

DRAFTING TECHNOLOGY (DRFT)

QUICK FACTS: DRFT COURSES

- **Instructional School:** Industry, Engineering, and Trades
- **Department:** Engineering

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. PREREQ: Completion of or placement into MATH 123 and completion of or placement into ENGL 101P. COREQ: DRFT 114, DRFT 118, and DRFT 119. (3 lecture hours, 0 lab hours, 3 credits)

DRFT 114 Drafting Basics

(3 Credits, Fall)

Covers the 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, or placement into, MATH 123; and completion of, or placement into, ENGL 101P. COREQ: DRFT 100, DRFT 118, and DRFT 119. (2 lecture hours, 2 lab hours, 3 credits)

DRFT 118 Introduction to Revit

(3 Credits, Fall)

Coursework introduces the Revit CAD interface. Topics include 2D drafting skills, view, and layout manipulation, as well as annotation topics. Also includes an introduction to 3D modeling and utilizing level and grid concepts tools. PREREQ: Completion of or placement into MATH 123 and completion of or placement into ENGL 101P. COREQ: DRFT 100, DRFT 114, and DRFT 119. (1 lecture hours, 4 lab hours, 3 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. PREREQ: Completion of or placement into MATH 123 and completion of or placement into ENGL 101P. COREQ: DRFT 100, DRFT 114, and DRFT 118. (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 114, DRFT 118, and DRFT 119. COREQ: DRFT 123, DRFT 139, and DRFT 190. (1 lecture hours, 6 lab hours, 4 credits)

DRFT 123 Introduction to Solidworks

(3 Credits, Spring)

Coursework introduces the Solidworks CAD interface. 2D drafting and dimensioning skills will be explored in the drawing file environment. Data import and export between AutoCAD and fabrication data will be covered. Introduce 3D modeling based on assembly origin and planes. PREREQ: DRFT 100, DRFT 114, DRFT 118, and DRFT 119. COREQ: DRFT 120, DRFT 139, and DRFT 190. (1 lecture hours, 4 lab hours, 3 credits)

DRFT 139 Applied Problem Solving for Drafting

(3 Credits, Spring)

Students will learn and apply a five-step problem-solving process as well as how to reduce vague inputs to concrete action steps. Additional topics include utilizing investigation techniques, math, simplification, computer software analysis, and verification to arrive at solutions for complex problems. PREREQ: DRFT 100, DRFT 114, DRFT 118, and DRFT 119. COREQ: DRFT 120, DRFT 123, and DRFT 190. (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 114, DRFT 118, and DRFT 119. COREQ: DRFT 120, DRFT 123, and DRFT 139. (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 123, DRFT 139, 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 123, DRFT 139, 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 123, DRFT 139, and DRFT 190. COREQ: DRFT 211 and DRFT 212. (1 lecture hours, 6 lab hours, 4 credits)

DRFT 217 Commercial Architecture

(4 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 218, DRFT 239, and DRFT 290. (2 lecture hours, 4 lab hours, 4 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 217, DRFT 239, and DRFT 290. (1 lecture hours, 6 lab hours, 4 credits)

DRFT 239 Advanced Revit Techniques

(3 Credits, Spring)

Explore advanced Revit techniques used in the Architecture Industry to design more complex commercial buildings. Expand the use of Central models, including work sets and model groups. Build advanced skills to create complex stairs, railings, tables, and curtain walls. PREREQ: DRFT 211, DRFT 212, and DRFT 213. COREQ: DRFT 217, DRFT 218, and DRFT 290. (2 lecture hours, 2 lab hours, 3 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 217, DRFT 218, and DRFT 239. (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)

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