



Course Outline

2026-2027 Catalog

DFT 46 - Building Information Modeling II - Advanced Applications

Catalog Description

Transfer Status: CSU

Prerequisite: DFT 45

Unit(s): 3.00

Lecture: 34.00 Contact hours/68.00 Out of class hours/102.00 Total hours/2.00 Unit(s)

Lab: 51.00 Contact hours/0.00 Out of class hours/51.00 Total hours/1.00 Unit(s)

Total: 85.00 Contact hours/68.00 Out of class hours/153.00 Total hours/3.00 Unit(s)

Course Description: This course is a continuation of the computer-based Building Information Modeling (BIM) course. Students who have already completed the learning objectives of DFT-45 Building Information Modeling will be introduced to advanced techniques and concepts of BIM within the software, Revit. Topics will include design options, phasing of design, work sets, site, area analysis, creating in-place and advanced families, massing, and rendering. Students will complete a large scale project with activities spanning the entire course including project phases, project management, material costing and extensive modeling in 3D.

Objectives

Upon successful completion of this course, the student should be able to:

1. Interpret plans and specifications provided by instructor to create an as-built model of a light commercial building or a complex multi-story residence in preparation for revisions and new design to given parameters.
2. Create a project with several design options using Building Information Modeling (BIM) application.
3. Initiate design phases in as-built and proposed design change with separate configurations within a single project BIM file.
4. Create an electronic shared work environment containing BIM application worksets to manage project sharing of details, model and specification data.
5. Create simple and complex parametric families in a BIM application and using the BIM application to apply architectural massing techniques that apply to the project design.
6. Add a topographic surface and other site components to the BIM model and create area schedules for analysis purposes.

Course Content

Topic Titles / Suggested Time Topic

Lecture

<u>Topics</u>	<u>Lec Hrs</u>
BIM application and Revit use review	2.00
Introduction to Design Options in Architectural BIM application	4.00
Project phasing in as-built documentation and new design development	2.00
Introduction to electronically shared work environment using BIM application in worksets	4.00
Project site planning and area analysis	4.00
Introduction and use of the BIM application Family Editor	8.00
Project studies and use of BIM application for massing	2.00
Project rendering, presentation development and project specification completion	8.00
Total Hours:	34.00

Lab

<u>Topics</u>	<u>Lab Hrs</u>
BIM application and Revit use review	3.00
Introduction to Design Options in Architectural BIM application	4.00
Use of project phasing in as-built documentation and new design development	3.00
Introduce and use of electronically shared work environments using BIM application in worksets	4.00
Project site planning techniques and project area analysis	6.00
Introduction and use of the BIM application Family Editor	13.00
Project studies and use of BIM application for massing	4.00
Project rendering, presentation development and project specification completion	14.00
Total Hours:	51.00

Methods of Instruction

- A. Class Activities
- B. Collaborative Group Work
- C. Demonstrations
- D. Homework: Students are required to complete two hours of outside-of-class homework for each hour of lecture
- E. Lecture
- F. Multimedia Presentations

Methods of Evaluation

- A. Exams/Tests
- B. Projects
- C. Homework
- D. Class participation

Examples of Assignments

Reading Assignments

1. Read the chapter on Creating Custom Templates and be prepared to work on the practice exercises during the next class.
2. Read the bid documents for the Boise Cascade project and, with your team, be prepared to discuss at the beginning of the next class.

Writing Assignments

1. Complete the review questions on creating custom templates and submit answers at the end of class.
2. After reading about project time management and completing the assigned tasks from the study guide, complete the review questions. Submit answers to instructor.

Out-of-Class Assignments

1. Using Autodesk Seek online, research office wall partition system families and be prepared to report your results during the next class.
2. After completing the estimates in class today, prepare a basic project schedule of tasks to complete the initial model. Summarize tasks and prepare to discuss your estimates in groups during the next class.

Recommended Materials of Instruction

ASCENT, Center for Technical Knowledge. (2024). Autodesk Revit 2025 BIM Management. *ASCENT, Center for Technical Knowledge, 1st*. 9781962037655.

Minimum Qualifications

Drafting

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Date: 04/06/2026