

# DRAFTING TECHNOLOGY

Explore More About This Program: <https://cwi.edu/program/drafting-technology>

## Drafting Technology (DRFT)

Refer to [How to Read Course Descriptions](#) for an explanation of elements found within the course descriptions below.

### DRFT 100 Construction Materials and Processes

(3 Credits, Fall)

An introductory study of common construction materials such as wood, stone, concrete, and steel; their properties and uses; and interior and exterior finishes. Overview of the construction process with a focus on residential construction. COREQ: DRFT 115, DRFT 119, and DRFT 139. (3 lecture hours, 0 lab hours, 3 credits)

### DRFT 115 Drafting Basics

(4 Credits, Fall)

Basics of drafting including orthographic projection of points, lines, and planes as they relate to the principal views, auxiliary views, and section views. Proper line types, geometric construction, dimensioning, and scales are used to represent the detail drawings. Also includes drafting for various manufacturing processes, hand drawing and perspective sketches, and an introduction to multiple computer-aided design (CAD) software. Outside site visits will be held to introduce students to various drafting disciplines. The course balances construction and manufacturing related topics. PREREQ: Completion of Units 1-4 (or placement into Unit 5 or higher) of MATH 095, and completion of or placement into ENGL 101+ (ENGL 100 & ENGL 101) or ENGL 101. COREQ: DRFT 100, DRFT 119, and DRFT 139. (2 lecture hours, 4 lab hours, 4 credits)

### DRFT 119 Introduction to AutoCAD

(4 Credits, Fall)

Coursework covers the AutoCAD interfaces. Basic geometry input, editing techniques, annotation topics, layout creation with viewports, blocks, and Xrefs are covered, as well as scaled plotting and file management. The course balances construction and manufacturing related topics. COREQ: DRFT 100, DRFT 115, and DRFT 139. (1 lecture hours, 6 lab hours, 4 credits)

### DRFT 120 Residential Architecture

(4 Credits, Spring)

Floorplan and elevation design, as well as relevant typical section views. Includes the International Residential Code, integration of various material uses into designs, and layer management as a CAD technique. PREREQ: DRFT 100, DRFT 115, DRFT 119, and DRFT 139. COREQ: DRFT 122 and DRFT 190. (1 lecture hours, 6 lab hours, 4 credits)

### DRFT 122 Introduction to Revit

(4 Credits, Spring)

Coursework covers the Revit CAD interfaces. 3D geometry creation, 2D drafting views, and layout manipulation will be covered as tools to design and document simple structures. Callout, section, and detail views, as well as visibility controls, and an introduction to family objects will be utilized. PREREQ: DRFT 100, DRFT 115, DRFT 119, and DRFT 139. COREQ: DRFT 120 and DRFT 190. (1 lecture hours, 6 lab hours, 4 credits)

### DRFT 139 Applied Math for Drafting

(3 Credits, Fall)

Intermediate principles of algebra, geometry, and trigonometry for drafting technology. Includes CAD calculations and analyses. PREREQ: Completion of Units 1-4 (or placement into Unit 5 or higher) of MATH 095. COREQ: DRFT 100, DRFT 115, and DRFT 119. (3 lecture hours, 0 lab hours, 3 credits)

### DRFT 190 Job Skills for Drafting

(1 Credit, Spring)

Introduction to resume writing and portfolio creation. Explore different career options through relevant drafting assignments and participate in practice interviews with companies. Includes AutoCAD certification exam. PREREQ: DRFT 100, DRFT 115, DRFT 119, and DRFT 139. COREQ: DRFT 120 and DRFT 122. (0 lecture hours, 2 lab hours, 1 credits)

### DRFT 199 Drafting Technology Special Topics

(1-5 Credits, Varies)

This course is designed to permit the offering of special topics appropriate to a student's program. Regular or frequently recurring topics are not offered under this title. The course may be repeated as new topics are presented. (1 lecture hours, 0 lab hours, 1 credits)

### DRFT 211 Civil Drafting and Math

(4 Credits, Fall)

Coursework covers the AutoCAD Civil 3D interface. Civil drafting annotations and survey data formats are introduced. 2D design topics of parcels, alignments, roadways, and intersections are covered. 3D design topics of surface creation, manipulation, road profile, cross sections, and grading are introduced. PREREQ: DRFT 120, DRFT 122, and DRFT 190. COREQ: DRFT 212 and DRFT 213. (1 lecture hours, 6 lab hours, 4 credits)

### DRFT 212 Structural and HVAC System Drafting

(5 Credits, Fall)

Coursework extends knowledge of the Revit CAD interface. 3D modeling of structural column and beam systems, 2D detailing of structural systems, and bolted and welded joints. Work with linked architectural and central models. 3D modeling of HVAC systems and 2D detailing of fixed and flexible ducting. PREREQ: DRFT 120, DRFT 122, and DRFT 190. COREQ: DRFT 211 and DRFT 213. (2 lecture hours, 6 lab hours, 5 credits)

### DRFT 213 Machine Drafting and Design

(4 Credits, Fall)

Design principles supporting design for manufacture using Solidworks software. Dimensioning of machined parts and assemblies. PREREQ: DRFT 120, DRFT 122, and DRFT 190. COREQ: DRFT 211 and DRFT 212. (1 lecture hours, 6 lab hours, 4 credits)

### DRFT 214 Commercial Architecture

(5 Credits, Spring)

Explores Revit Architecture and Building Information Modeling as it applies to commercial architecture. Design principles, facilities planning, and development of working drawings. PREREQ: DRFT 211, DRFT 212, and DRFT 213. COREQ: DRFT 216, DRFT 218, and DRFT 290. (2 lecture hours, 6 lab hours, 5 credits)

### DRFT 216 Survey of Sustainable Design

(2 Credits, Spring)

Introduction to sustainable design with an emphasis on the ecological impacts of the built environment and the practices and standards of sustainable building design. Topics include green building strategies, renewable energy, and environmental control systems. PREREQ: DRFT 211, DRFT 212, and DRFT 213. COREQ: DRFT 214, DRFT 218, and DRFT 290. (1 lecture hours, 2 lab hours, 2 credits)

**DRFT 218 Electrical and Plumbing Systems Drafting**

(4 Credits, Spring)

Coursework extends the knowledge of the Revit CAD interface. 3D modeling of electrical and plumbing systems including potable, waste, venting, and hydronic water, as well as electrical conduit routing. System creation and modifications, view management, and visibility topics are covered. 2D detailing required for fabrication drawings. PREREQ: DRFT 211, DRFT 212, and DRFT 213. COREQ: DRFT 214, DRFT 216, and DRFT 290. *(1 lecture hours, 6 lab hours, 4 credits)*

**DRFT 290 Drafting Technology Capstone**

(1 Credit, Spring)

Review resume writing, cover letters, and portfolio creation. Explore different career options through job shadowing. Take software certification exams. PREREQ: DRFT 211, DRFT 212, and DRFT 213. COREQ: DRFT 214, DRFT 216, and DRFT 218. *(0 lecture hours, 2 lab hours, 1 credits)*

**DRFT 296 Drafting Technology Independent Study**

(1-10 Credits, Varies)

This is a term long project. Each credit hour is equivalent to 45 hours of work on a project. Students should make arrangements with the instructor in their field of interest. Before enrolling for independent study, a student must obtain approval of the department chair and dean, acting on the recommendation of the instructor who will be supervising the independent study. An Independent Study Registration Form must be completed and turned into a One Stop Student Services location before a student may register for this course. PREREQ: PERM/INST and submission of a completed Independent Study Registration Form. *(0 lecture hours, 0 lab hours, 1 credits)*