BUTTE COLLEGE
COURSE OUTLINE

I. **CATALOG DESCRIPTION**

DFT 46 - Building Information Modeling II - Advanced Applications **3 Unit(s)**

Prerequisite(s): DFT 45
Recommended Prep: NONE

Transfer Status: CSU
34 hours Lecture
51 hours Lab

In this computer-based Building Information Modeling (BIM) course, students who have already completed the learning objectives of DFT-45 Building Information Modeling I will be introduced to advanced techniques and concepts of BIM for architectural design applications. 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.

II. **OBJECTIVES**

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

A. 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.
B. Create a project with several design options using Building Information Modeling (BIM) application
C. Initiate design phases in as-built and proposed design change with separate configurations within a single project BIM file.
D. Create an electronic shared work environment containing BIM application worksets to manage project sharing of details, model and specification data.
E. 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.
F. Add a topographic surface and other site components to the BIM model and create area schedules for analysis purposes.

III. **COURSE CONTENT**

A. **Unit Titles/Suggested Time Schedule**

Lecture

Topics	Hours
1. BIM application and Revit use review	2.00
2. Introduction to Design Options in Architectural BIM application	4.00
3. Project phasing in as-built documentation and new design development	2.00
4. Introduction to electronically shared work environment using BIM application in worksets	4.00
5. Project site planning and area analysis	4.00
6. Introduction and use of the BIM application Family Editor	8.00
7. Project studies and use of BIM application for massing	2.00
8. Project rendering, presentation development and project specification completion	8.00

Total Hours	34.00

Lab

Topics	Hours
1. BIM application and Revit use review	3.00
2. Introduction to Design Options in Architectural BIM application	4.00
3. Use of project phasing in as-built documentation and new design development	3.00
4. Introduce and use of electronically shared work environments using BIM application in worksets	4.00
5. Project site planning techniques and project area analysis	6.00
6. Introduction and use of the BIM application Family Editor	13.00
7. Project studies and use of BIM application for massing	4.00
8. Project rendering, presentation development and project specification completion	14.00
Total Hours	51.00

IV. METHODS OF INSTRUCTION

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

V. METHODS OF EVALUATION

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

VI. EXAMPLES OF ASSIGNMENTS

A. Reading Assignments
    1. Please read the chapter on Creating Custom Templates and be prepared to work on the practice exercises at the next class.
    2. Please read the bid documents for the Boise Cascade project and with your team, be prepared to discuss at the start of next class.
B. Writing Assignments
    1. Complete the review questions on creating custom templates and submit answers to instructor at end of class.
    2. After reading about project time management and completing the assigned tasks from the study guide, please complete the review questions. Submit answers to instructor when complete.
C. Out-of-Class Assignments
    1. Out of class, go to Autodesk Seek and research office wall partition system families and be prepared to report results at next class.
    2. After the completing the estimates in class today, your homework is to prepare a basic

project schedule of tasks to complete the initial model. Summarize tasks and prepare to discuss your estimates in groups at next class.

VII. **RECOMMENDED MATERIALS OF INSTRUCTION**

Textbooks:

A. Ascent - Center for Technical Knowledge. Revit Architecture BIM Management. Schroff Development Corporation, 2011.

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Date: 04/16/2012