Department: Architecture & Engineering

Course Number and Title: ARCH 059 - 3D Studio Max: 3D Rendering

Length of course in weeks: 16
Units: 3
Total Class Hours/Week: 8
Lecture Hours/Week: 2
Lab Hours/Week: 4
Lab Hours by Arrangement/Week: 2

Grade Type: Grade or pass/no pass

Catalog Description: This course is study of Autodesk: 3D Studio Max Design software specifically designed for use by architecture, landscape architecture, interior design, and civil engineering professionals. This course familiarizes both novice and experienced 3D artists with the process and capabilities of the 3D Studio Max Design tool set. The course focuses on the process of developing projects with 3D Studio Max Design. Students have the opportunity to learn how to use each tool to its maximum benefit, as well as why it is important to the overall process. This course emphasizes the creation of advanced rendering perspectives from a 3D model of a building project and its context.

Schedule Description: This course is study of Autodesk: 3D Studio Max Design software specifically designed for use by architecture, landscape architecture, interior design, and civil engineering professionals. This course familiarizes both novice and experienced 3D artists with the process and capabilities of the 3D Studio Max Design tool set.

Recommended Preparation:
MATH 902: Arithmetic Functions &
MATH 902P: Pre-Algebra

Course Outcomes: Student Learning Outcomes

Outcome: Evaluate software options and use the most efficient to complete 3D models, perspectives, and renderings.
Assessment: In-class and homework drawing assignment.

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

1. Use a computer for development of 3D models of building projects with 3D Studio Max.
2. Create a set of presentation boards of interior, exterior, and landscape perspectives with color renderings from the created 3D building model.
3. Recognize best rendering solution by use of different types of computer applications,
tools & methods

**Assessment:** Students in this course will be graded, at minimum, in at least one of the following four categories:

1. **Writing Assignments:** laboratory reports
2. **Problem Solving Demonstrations:** homework problems
3. **Skill Demonstrations:** performance (exam)
4. **Examinations:** Final Drawing

**Repeatability:** 2 times.

**Methods of Instruction:** Lecture & Lab

**Lecture Content:**

1. Understanding the 3ds Max Design 2011 tools, menus, and interface 5.00 %
2. Editing meshes and creating complex shapes with surface modeling tools 5.00 %
3. Assembling high-impact scenes using the right design data and tools 5.00 %
4. Using the Lighting Analysis feature to analyze sustainable design features 5.00 %
5. Accessing the Autodesk Materials Library for just the right floor, wall, or finish 10.00 %
6. Applying the camera effectively during animated walk-throughs 10.00 %
7. Using mental ray to achieve the most realistic rendering 10.00 %
8. Adding cinematic atmosphere and compositing your final designs 10.00 %
9. Seamlessly Link Data from the Revit Family of Products into 3ds Max Design 2011 10.00 %
10. Applying Concepts from Game Design to Transform Your Sketches 10.00 %
11. Working Faster Using the Polygon Modeling and Texturing Toolset 10.00 %
12. Producing Stunning, Detailed, Photo-realistic Presentations for Clients 10.00 %

**Lab Content:**

1. Assignment/s on editing meshes and creating complex shapes with surface modeling tools 5.00 %
2. Assignment/s on assembling high-impact scenes using the right design data and tools 10.00 %
3. Assignment/s on using the Lighting Analysis feature to analyze sustainable design features 10.00 %
4. Assignment/s on accessing the Autodesk Materials Library for just the right floor, wall, or finish 5.00 %
5. Assignment/s on applying the camera effectively during animated walk-throughs 10.00 %
6. Assignment/s on using mental ray to achieve the most realistic rendering 10.00 %
7. Assignment/s on adding cinematic atmosphere and compositing your final designs 10.00 %
8. Assignment/s on Apply Concepts from Game Design to Transform Your Sketches 10.00 %
9. Assignment/s on seamlessly Link Data from the Revit Family of Products into 3ds Max Design 2011 10.00 %
10. Assignment/s on Work Faster Using the Polygon Modeling and Texturing Toolset 10.00 %
11. Assignment/s on Produce Stunning, Detailed, Photorealistic Presentations for Clients

Arranged Lab Content:

During the arranged lab hours, instructor will help and troubleshoot students on the following topics and assignments:
- Understanding the 3ds Max Design 2011 tools, menus, and interface;
- Editing meshes and creating complex shapes with surface modeling tools;
- Assembling high-impact scenes using the right design data and tools;
- Using the Lighting Analysis feature to analyze sustainable design features;
- Accessing the Autodesk Materials Library for just the right floor, wall, or finish;
- Applying the camera effectively during animated walk-throughs;
- Using mental ray to achieve the most realistic rendering;
- Adding cinematic atmosphere and compositing your final designs;
- Seamlessly Link Data from the Revit Family of Products into 3ds Max Design 2011;
- Apply Concepts from Game Design to Transform Your Sketches;
- Work Faster Using the Polygon Modeling and Texturing Toolset;
- Produce Stunning, Detailed, Photorealistic Presentations for Clients.

Critical Thinking: Compare and contrast the differences of architectural renderings created by hand vs. those created from a 3D model generated by 3D Studio Max software for the same project.

College Level Required Reading, Writing, and other Outside-of-Class Assignments:
Over a 16 week presentation of the course, three hours per week are required for each unit of credit. Two hours of independent work done out of class are required for each hour of lecture. Outside of the regular class time the students in this class will be doing the following outside of class:

1. Problem solving activity or exercise: 2.00 additional hours
2. Practice Skills: 2.00 additional hours
Textbooks: