BUTTE COLLEGE
COURSE OUTLINE

I. **CATALOG DESCRIPTION**

DFT 45 - Building Information Modeling I **3 Unit(s)**

Prerequisite(s): NONE
Recommended Prep: NONE

Transfer Status: CSU
34 hours Lecture
51 hours Lab

In this computer-based course students will be introduced to the latest in three-dimensional (3D) modeling for architecture and Building Information Modeling (BIM). Topics will cover architectural modeling and design with BIM tools for parametric design and documentation. The focus of the course is on residential architecture and covers the initiation of a design, the development of a design and production of a presentation and sheet set for a design.

II. **OBJECTIVES**

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

A. Describe Building Information Modeling (BIM) and the benefits of parametric associativity of entities, model data and related details.
B. Navigate a BIM software application interface and manage views.
C. Identify, create and modify different types of building elements such as walls, stairs, doors, and roofs.
D. Load, place, and modify component families using a BIM application.
E. Create callouts, detail views, drafting views, section views and 3D views.
F. Create and set up drawing sheets, modify title blocks, control object visibility and develop photo-realistic (rendered) content views.
G. Import and export content to and from various other software applications and file formats to BIM application.

III. **COURSE CONTENT**

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

Lecture

Topics		Hours
1.	Building Information Modeling	4.00
2.	Using Autodesk Revit Architecture	4.00
3.	Starting a Design	2.00
4.	Creating a Building	4.00
5.	Using Dimensions and Constraints	2.00
6.	Developing the Building Model	6.00
7.	Using Building Components	3.00
8.	Creating Schedules	2.00
9.	Drafting and Detailing	3.00
10.	Presenting the Building Model	4.00
Total Hours		34.00

Lab

Topics		Hours
1.	Building Information Modeling	6.00
2.	Using Autodesk Revit Architecture	6.00
3.	Starting a Design	3.00
4.	Creating a Building	8.00
5.	Using Dimensions and Constraints	3.00
6.	Developing the Building Model	8.00
7.	Using Building Components	4.00
8.	Creating Schedules	3.00
9.	Drafting and Detailing	4.00
10.	Presenting the Building Model	6.00
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
G. Practical exercises

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 handout on stairs layout and be prepared to work on the study guide at the next scheduled class.
   2. Please read the lesson on setting up an architectural floor plan. Be prepared to use Revit to complete the lesson details at the next class.

B. Writing Assignments
   1. Please open the text to page 2-1. Using AutoCAD, please complete a layout of this floor plan with 5" walls throughout and doors and windows applied (use blocks from other projects or make quickly). I want two things: I want the layout as a DWG file with a Layout completed at 1/4" = 1'-0" AND I want a total time that it took you from start to finish added to the text box of the Submission. NOTE: There will be a demo in class to extract the TIME DATA.
   2. After viewing the video with the class and using the Foundation Systems Study Guide please complete the study guide questions and fill-ins and turn into the instructor at the end of the period.

C. Out-of-Class Assignments
   1. Using your favorite search engine (Google, Yahoo, Bing, DogPile, etc.) please research the term "Revit families". Spend some time in at least the top 10 search results. Please

provide me with a list of at least FIVE families that you found content for that are of interest to you.

2. Outside of class and using Revit, please take the initial floorplan layout provided as an attachment and layout the floorplan using ALL of the same settings you are currently assigned to use for the two-story residence. Bring the initial layout back to class and be prepared to complete in Revit.

VII. **RECOMMENDED MATERIALS OF INSTRUCTION**

Textbooks:

A. Stine, D.J.. Residential Design Using Autodesk Revit. Schroff Development Corporation, 2011.

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