

# DRAFTING (DRAF)

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<b>DRAF 102 DRAFTING FUNDAMENTALS</b>	<b>3 Credit Hours</b>
Introductory level drafting course, including graphic language, fundamentals of lettering, sketching, orthographic projection, dimensioning, sectioning, axonometric projection, and auxiliary views. (3 lecture)	
<b>DRAF 103 MECHANICAL BLUEPRINT READING</b>	<b>2 Credit Hours</b>
Reading of machine prints and drawings commonly used in industry and trades. (2 lecture)	
<b>DRAF 111 FUND OF DRAFTING USING AUTOCAD</b>	<b>3 Credit Hours</b>
An introductory course to the field of Drafting. Students will learn the fundamentals of drafting using AutoCAD. Topics include: drafting equipment, sketching, lettering, orthographic views, dimensioning and pictorials. (3 lecture)	
<b>DRAF 112 ADVANCE DRAFTING TECHNIQUES</b>	<b>3 Credit Hours</b>
Continuation of DRAF 111. Topics include: auxiliary views, sectional views, working drawings, geometric dimensioning and tolerancing, threads/fasteners/springs, and welding drafting. (3 lecture)	
<b>Prerequisite(s):</b> DRAF 111 or DRAF 102 or DRAF 314	
<b>DRAF 113 DESCRIPTIVE GEOMETRY</b>	<b>3 Credit Hours</b>
Graphic representation and solution of space problems; points, planes, parallelism, perpendicularity, vectors, developments, intersections and warped surfaces. (3 lecture)	
<b>Prerequisite(s):</b> DRAF 111 or DRAF 102 or DRAF 314	
<b>DRAF 114 ELECTRICAL DRAFTING</b>	<b>3 Credit Hours</b>
Study of electronics components and symbols. Electronics symbol in CAD, CAD-Generated Diagrams, block diagrams, schematic diagrams, logic diagrams, wiring diagrams, motors and control circuits, power distribution printed circuit design and printed circuit boards. (3 lecture)	
<b>DRAF 115 COMPUTER-AIDED DRAFTING</b>	<b>3 Credit Hours</b>
Graphic designs and drawings developed by use of computers. Drawings include orthographic, pictorial, electrical, electronic, petrochemical, metal and mining, and architectural. (3 lecture)	
<b>Prerequisite(s):</b> DRAF 102 or DRAF 314	
<b>Pre/Corequisite(s):</b> DRAF 111	
<b>DRAF 116 PROGR &amp; 3D MODELING W/ AUTOCAD</b>	<b>3 Credit Hours</b>
Introduction to programming and 3D modeling with AutoCAD. Topics covered are: symbol libraries, attributes, external references (xrefs), screen menus, wireframe, 3D drawing, solid modeling, 2D to 3D creating and tablet menus. (3 lecture)	
<b>Prerequisite(s):</b> DRAF 111 or DRAF 102 or DRAF 314	
<b>DRAF 122 FUNDAMENTALS OF 3D STUDIO MAX</b>	<b>3 Credit Hours</b>
Students will learn the fundamentals of creating 3D models in an environment that is used in multiple fields of study such as Design, Engineering and Animation. (3 lecture)	
<b>DRAF 210 COMPUTER-AIDED DRAFTING</b>	<b>3 Credit Hours</b>
Graphic designs and drawings developed by use of computer. Drawings include orthographic, pictorial, electrical, electronic, petrochemical, metal and mining and architectural. (3 lecture)	
<b>Prerequisite(s):</b> DRAF 111 or DRAF 102 or DRAF 314	
<b>DRAF 212 STRUCTURAL DESIGN</b>	<b>3 Credit Hours</b>
Students will learn the basics to structural design in drafting. Topics will include: working/shop drawings, product fabrication, fasteners, steel framing plans, pre-engineered metal buildings, precast concrete, poured-in-place concrete, structural wood framing and Bill of Materials. (3 lecture)	
<b>Prerequisite(s):</b> DRAF 111 or DRAF 102 or DRAF 314	
<b>DRAF 213 SCHEMATIC DRAFTING</b>	<b>3 Credit Hours</b>
Schematic interpretation of electronic and pipe drawings. Electronic drawings include flow/logic diagrams, schematic, wiring diagrams, control circuits, printed circuit boards and architectural electric layouts. Piping drawings include single line, double line and isometric. (3 lecture)	
<b>Prerequisite(s):</b> DRAF 102 or DRAF 111 or DRAF 314 or ELEC 101	
<b>DRAF 214 CUSTOMIZING AUTOCAD</b>	<b>3 Credit Hours</b>
Introduction to customizing computer-aided drafting software using AutoCAD. Topics covered are 3-D drawing, symbol libraries, slides, screen menus, icon menus and tablet menus. (3 lecture)	
<b>Prerequisite(s):</b> DRAF 210	
<b>DRAF 220 FUND OF MICROSTATION WITH 3D</b>	<b>3 Credit Hours</b>
Graphic designs and drawings developed by use of computer. Drawings include orthographic, pictorial, electrical, auxiliary, isometric, mechanical and architectural. An introduction to 3D modeling using CAD is also covered. (3 lecture)	

**DRAF 225 ADV WORK WITH 3D STUDIO MAX****3 Credit Hours**

This is a continuation of DRAF 122. Students will learn advanced techniques and uses of creating 3D models in an environment that is used in multiple fields of study such as Design, Engineering and Animation. (3 lecture)

**Prerequisite(s):** DRAF 122

**DRAF 226 3D PARAMETRIC MODEL W/INVENTOR****3 Credit Hours**

Students will learn the fundamentals of creating 3D models using feature based modeling. This method starts with rough sketches that are transformed into intelligent models by applying dimensions and constraints. The model can then be refined by adjusting these constraints using engineering design data. (3 lecture)

**Prerequisite(s):** DRAF 116

**DRAF 227 AUTODESK SIMULATION****3 Credit Hours**

Students will learn advanced techniques and uses of creating 3D models with Inventor in an environment that is used in multiple fields of study such as design, engineering and animation. (3 lecture)

**Prerequisite(s):** DRAF 226

**DRAF 228 ARCHITECTURAL DRAFTING****3 Credit Hours**

Students will learn the fundamentals of residential architecture. Topics covered are: sites, architectural styles, basic home designs, proper room sizing for living, sleep and service areas, foundations and roof design. (3 lecture)

**Prerequisite(s):** DRAF 116

**DRAF 229 AUTODESK REVIT****3 Credit Hours**

Students will learn the fundamentals of creating 3D models in an architectural environment using Autodesk Revit. Architectural drafting and design will be studied using 3D modeling that can be applied to many areas of engineering and construction. (3 lecture, 3 lab)

**Prerequisite(s):** DRAF 111 or DRAF 102 or DRAF 314

**DRAF 235 TOOL-MACHINE DESIGN****3 Credit Hours**

Advanced drafting; design and techniques used in planning and designing dies, jigs and fixtures. (3 lecture)

**Prerequisite(s):** DRAF 111 or DRAF 102 or DRAF 314

**DRAF 260 DRAFTING CAPSTONE****1 Credit Hour**

Portfolios are designed and completed demonstrating competencies and skills learned within the courses of the Drafting program. Industry Standards Examinations. Capstone course.

**DRAF 293 COOPERATIVE WORK EXPERIENCE****1-8 Credit Hours**

(1-8 lecture)

**DRAF 297 Special Topics****1-3 Credit Hours****DRAF 299 INDEPENDENT STUDY IN DRAFTING****1-8 Credit Hours****DRAF 314 COMPUTER-AIDED DESIGN****3 Credit Hours**

The basics of 2D Auto CAD. Study drawing types from the major field of study. Create drawings in technology majors, such as electronics, electro-mechanical, environmental, manufacturing, and welding. (3 lecture)

**DRAF 315 ARCHITECTURAL DESKTOP****3 Credit Hours**

A study of the theory and design of commercial and residential buildings; course uses Autodesk's Architectural Desktop software. (3 lecture)

**DRAF 316 INTRO TO COMPUTER GRAPHICS****3 Credit Hours**

Introductory 3D Modeling course for BAT students interested in game design. Students will use software to create 3D models, architectural layouts and introductory animations. (1 lecture, 5 lab)

**DRAF 393 COOPERATIVE WORK EXPERIENCE****1-12 Credit Hours**

(1-12 lecture)

**DRAF 397 SPECIAL TOPICS****3 Credit Hours**

(3 lecture)

**DRAF 399 INDEPENDENT STUDY****1-3 Credit Hours**

(1-3 lecture)

**DRAF 413 CHARACTER MODELING****3 Credit Hours**

Continuation of DRAF 316. Students will learn advanced modeling techniques to create character models with computer graphics software. Basic character modeling, rigging, mapping and animation will be applied to character models. (1 lecture, 5 lab)

**Prerequisite(s):** DRAF 316