

COMPUTER AIDED DESIGN AND DRAFTING

Associate Degrees

- CADD - Computer Aided Drafting and Design (CADD) - Associate in Science

Certificates

- CADD 3-D - Certificate of Specialization
- CADD - Architectural CADD - Certificate of Specialization
- CADD - AutoDesk - Certificate of Specialization
- CADD - Mechanical Modeling - Certificate of Specialization
- CADD - Digital Prototyping - Certificate of Specialization

CADD 130 Fundamentals of AutoCAD 2 Units

This course is a Computer-Aided Drafting and Design (CADD) course in which the students will learn the fundamentals of using AutoCAD software. The students will learn basic CADD techniques that are used to draw and edit drawing entities; manipulate screen displays; write text; lay out drawings; print and plot drawings; apply dimensions; and manage drawing files. An introduction to computer use will be included in this course and previous knowledge of computers or computer programming is not required.

Lecture Hours: None Lab Hours: 6 Repeatable: No Grading: O
 Recommended: Basic computer skills
 Advisory Level: Read: 3 Write: 3 Math: 2
 Transfer Status: CSU Degree Applicable: AA/AS
 CSU GE: None IGETC: None District GE: None

CADD 131 3-D Modeling and Design - Using AutoCAD 2 Units

This course is a computer-aided drafting and design (CADD) course that covers intermediate to advanced applications of AutoCAD software. Specific areas to be covered in this course include working in model and paper space; drawing and viewing in 3-D space; creating 3-D models; using blocks with attributes; working with external references; rendering; understanding user coordinate system; AutoCAD and the Internet; advanced drawing, editing, and configuration procedures; and an introduction to user-level system customization.

Lecture Hours: None Lab Hours: 6 Repeatable: No Grading: O
 Prerequisite: CADD 130 with C or better
 Advisory Level: Read: 2 Write: 2 Math: 2
 Transfer Status: None Degree Applicable: AS
 CSU GE: None IGETC: None District GE: None

CADD 132 Using AutoCAD Mechanical 2 Units

AutoCAD Mechanical is an integrated CAD package of advanced design tools, and drafting and drawing capabilities that help conceptualize, design, and document mechanical products. This course is an advanced computer-aided drafting and design (CADD) course where students learn to use AutoCAD Mechanical software.

Lecture Hours: None Lab Hours: 6 Repeatable: No Grading: O
 Recommended: CADD 131 or equivalent coursework or work experience
 Advisory Level: Read: 2 Write: 2 Math: 2
 Transfer Status: None Degree Applicable: AS
 CSU GE: None IGETC: None District GE: None

CADD 133 Fundamentals of Autodesk Inventor 2 Units

Inventor is a feature-based, solid modeling tool intended for people who want to create and develop mechanical designs in a 3-D environment. This course is a computer-aided drafting and design (CADD) course wherein the students will learn the fundamentals of Autodesk Inventor software.

Lecture Hours: None Lab Hours: 6 Repeatable: No Grading: O
 Recommended: Basic Computer Skills
 Advisory Level: Read: 2 Write: 2 Math: 2
 Transfer Status: None Degree Applicable: AS
 CSU GE: None IGETC: None District GE: None

CADD 134 Advanced Autodesk Inventor 2 Units

This advanced Autodesk Inventor course extends what was learned in the Fundamentals of Autodesk Inventor (CADD 133) by addressing topics that include advanced model creation techniques, sheet metal design, top-down assemblies, use of design elements, and creation of presentations.

Lecture Hours: None Lab Hours: 6 Repeatable: No Grading: L
 Prerequisite: CADD 133 with C or better
 Recommended: Prior Autodesk Inventor training and/or experience is recommended.
 Transfer Status: None Degree Applicable: AS
 CSU GE: None IGETC: None District GE: None

CADD 135 Design Using AutoCAD Civil-3D 2 Units

This is a CADD course that focuses on the use of Autodesk AutoCAD Civil-3D software. This course is designed for students, civil engineers and surveyors who want to take advantage of AutoCAD Civil-3D's interactive, dynamic design functionality. In this course students will learn techniques enabling them to organize project data, work with points, create and analyze surfaces, model road corridors, create parcel layouts, perform grading and volume calculations tasks, and lay out pipe networks. This course focuses on teaching students the core tasks and workflows that are needed to successfully operate AutoCAD Civil-3D.

Lecture Hours: None Lab Hours: 6 Repeatable: No Grading: L
 Recommended: CADD 140A or equivalent coursework or work experience
 Advisory Level: Read: 2 Write: 2 Math: 2
 Transfer Status: None Degree Applicable: AS
 CSU GE: None IGETC: None District GE: None

CADD 136A Fundamentals of Creo 2 Units

Creo Parametric is an integrated CADD package of advanced 3D modeling tools and 2D drafting/drawing capabilities that help conceptualize, design, and document mechanical products. This course is a basic computer aided drafting and design (CADD) course where the students will use Creo Parametric software.

Lecture Hours: None Lab Hours: 6 Repeatable: No Grading: L
 Advisory Level: Read: 2 Write: 2 Math: 2
 Transfer Status: None Degree Applicable: AS
 CSU GE: None IGETC: None District GE: None

CADD 136B Advanced Creo 2 Units

Creo Parametric is an integrated CADD package of advanced 3D modeling tools and 2D drafting/drawing capabilities that help conceptualize, design, and document mechanical products. This course is an advanced computer-aided drafting and design (CADD) course where the students will use Creo Parametric software to model more complex designs, 3D parts, and assemblies.

Lecture Hours: None Lab Hours: 6 Repeatable: No Grading: L

Prerequisite: CADD 136A with C or better

Advisory Level: Read: 2 Write: 2 Math: 2

Transfer Status: None Degree Applicable: AS

CSU GE: None IGETC: None District GE: None

CADD 138 Work Experience 1-8 Units

Occupational Work Experience is designed for students who work or volunteer in a field related to their career major. Students are required to provide evidence that they are enrolled in a career program (e.g., education plan or coursework in a career/occupational subject area). Students can earn one unit of credit for each 60 hours of unpaid volunteer time or 75 hours of paid work during the semester. Students can repeat Career/Occupational Work Experience, combined with General Work Experience, or alone, up to a maximum of 16 units. Internship/job placement is not guaranteed.

Lecture Hours: None Lab Hours: 2.07 Repeatable: Yes Grading: O

Corequisite: Be employed or a volunteer at an approved work-site for the minimum number of hours per unit as stipulated for paid and unpaid status.

Advisory Level: Read: 3 Write: 3 Math: None

Transfer Status: CSU Degree Applicable: AA/AS

CSU GE: None IGETC: None District GE: None

CADD 139 Using Solidworks 2 Units

Solidworks is a feature-based, solid modeling tool intended for people who want to create and develop mechanical designs in a 3-D environment. This course is a computer-aided drafting and design (CADD) course wherein the students will learn the fundamentals of Solidworks software.

Lecture Hours: None Lab Hours: 6 Repeatable: No Grading: O

Recommended: Basic computer knowledge

Advisory Level: Read: 2 Write: 2 Math: 2

Transfer Status: None Degree Applicable: AS

CSU GE: None IGETC: None District GE: None

CADD 140A Technical Graphics - Using CAD Tools 2 Units

This course is a beginning level CADD course focusing on standard concepts of technical graphics communication. The fundamental concepts of orthographic projection, sketching, section views, auxiliary views, dimensioning practices, and drawing annotations used in a variety of technical applications will be covered. Students will explore the learning process through a series of design situations, industry scenarios, and projects. Students will be introduced to multiple CAD tools.

Lecture Hours: None Lab Hours: 6 Repeatable: No Grading: O

Prerequisite: CADD 130 or equivalent coursework or experience

Advisory Level: Read: 2 Write: 2 Math: 2

Transfer Status: None Degree Applicable: AS

CSU GE: None IGETC: None District GE: None

CADD 140B Advanced Technical Graphics - Using CAD Tools 2 Units

This is an advanced CADD course focusing on the application of drafting concepts using orthographic projection, dimensioning practices, and geometric tolerancing. Strong emphasis is put on the type of design and industrial applications which can be found in the real world. Creating models, drawings and assembly drawings in CAD programs will be covered in this course. This course also teaches creation of basic multi-part assemblies, constraint-driven assembly animation, and generation of detailed production drawings.

Lecture Hours: None Lab Hours: 6 Repeatable: No Grading: O

Prerequisite: CADD 140A with C or better

Advisory Levels: Read: 2 Write: 2 Math: 2

Transfer Status: None Degree Applicable: AS

CSU GE: None IGETC: None District GE: None

CADD 141 Design and Analysis Using Creo Or Solidworks 2 Units

This course is geared towards students who want to learn engineering design while learning 3D modeling using Creo or SolidWorks. This course focuses on applying Creo Parametric or SolidWorks as a design tool. Design steps, geometrical tolerancing, and the creation of detail and assembly drawing documentation will be covered. Analysis of current design practices and/or manufacturing processes will be included through research of standards, catalogs, data sheets, drawings, and other reference sources.

Lecture Hours: None Lab Hours: 6 Repeatable: No Grading: O

Recommended: CADD 140A or equivalent coursework or work experience.

Advisory Level: Read: 2 Write: 2 Math: 2

Transfer Status: None Degree Applicable: AS

CSU GE: None IGETC: None District GE: None

CADD 142 Geometrical Dimensioning and Tolerancing 3 Units

This course provides training in modern dimensioning and tolerancing based on ASME Y14.5-2009 standards. Emphasis will be given to geometric dimensioning and tolerancing concepts, tolerance studies, general dimensioning and tolerancing theory and techniques.

Lecture Hours: 2 Lab Hours: 3 Repeatable: No Grading: L

Recommended: CADD 133 and CADD 134

Advisory Level: Read: 2 Write: 2 Math: 2

Transfer Status: None Degree Applicable: AS

CSU GE: None IGETC: None District GE: None

CADD 144A Architectural Design and Drafting Using Revit Architecture 2 Units

This course is an architectural drafting and designing course where the students will apply CADD techniques to typical architectural drawing and design problem. Revit Architecture is a powerful architectural design and drafting tool that works the way architects think. From preliminary design through design development, and into construction documents, the program streamlines the design process with a central 3D model. Changes made in one view update across all views and on the printable sheets. This course is designed to teach the students the Revit functionality as well as architectural design process and methods.

Lecture Hours: None Lab Hours: 6 Repeatable: No Grading: L

Recommended: Basic computer skills

Advisory Level: Read: 2 Write: 2 Math: 2

Transfer Status: None Degree Applicable: AS

CSU GE: None IGETC: None District GE: None

CADD 144B Architectural Design and Drafting Using Revit Structure and MEP 2 Units

This course is geared for beginning architectural students or professional architects who want to get a start into 3D parametric modeling for commercial structures. This course is designed to provide the students with a well-rounded knowledge of Autodesk Revit tools and techniques. All three flavors of the Revit platform are introduced in this course. This approach gives the students a broad overview of the Building Parametric Modeling process. This course covers the design integration of most of the building disciplines: Architectural, Interior Design, Structural, Mechanical, Plumbing and Electrical.

Lecture Hours: None Lab Hours: 6 Repeatable: No Grading: L
 Recommended: Basic computer skills
 Advisory Level: Read: 2 Write: 2 Math: 2
 Transfer Status: None Degree Applicable: AS
 CSU GE: None IGETC: None District GE: None

CADD 145 Landscaping Design Using CAD Tools 2 Units

This course is an architectural drafting course where the student will apply CADD techniques to typical landscaping design problems. The drawing, detailing and design of landscaping elements of typical residential or commercial architectural sites will be the focus of this course.

Lecture Hours: None Lab Hours: 6 Repeatable: No Grading: L
 Recommended: CADD 140A or equivalent coursework or work experience
 Advisory Level: Read: 2 Write: 2 Math: 2
 Transfer Status: None Degree Applicable: AS
 CSU GE: None IGETC: None District GE: None

CADD 146A AutoCAD Software Updates 0.5-2 Units

CADD 146A is a computer-aided drafting and design course that offers students lab training in the updates and new features included in latest release of AutoCAD software.

Lecture Hours: None Lab Hours: 1.5 Repeatable: Yes Grading: L
 Recommended: CADD 130 or CADD 131 or equivalent coursework or work experience
 Advisory Level: Read: 2 Write: 2 Math: 2
 Transfer Status: None Degree Applicable: AS
 CSU GE: None IGETC: None District GE: None

CADD 146B Inventor Software Updates 0.5-2 Units

CADD 146B is a computer-aided drafting and design course that offers students lab training in the updates and new features included in the latest release of Inventor software.

Lecture Hours: None Lab Hours: 1.5 Repeatable: Yes Grading: O
 Recommended: Prior CADD knowledge
 Advisory Level: Read: 2 Write: 2 Math: 1
 Transfer Status: None Degree Applicable: AS
 CSU GE: None IGETC: None District GE: None

CADD 146C Solidworks Software Updates 0.5-2 Units

CADD 146C is a computer-aided drafting and design course that offers students lab training in the updates and new features included in latest release of Solidworks software.

Lecture Hours: None Lab Hours: 1.5 Repeatable: Yes Grading: O
 Recommended: Prior CADD knowledge
 Advisory Level: Read: 2 Write: 2 Math: 1
 Transfer Status: None Degree Applicable: AS
 CSU GE: None IGETC: None District GE: None