DRAF 190: ADVANCED DIGITAL DESIGN TOOLS

Citrus College Course Outline of Record

Heading	Value
Effective Term:	Fall 2023
Credits:	3
Total Contact Hours:	72
Lecture Hours :	45
Lab Hours:	27
Hours Arranged:	0
Outside of Class Hours:	90
Prerequisite:	DRAF 160.
Transferable to CSU:	Yes
Transferable to UC:	No
Grading Method:	Standard Letter

Catalog Course Description

Advanced Digital Design drawing and modeling, tools, skills and concepts actively used in concurrent design studios and industry. Assignments support concurrent design studio and industry activity with an emphasis on Building Information Modeling (BIM) using SketchUp, Rhino and other current industry standard software designed to complete the student's preparation for employment. 45 lecture hours, 27 lab hours.

Course Objectives

- Use Digital design drawing and modeling, tools, skills concepts and standards commonly found in the student's field in creating, analyzing and completing assigned projects.
- Implement Technology and subject area specific content material and standard procedures for Digital design drawing, modeling, tools, skills and concepts actively used in concurrent design studios and industry.
- Describe Digital design drawing, modeling, tools, skills and concepts actively used in concurrent design studios and industry.

Major Course Content

Digital design drawing and modeling, tools, skills and concepts actively used in concurrent design studios and industry. Assignments support concurrent design studio and industry activity with an emphasis on Building Information Modeling (BIM) using SketchUp, Rhino and other current industry standard software designed to complete the student's preparation for employment.

1. The CGI Operator and Computer Imager Role in Industry
2. CGI and Computer Imager
   a. CAD room manuals
   b. Corporate standards and specification
   c. Vendor's product standards
3. Routine Practices
   a. Design function
   b. Detail function
   c. Checking, sign off, and release procedures
   d. Engineering orders and change notices
   e. Record keeping and project liaison
4. 3D Design and Animation of Products for Presentation
   a. Develop story line
   b. Sketch story boards
   c. Oral presentations
5. CGI and Computer Imaging Assignments and Projects

Lab Content

MODELING PROJECTS:

- NURBS Curves, NURBS Surfaces, Polygon Meshes, and Solids
- Design Development 3
- Surface Modeling

1. MODELING PROJECT 1
   a. Constructing Mechanical Components
   b. Surface Crease
   c. Surface Creases
2. MODELING PROJECT 2
   a. Introduction
   b. Construction
   c. Curves for Making the Surfaces
   d. Continuity
   e. Mirroring and Surface
3. MODELING PROJECT 3: SMALL OBJECTS
   a. Introduction
   b. Overview
   c. Models
4. MODELING PROJECT 4: ASSEMBLY
   a. Introduction
   b. Overview
   c. Components and Assembly

Suggested Reading Other Than Required Textbook

SketchUp 7.1 for Architectural Visualization Beginner's Guide, 2015

Examples of Required Writing Assignments

Lab reports and class assignments.
Example: Write a report for project research for presentation boards.

Examples of Outside Assignments

Students will draw 3D projects using AutoCAD, Sketchup, and other 3D software. Students will explore 3D lighting and shading projects. Students will develop a final project. Students will be required to complete the following types of assignments outside of the regular class time: draw, study, answer questions, practice skills, read required materials, solve problems, write essays, research papers, lab reports, and journals. Students will also observe activities related to course content, participate in activities related to course content. activities related to course content, participate in activities related to course content.

Instruction Type(s)

Lab, Lecture, Online Education Lab, Online Education Lecture