Master Course Syllabus

For additional course information, including prerequisites, corequisites, and course fees, please refer to the Catalog: https://catalog.uvu.edu/

Semester: SPRING
Year: 2025
Course Prefix: EGDT
Course and Section #: 1020-~~001~~x05
Course Title: 3D ARCHITECTURAL MODELING
Credits: 3

Course Description

Utilizes a Building Information Modeling system (BIM) to design 3D architectural models. Covers 3D modeling design theory, parametric modeling methods, generation of residential and commercial construction plans and details, building components and systems, and manipulation of model information. May be delivered hybrid and/or online.

Course Attributes

This course has the following attributes:

☐ General Education Requirements
☐ Global/Intercultural Graduation Requirements
☐ Writing Enriched Graduation Requirements
☒ Discipline Core Requirements in Program
☐ Elective Core Requirements in Program
☐ Open Elective

Other: *Click here to enter text.*

Instructor Information

Instructor Name: STANLEY LANCE HEAL

Student Learning Outcomes

- Examine typical building materials & techniques applied to a 3D architectural model
- Compose both basic and complex residential building projects in a 3D model
- Create Building Information Models (BIM) for specific architectural projects in a residential context
- Generate floor plans, elevations, sections, details, and 3D views from a 3D architectural model

Course Materials and Texts

Textbook: Exploring Autodesk Revit 2024 for Architecture, Sham Tickoo (Latest Edition)
Revit Building Information ModelingLinks to an external site. Software

Course Requirements

Course Assignments, Assessments, and Grading Policy

Assignments

Assignments consist of textbook activities. The Assignment Navigator will help you locate the information by page number in the textbook to complete these activities.

Projects and Project Checks

There will be several check in type assignments to ensure you are progressing through the course toward three (3) separate culminating projects. The first two projects will be prescribed commercial and residential building plans. The third project will be your choice of either a residential or commercial building plan and an opportunity for you to design something meaningful to you.

Discussions

Discussions will be forums to ask for and receive help from other students on architectural modeling topics. These Students Helping Students discussions are optional and ungraded.

Be sure to ask your questions by **Wednesdays** so there will be time for others to respond.

Quizzes and Exams

There will be a chapter quiz for most modules to check your understanding of the textbook readings. Quizzes are multiple choice, multiple attempt and open book. Your highest score will be recorded.

The midterm and final exams are timed application exercises where you will complete an architectural drawing with provided specifications to show what you have learned in the preceding modules. Exam Reviews are provided to help you prepare.

Required or Recommended Reading Assignments

- Chapter 2: Starting an Architectural Project
- Chapter 3: Creating Walls
- Chapter 4: Using Basic Building Components
- Chapter 5: Using the Editing Tools
- Chapter 6: Working with Datum Plane and Creating Standard Views
- Chapter 7: Using Basic Building Components – II
- Chapter 8: Using Basic Building Components – III
- Chapter 11: Adding Annotations and Dimensions
- Chapter 12: Creating Project Details and Schedules
- Chapter 09: Adding Site Features
- Chapter 14: Creating 3D Views
- Chapter 15: Rendering Views and Creating Walkthroughs

General Description of the Subject Matter of Each Lecture or Discussion

Week 1

- Identify elements of the user interface
- Manipulate project templates and units
- Model exterior and interior walls
- Modify wall properties and materials
- Place doors, windows, and components
- Locate Revit content on the internet

Week 2

- Identify elements of the user interface
- Manipulate project templates and units
- Model exterior and interior walls
- Modify wall properties and materials
- Place doors, windows, and components
- Locate Revit content on the internet

Week 3

- Use various software editing tools
- Create levels for use in a project
- Model footings and foundation walls
- Create a section view
- Revise a residential home with editing tools

Week 4

- Create floors, roofs, and ceilings
- Examine floor and roof materials
- Establish wall attachments and constraints
- Create views and place on a drawing sheet

Week 5

- Reference commercial drawings and templates
- Construct curtain walls

Week 6

- Examine stairs and railings
- Apply levels and grids to a commercial project
- Create walls, foundation, and floors for a commercial project

Week 7

- Use the split face and paint tool
- Create wall sweeps
- Model structural elements
- Create a mezzanine floor
- Apply stairs and railings to a commercial project

Week 8

- Create text and callouts within Revit
- Apply dimensions to a commercial project

Week 9

- Construct a drafting view/detail
- Apply text and callouts within Revit
- Modify a door schedule

Week 10

- Create a simplified site

Week 11

- Examine massing tools
- Apply a low sloped roof to a commercial project
- Use roof shape editing tools
- Complete a simplified construction document

Week 12

- Construct 3D views

- Create exterior and interior renderings
- Place light fixtures within a project
- Identify a suitable final project

Week 13

- Create custom wall types
- Apply custom materials within a project
- Create complicated roofs

Week 14

- Apply all previous concepts learned to a project
- Produce a project presentation
- Produce construction documentation

Required Course Syllabus Statements

Generative AI

Click here to enter text.

Using Remote Testing Software

☒ This course does not use remote testing software.

☐ This course uses remote testing software. Remote test-takers may choose their remote testing locations. Please note, however, that the testing software used for this may conduct a brief scan of remote test-takers' immediate surroundings, may require use of a webcam while taking an exam, may require the microphone be on while taking an exam, or may require other practices to confirm academic honesty. Test-takers therefore shall have no expectation of privacy in their test-taking location during, or immediately preceding, remote testing. If a student strongly objects to using test-taking software, the student should contact the instructor at the beginning of the semester to determine whether alternative testing arrangements are feasible. Alternatives are not guaranteed.

Required University Syllabus Statements

Accommodations/Students with Disabilities

Students needing accommodations due to a permanent or temporary disability, pregnancy or pregnancy-related conditions may contact UVU Accessibility Services at accessibilityservices@uvu.edu or 801-863-8747.

Accessibility Services is located on the Orem Campus in BA 110.

Deaf/Hard of Hearing students requesting ASL interpreters or transcribers can contact Accessibility Services to set up accommodations. Deaf/Hard of Hearing services can be contacted at DHHservices@uvu.edu

DHH is located on the Orem Campus in BA 112.

Academic Integrity
At Utah Valley University, faculty and students operate in an atmosphere of mutual trust. Maintaining an atmosphere of academic integrity allows for free exchange of ideas and enables all members of the community to achieve their highest potential. Our goal is to foster an intellectual atmosphere that produces scholars of integrity and imaginative thought. In all academic work, the ideas and contributions of others must be appropriately acknowledged and UVU students are expected to produce their own original academic work.

Faculty and students share the responsibility of ensuring the honesty and fairness of the intellectual environment at UVU. Students have a responsibility to promote academic integrity at the university by not participating in or facilitating others' participation in any act of academic dishonesty. As members of the academic community, students must become familiar with their rights and responsibilities. In each course, they are responsible for knowing the requirements and restrictions regarding research and writing, assessments, collaborative work, the use of study aids, the appropriateness of assistance, and other issues. Likewise, instructors are responsible to clearly state expectations and model best practices.

Further information on what constitutes academic dishonesty is detailed in UVU Policy 541: *Student Code of Conduct*.

Equity and Title IX
Utah Valley University does not discriminate on the basis of race, color, religion, national origin, sex, sexual orientation, gender identity, gender expression, age (40 and over), disability, veteran status, pregnancy, childbirth, or pregnancy-related conditions, citizenship, genetic information, or other basis protected by applicable law, including Title IX and 34 C.F.R. Part 106, in employment, treatment, admission, access to educational programs and activities, or other University benefits or services. Inquiries about nondiscrimination at UVU may be directed to the U.S. Department of Education's Office for Civil Rights or UVU's Title IX Coordinator at 801-863-7999 – TitleIX@uvu.edu – 800 W University Pkwy, Orem, 84058, Suite BA 203.

Religious Accommodation
UVU values and acknowledges the array of worldviews, faiths, and religions represented in our student body, and as such provides supportive accommodations for students. Religious belief or conscience broadly includes religious, non-religious, theistic, or non-theistic moral or ethical beliefs as well as participation in religious holidays, observances, or activities. Accommodations may include scheduling or due-date modifications or make-up assignments for missed class work.
To seek a religious accommodation, a student must provide written notice to the instructor and the Director of Accessibility Services at accessibilityservices@uvu.edu. If the accommodation relates to a scheduling conflict, the notice should include the date, time, and brief description of the difficulty posed by the conflict. Such requests should be made as soon as the student is aware of the prospective scheduling conflict.

While religious expression is welcome throughout campus, UVU also has a specially dedicated space for meditation, prayer, reflection, or other forms of religious expression.