264, DRFT 1265, DRFT 1266

DRFT 1370 Credits: 1**Technical Communications Total Hours: 30**

In this course, students will learn to communicate clearly, concisely and correctly in writing and in person in various technical communication situations. This course is part of the full-time Architectural Technician, Civil/Structural Technician, Steel Detailing Technician Certificate Programs.

DRFT 1371 Credits: 1**Codes and Regulations 3 Total Hours: 30**

In this course, students are introduced to Part 3 of the British Columbia Building Code (BCBC) as it applies to commercial occupancies. Using 3D CAD, students prepare drawing plan layouts for a small convenience store required for course DRFT 1373, Commercial Retail Buildings. This course is part of the full-time Architectural Technician, Civil/Structural Technician, Steel Detailing Technician Certificate Programs.

Pre-requisite(s): DRFT 1275, DRFT 1370

DRFT 1372 Credits: 1**Construction Assemblies 3 Total Hours: 30**

In this course, students build knowledge from previous courses by applying advanced methods of building assemblies for concrete block and light steel framed buildings. Students prepare various assembly views using 3D CAD required for course DRFT 1373, Commercial Retail Buildings. This course is part of the full-time Architectural Technician, Civil/Structural Technician, Steel Detailing Technician Certificate Programs.

Pre-requisite(s): DRFT 1276, DRFT 1371

DRFT 1373 Credits: 3**Commercial Retail Buildings Total Hours: 90**

In this course, students are introduced to commercial drawing and detailing practices as they apply to concrete block and light steel framed buildings. Students prepare a set of architectural drawings using 3D CAD for a retail convenience store. This course is part of the full-time Architectural Technician, Civil/Structural Technician, Steel Detailing Technician Certificate Programs.

Pre-requisite(s): DRFT 1372

DRFT 1374 Credits: 3.5**Introduction to 3D and BIM Total Hours: 105**

In this course, students are introduced to 3D modeling and rendering, building visualization skills learned to date. An introduction to 3D CAD Building Information Modeling (BIM) software enables students to construct realistic models by including all interior and exterior components, entourage and lighting features to produce visually accurate renderings and an animation. This course is part of the full-time Architectural Technician, Civil/Structural Technician, Steel Detailing Technician Certificate Programs.

Pre-requisite(s): DRFT 1373

DRFT 1375 Credits: 6**Commercial Layouts Using BIM Total Hours: 180**

This course introduces students to design principles relating to the arrangement of offices and access for persons with disabilities using Part 3 of the British Columbia Building Code (BCBC). Arrangements are developed using 3D Building Information Modeling (BIM) software for the final development of construction working drawings. This course is part of the full-time Architectural Technician, Civil/Structural Technician, Steel Detailing Technician Certificate Programs.

Pre-requisite(s): DRFT 1374

DRFT 1380 Credits: 2**CAD 3D and Assemblies Total Hours: 60**

In this course, the student's cumulative drafting skills are then brought together in a project centred on the production of a set of drawings required for the assembly of a multi-part mechanical component. The students further develop their CAD skills by applying and adapting them to the 3D environment. This course is part of the full-time Architectural Technician, Civil/Structural Technician, Steel Detailing Technician Certificate Programs.

DRFT 1381 Credits: 1**Miscellaneous Steel Total Hours: 30**

This course introduces the student to the layout of miscellaneous steel elements, steel stairs and platforms. This course is part of the full-time Architectural Technician, Civil/Structural Technician, Steel Detailing Technician Certificate Programs.

DRFT 1383 Credits: .5**Quantity Take Offs Total Hours: 15**

This course introduces students to the principles for calculating steel and concrete amounts for structures. This course is part of the full-time Architectural Technician, Civil/Structural Technician, Steel Detailing Technician Certificate Programs.

DRFT 1384 Credits: 2**Concrete Slab on Grade Flr Sys Total Hours: 60**

This course introduces the student to concrete slab on grade and ground floor systems, and the production of the required associated construction drawings. This course is part of the full-time Architectural Technician, Civil/Structural Technician, Steel Detailing Technician Certificate Programs.

DRFT 1385 Credits: 3**Reinforced Concret Struc Comp Total Hours: 90**

This course introduces students to suspended concrete floor systems and types, concrete columns and beams and the conventions used to produce detail drawings. This course is part of the full-time Architectural Technician, Civil/Structural Technician, Steel Detailing Technician Certificate Programs.

DRFT 1391 Credits: 3**Introduction to BIM Software Total Hours: 90**

In this course, the students learn the fundamentals of a contemporary specialist Building Information Modelling software application. Through the use of a specialty training manual, students will create a working model of a steel building and create fabrication and general arrangement drawings from the model. This course is part of the full-time Architectural Technician, Civil/Structural Technician, Steel Detailing Technician Certificate Programs.

DRFT 1392 Credits: 3**Working with BIM Software Total Hours: 90**

Having acquired the basic skills associated with BIM software in DRFT 1391, the students will apply and develop those skills through the creation of structural steel building models of a more complex nature. This course is part of the full-time Architectural Technician, Civil/Structural Technician, Steel Detailing Technician Certificate Programs.

DRFT 1393 Credits: 4.5**Heavy Structural Steel Framing Total Hours: 135**

This course introduces the students to structural steel subject to high axial loading and bending moments, to connections that are specifically designed to resist bending, and to the special fabrication, bolting and welding considerations for highly stressed structural elements and those subject to load reversal. This course is part of the full-time Architectural Technician, Civil/Structural Technician, Steel Detailing Technician Certificate Programs.

DRFT 1394 Credits: 2**Industrial Building Modeling Total Hours: 60**

Students create a 3D Model of an industrial building using 3D piping BIM software.

Pre-requisite(s): DRFT 1256, DRFT 1257, DRFT 1258, DRFT 1259, DRFT 1260, DRFT 1261, DRFT 1262, DRFT 1263, DRFT 1264, DRFT 1265, DRFT 1266

DRFT 1395 Credits: 1**Mech Equip Modeling & Layout Total Hours: 30**

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.

Pre-requisite(s): DRFT 1256, DRFT 1257, DRFT 1258, DRFT 1259, DRFT 1260, DRFT 1261, DRFT 1262, DRFT 1263, DRFT 1264, DRFT 1265, DRFT 1266

DRFT 1396 Credits: 1**Piping Sys Modeling & Layout Total Hours: 30**

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.

Pre-requisite(s): DRFT 1256, DRFT 1257, DRFT 1258, DRFT 1259, DRFT 1260, DRFT 1261, DRFT 1262, DRFT 1263, DRFT 1264, DRFT 1265, DRFT 1266

DRFT 2100 Credits: 9**Integrated BIM Project Total Hours: 270**

Building Information Modeling (BIM) is a process focused on the development, use and transfer of a digital information model of a building project to improve the design, construction and operations of a project or portfolio of facilities. This course introduces the student to working within a design team setting to create an integrated building model by applying overall process of developing a BIM project work flow, BIM project standards, and creating Project Execution Plans.

DRFT 2107 Credits: 6**Capstone Project using BIM Total Hours: 180**

During the Capstone Project, students will reflect upon the themes and concepts, key insights and points of learning from each DRFT course and how they understand the integration of these insights in terms of their own work. The students will develop and deepen the reflection of their personal experiences in the program and the implications for their profession and the overall process of developing a BIM project. Last, students will produce a 3D Building Information Model of an assigned portion of a modular building that will require applying all the skills from both disciplines learned in the Diploma program. Finally, the modules will be assembled together with the other Diploma students to form a complete building project.

Pre-requisite(s): DRFT 2100 and either: 1) Architectural courses (DRFT 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, and 2278) or 2) Civil/Structural courses (DRFT 2226, 2280, 2281, 2282, 2283, 2284, 2285, and 1286)

DRFT 2226 Credits: 1**Dipl. Constr. Drawing Reading Total Hours: 30**

In this course, the student will learn the advanced skills needed to read, study and understand construction drawings.

Pre-requisite(s): DRFT 2100

DRFT 2256 Credits: 1**Dipl Plumbing Systems Total Hours: 30**

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

Pre-requisite(s): DRFT 2100

DRFT 2257 Credits: 1**Dipl Electrical Systems Total Hours: 30**

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

Pre-requisite(s): DRFT 2100

DRFT 2258 Credits: 1**Dipl Utility Data & Setup Proj Total Hours: 30**

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.

Pre-requisite(s): DRFT 2100

DRFT 2259 Credits: 3**Dipl HVAC Systems for Building Total Hours: 90**

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.

Pre-requisite(s): DRFT 2100

DRFT 2260 Credits: 1**Dipl Fire Suppression Systems Total Hours: 30**

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.

Pre-requisite(s): DRFT 2100

DRFT 2261 Credits: 2**Dipl Process Flow Diagrams Total Hours: 60**

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

Pre-requisite(s): DRFT 2100

DRFT 2262 Credits: 1**Dipl Pipe Components Total Hours: 30**

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

Pre-requisite(s): DRFT 2100

DRFT 2263 Credits: 1**Dipl Pipe & Instrumentation Total Hours: 30**

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.

Pre-requisite(s): DRFT 2100

DRFT 2264 Credits: 2**Dipl Plant and Equipment Total Hours: 60**

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.

Pre-requisite(s): DRFT 2100

DRFT 2265 Credits: 1**Dipl Process & Utility Piping Total Hours: 30**

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..

Pre-requisite(s): DRFT 2100

DRFT 2266 Credits: 1**Dipl Piping Isometrics Total Hours: 30**

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.

Pre-requisite(s): DRFT 2100

DRFT 2270 Credits: 1**Dipl. Residential Design Total Hours: 30**

In this course, students will identify the roles of engineering and architectural professionals. Students will study and apply architectural theory, sustainable development initiatives such as LEED and the development and design processes.

Pre-requisite(s): DRFT 2100

DRFT 2271 Credits: 1**Dipl. Site Planning Total Hours: 30**

In this course, students will study site development and follow best practice design required for a typical residence. Students will prepare a site plan following the applicable standards and conventions.

Pre-requisite(s): DRFT 2100, DRFT 2270

DRFT 2272 Credits: 1**Dipl. Codes and Regulations 1 Total Hours: 30**

In this course, students are introduced to the B.C. Building Code (BCBC) Part 9 and the National Building Code as related to the Canadian Wood-Frame House Construction Guide by CMHC. Students develop knowledge of acceptable building practices and standards of light wood frame construction.

Pre-requisite(s): DRFT 2100, DRFT 2270, DRFT 2271

DRFT 2273 Credits: 1**Dipl. Constr. Assemblies 1 Total Hours: 30**

In this course, students are introduced to conventional building assemblies and building envelope design and materials used in the coastal climate of B.C. Students prepare a typical wall section required for course DRFT 1274, Single Family Residences.

Pre-requisite(s): DRFT 2100, DRFT 2270, DRFT 2271, DRFT 2272

DRFT 2274 Credits: 5**Dipl. Single Family Residences Total Hours: 150**

In this course students build on architectural residential design practices by applying the appropriate codes and theory of wood framing for residential structures. Students develop knowledge in acceptable standards for preparing a set of framing drawings of a residential wood framed residence.

Pre-requisite(s): DRFT 2100, DRFT 2270, DRFT 2271, DRFT 2272, DRFT 2273

DRFT 2275 Credits: 1**Dipl. Codes and Regulations 2 Total Hours: 30**

In this course students are introduced to Part 9 of the Vancouver Building Bylaw (VBBL) and to the Zoning and Development Bylaw RM-5 as it applies to multi-family dwellings. Students develop a preliminary site plan layout to determine the allowable building coverage and size as determined by the VBBL. This course is a part of CAD & BIM Technician Diploma.

Pre-requisite(s): DRFT 2100, DRFT 2270, DRFT 2271, DRFT 2272, DRFT 2273, DRFT 2274

DRFT 2276 Credits: 1**Dipl. Constr. Assemblies 2 Total Hours: 30**

In this course students build knowledge by applying more advanced methods of building assemblies. Students prepare various assembly views required for course DRFT 1277, Multi Family Residences. This course is a part of CAD & BIM Technician Diploma.

Pre-requisite(s): DRFT 2100, DRFT 2270, DRFT 2271, DRFT 2272, DRFT 2273, DRFT 2274, DRFT 2275

DRFT 2277 Credits: 3.5**Dipl. Multi Family Residences Total Hours: 105**

In this course students apply the appropriate codes and zoning requirements as set out in the Vancouver Building Bylaw (VBBL) for multi-family wood framed structures. Using previous courses, DRFT 1275 and DRFT 1276, students follow a typical design workflow process to prepare a set of architectural drawings. This course is a part of CAD & BIM Technician Diploma.

Pre-requisite(s): DRFT 2100, DRFT 2270, DRFT 2271, DRFT 2272, DRFT 2273, DRFT 2274, DRFT 2275, DRFT 2276

DRFT 2278 Credits: .5**Dipl. Drawing Plan Reading Total Hours: 18**

In this course, students are introduced to the basic skills needed to read, study and understand construction drawings.

Pre-requisite(s): DRFT 2100, DRFT 2270, DRFT 2271, DRFT 2272, DRFT 2273, DRFT 2274, DRFT 2275, DRFT 2276, DRFT 2277

DRFT 2280 Credits: 3**Dipl. Industrial Site Layout Total Hours: 60**

This course introduces the student to the overall layout of site development, mapping and plotting techniques, cut and fill practices, drainage and sub-surface investigation for the Civil engineering industry. This course is a part of CAD & BIM Technician Diploma.

Pre-requisite(s): DRFT 2100

DRFT 2281 Credits: 2**Dipl. Autodesk Civil 3D Total Hours: 60**

In this course, the student will be introduced to using Autodesk Civil 3D Software for road layouts, land subdivision, terrain models, and corridor design.

Pre-requisite(s): DRFT 2100

DRFT 2282 Credits: 2**Dipl. Road Alignment Detailing Total Hours: 60**

This course introduces the student to road layouts, horizontal and vertical alignments, and highway intersections.

Pre-requisite(s): DRFT 2100

DRFT 2283 Credits: 3**Dipl. Steel Structures Total Hours: 90**

This course introduces the student to framing systems and the layout of steel structure construction drawings and steel drafting conventions.

Pre-requisite(s): DRFT 2100

DRFT 2284 Credits: 1**Dipl. Princ. Reinforced Concr Total Hours: 30**

This course introduces the student to the basic concepts and properties of steel reinforced concrete, characteristics and design principles. This course is a part of CAD & BIM Technician Diploma.

Pre-requisite(s): DRFT 2100

DRFT 2285 Credits: 1**Dipl. Foundation Design Concp Total Hours: 30**

This course introduces the student to concrete foundations concepts, foundation plans and concrete grade beam drawings.

Pre-requisite(s): DRFT 2100

DRFT 2290 Credits: 1**Dipl. Struc Steel Fab Cde & St Total Hours: 30**

This course introduces the students to the codes and standards that govern the Canadian steel construction industry at both national and local levels, including those documents developed by fabricators. The student will use the data in those documents to develop details that comply with current standards. This course is part of the full-time CAD and BIM Technician Diploma.

DRFT 2291 Credits: 1**Dipl. Intro to Steel Detail Total Hours: 30**

The course introduces the students to the structural steel sections used in steel construction, the processes used in the fabrication shop to manufacture the building components, and the drawings used and created by the steel detailer. This course is part of the full-time CAD and BIM Technician Diploma.

DRFT 2292 Credits: 1**Dipl. Structural Bolt & Weld Total Hours: 30**

In this course, the students apply the knowledge gained in DRFT 2290 and DRFT 2291 to practical bolting and welding situations. Through use of tables and standards data, students will develop fully detailed bolted and welded connections, employ appropriate symbols, and gain an understanding of the differences in these operations in the fabrication shop and on the construction site. This course is part of the full-time CAD and BIM Technician Diploma.

Pre-requisite(s): DRFT 2290, DRFT 2291

DRFT 2293 Credits: 4

Dipl. Indust & Com Basic Frame Total Hours: 120

This course introduces students to the basic concepts behind structural steel square framing, and prepares them to create more developed steel detailing project drawings. This course is part of the full-time CAD and BIM Technician Diploma.

Pre-requisite(s): DRFT 2294 Diploma BIM Software for Steel Detailing

DRFT 2294 Credits: 2

Dipl. BIM Softw for Steel Det Total Hours: 60

In this course, the students learn the fundamentals of the most widely used, contemporary specialist Building Information Modelling software application. Through the use of a specialty training manual, students will create a working model of a steel building and create fabrication and general arrangement drawings from the model. This course is part of the full-time CAD and BIM Technician Diploma.

Pre-requisite(s): DRFT 2290, DRFT 2291, DRFT 2292

DRFT 2295 Credits: 4

Dipl. Detail of Inclined Comp Total Hours: 120

This course builds on the concepts and techniques learned in DRFT 2293 to enable the students to detail representative components of a complex steel structure that includes sloping structural members. This course is part of the full-time CAD and BIM Technician Diploma.

Pre-requisite(s): DRFT 2293

DRFT 2296 Credits: 2

Dipl. Misc Metals Detailing Total Hours: 60

This course builds on the concepts learned in DRFT 2295, and introduces the students to the different detailing rules and conventions required to produce drawings of the lighter components, specifically guardrails, stair handrails, welded frame platforms and steel flooring materials. This course is part of the full-time CAD and BIM Technician Diploma.

Pre-requisite(s): DRFT 2295