

COMPUTER AIDED DESIGN TECHNOLOGY (CADT)

CADT 101 - AutoCAD I (3)

Prerequisite: ENGL 70 OR Appropriate score on placement test [Accuplacer Next Gen minimum score: Reading 237 or (Reading 229 & Writing 237) or ESL Reading 102 or ESL 276 overall]
(formerly CAD 101)

Introduces AutoCAD software and its application as a drawing tool. Students will utilize basic AutoCAD commands to create two-dimensional production and architectural drawings. Students will use templates, layer control, dimensioning, editing, text, symbol creation, and blocks to create and modify geometrical designs and print/plot drawings for presentation.

CADT 102 - AutoCAD II (3)

Prerequisite or Co-requisite: CADT 101
(formerly CAD 102)

Extends and integrates the study of AutoCAD at an intermediate level. Students will create pictorial views and three-dimensional drawings. Students will gain an understanding of three-dimensional coordinates; create and work with composite, mesh, and solid models; manipulate materials in AutoCAD; and use cameras, walkthroughs, and flybys to view models.

CADT 110 - Introduction to SolidWorks (3)

Prerequisite: ENGL 70 OR Appropriate score on placement test [Accuplacer Next Gen minimum score: Reading 237 or (Reading 229 & Writing 237) or ESL Reading 102 or ESL 276 overall]

Introduces solid modeling software and its application as a design/drawing tool. Content covers basic features used to create, edit, document, and print parts and assemblies. Students will be able to create 3D models from which tangible counterparts could be created. Students will gain an understanding of important geometric constraints such as perpendicularity, concentricity, symmetry, angularity, parallelism, and others, that help them make appropriate design decisions on specific models as well as in assemblies.

CADT 130 - Revit (BIM) (3)

Prerequisite: ENGL 70 OR Appropriate score on placement test [Accuplacer Next Gen minimum score: Reading 237 or (Reading 229 & Writing 237) or ESL Reading 102 or ESL 276 overall]
(formerly CAD 130)

Presents Autodesk Revit software, a Building Information Modeling (BIM) program, and its application as a design/drawing tool throughout the design process. Allows students to create designs in 3D, annotate with 2D drafting elements, and access building information from the building models database. Students will have a thorough knowledge of many of the Revit basics needed to be productive in a classroom or office environment.

CADT 150 - Architectural Drawing and Design (3)

Prerequisite: ENGL 70 OR Appropriate score on placement test [Accuplacer Next Gen minimum score: Reading 237 or (Reading 229 & Writing 237) or ESL Reading 102 or ESL 276 overall]
(formerly CAD 200)

Applies and demonstrates the basic principles and concepts of architectural drawing and design, and their application. Develops an understanding of programming and schematic design. Introduces fundamental drawing practices, drawing systems, and presentation techniques. Students will create architectural sketches, drawings, and models.

CADT 210 - Residential Architecture I (4)

Prerequisite: CADT 101; Prerequisite or Co-requisite: CADT 130
(formerly CAD 201)

Examines the basics of residential architecture. Content covers the language of architecture, the makeup of a set of plans, and the geometry of drawing parts of houses. Students will identify and create architectural designs including floor plans, foundation plans, site plans, and roof plans.

CADT 220 - Residential Architecture II (4)

Prerequisite: CADT 210
(formerly CAD 202)

Discovers and analyzes intermediate concepts of residential architecture. Continues the study of architecture terminology, building techniques, building conventions, and residential building design that were introduced in Residential Architecture I. Students will be able to develop and present supplemental drawing including electrical plans, mechanical and plumbing plans, and stair plans.

CADT 225 - Commercial Architecture (3)

Prerequisite: CADT 220

Examines the basics of commercial architecture. Content covers the design considerations of commercial structures, the introduction of International Building Codes, and access requirements for people with disabilities. By the end of the course, students will be able to apply CAD tools to commercial drawings, define and apply building methods and materials of commercial construction and examine considerations affecting commercial construction.

CADT 235 - Revit for Architecture (3)

Prerequisite: CADT 130

Illustrate and analyze intermediate concepts of Autodesk Revit software and its application as a design/drawing tool for architecture. Content covers using 'as-built' drawings to model an existing building on a site, creating building additions, and working with design phases, including creating demolition plans to accommodate the new addition. By the end of this course, students will be able to develop a model independently in Revit, understand how to organize it for development into a set of architectural construction documents, and prepare the model for presentation, collaboration, and visualization.

CADT 245 - Civil Drafting with CAD (3)

Prerequisite: CADT 101

Illustrates intermediate/advanced concepts of civil drafting and design of civil engineering projects. Students will use 3D civil CAD software to create and revise civil engineering drawings including survey drawings, highway layouts, profiles, site plans, corridors, sections, grading plans, cut and fill drawings, and other civil detail drawings.

CADT 250 - Statics and Strength of Materials (4)

Prerequisite: ENGR 100

Covers the basic principles of statics, forces, force systems, loading, and load effects. Analyzes the mechanics of materials including center of gravity, moment of inertia, radius of gyration, and the concepts of stresses and strains as they relate to Computer Aided Design and Technology.

CADT 255 - Dynamics (4)

Prerequisite: CADT 250

Includes the dynamics of particles and rigid bodies, the impulse-momentum method, and the work-energy principle to solve dynamic problems as it relates to mechanical design, the path of projectiles, and the design of highways.