

DRAF 190B: ADVANCED DIGITAL DESIGN TOOLS PART II

Citrus College Course Outline of Record

Heading	Value
Effective Term:	Fall 2026
Credits:	3
Total Contact Hours:	72
Lecture Hours :	45
Lab Hours:	27
Hours Arranged:	0
Outside of Class Hours:	90
Total Student Learning Hours:	162
Prerequisite:	DRAF 190A.
Transferable to CSU:	Yes
Transferable to UC:	No
Grading Method:	Standard Letter

Catalog Course Description

Continuation of Advanced Digital Design with focus on parametric and Building Information Modeling (BIM) 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 Revit, Rhino, Grasshopper, and industry standard rendering software designed to complete the student's preparation for employment. 45 lecture hours, 27 lab hours.

Course Objectives

- Use Digital design drawing and advanced 3D modeling, tools, skills concepts and standards commonly found in the student's field in creating, analyzing and completing assigned projects.
- Implement Advanced Modeling 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.
- Automate various industry standard software, giving students practical knowledge of converting Advanced Digital Models into Building Information Management (BIM) Operable modeling. Describe Digital design drawing, modeling, tools, skills and concepts actively used in concurrent design studios and industry.
- Converting digital design models for architectural visualization. Refining digital rendering skills using industry standard architecture visualization tools and exploring methods of Artificial Intelligence (AI) in modeling and rendering.

Major Course Content

Continuation of Advanced Digital design drafting 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 Revit, Rhino, Grasshopper, various architectural visualization software,

Artificial Intelligence, and other current industry standard software designed to complete the student's preparation for employment.

- Corporate standards and specification
- Vendor's product standards
- Routine practices
- Design function
- Detail function
- Checking, sign off, and release procedures
- Record keeping and project liaison
- 3D Design and animation of products for presentation
- Develop architectural visualization
- Oral presentations
- CAD and computer imaging assignments and projects

Lab Content

Modeling Projects 1.0:

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

Modeling Project 1.1: Concept Design

- Conducting Case Studies of organic/parametric design
- Recreation of Case Studies through 3D Modeling

Modeling Project 1.2: Architectural Visualization

- Architectural Visualization of Case Studies
- Using Industry standard software and AI

Modeling Project 2.1: Modeling Assembly

- Introduction to industry standard Parametric Design Software
- Produce digital and physical models.

Modeling Project 2.2: Construction Documents Automation

- Introduction
- Overview
- Converting parametric models into industry standard Building Information Management (BIM) Models

Automation of construction documents through current industry standard software.

Advanced architectural visualization techniques and skills.

Examples of Outside Assignments

Students will draw 3D projects using Rhino, Revit, Grasshopper and other architectural visualization software. Students will explore case studies, architectural visualization, artificial intelligence, 3D and physical models. Students will develop a final project. Students will be required to complete the following types of assignments outside of the regular class time: draft, study, answer questions, practice skills, read required materials, solve problems, and research. 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