



COURSE OUTLINE

ARC104

Course Number

3

Credits

Computers in Architecture

Course Title

1 Lecture and 4 Lab Hours

Hours: lecture/laboratory/other (specify)

Catalog description:

ARC104 - Computers in Architecture (3 credit)

Introduction to the use of the computer in architecture as a three-dimensional design/drawing tool. Students build 3-D models using parametric modeling software and manipulate three-dimensional forms, scenes, colors, textures, lighting and cameras to design effective compositions. Applicable to Windows-based computers. (Spring offering)

Prerequisites: ARC121

Corequisites: ARC123

Required texts/other materials:

Reference Division Booklist

Last revised: 2007

Course coordinator: Garry Perryman

Information resources:

The primary Text for the course is: *Autodesk Architectural Desktop 2006 (7)
A Comprehensive Tutorial*
AUTHOR: H. Paul Goldberg

The Architectural Desktop 2006 (7) Software and Autodesk websites come with excellent tutorials. Software is available to students through a discount with the text as well.

Course goals:

At the conclusion of the course, the student should:

1. Understand concepts of 3-D design and graphics used in architecture
2. Visualize and express an idea graphically using manual drawings, as well as the computer, as a medium of expression
3. Use the tools and commands of computer aided design software effectively
4. Apply the skills of 3-D modeling, texture mapping, lighting, and rendering.
5. Demonstrate an understanding of basic design principles by completing a variety of designs elements as they relate to computer 3-D design and graphics used in architecture.
6. Use the major tools and commands of Photoshop effectively
7. Understand the practical and creative applications of Photoshop for graphic design,
8. Know the various types of output and how to prepare computer files to obtain graphic, print, or digital presentations and produce a portfolio of design work.

Course-specific General Education goals and objectives

Units of study:

Unit I

The student will be able to...

1. Construct the floor plan, elevations and sections of a basic residential dwelling unit in the presentation drawing format.
2. Use proper line weights and the proper pouche' technique for walls and floors in section.
3. Draw a 2-point perspective of a basic geometric figure.

Unit II

The student will be able to...

1. Work with the Autodesk Software Interface:
 - o Tool Palettes, Properties Palette, the Content Browser and the Drawing Menu, including Drawing Setup and Link to VIZ Render

Unit III Learning Objectives

The student will be able to...

Work with tutorials to create:

1. Massing/Mass Elements and Mass Groups
2. Walls, Windows, Doors, Curtain Walls and Door and Window Assemblies
3. Stairs and Railings
4. Roof and Roof Slab Objects
5. Slabs and Slab Objects
6. Structural Members, Column Grids, Grids, and Anchors
7. Elevations and Sections

Unit IV

The student will be able to...

1. Work with DRAWING MANAGEMENT to create Plotting Sheets in the Project Navigator.
2. Work with the DESIGN CENTER
3. Work with the VIZ RENDERER

Unit V

The student will be able to...

1. Learn the major tools and commands of Photoshop and how to use them effectively
2. Understand the practical and creative applications of Photoshop for graphic design, for architecture presentation.
3. Understand concepts of digital imaging such as resolution and digital color and be able to manipulate them effectively
4. Learn the skills of photo retouching, manipulation, and composition
5. Be able to use Photoshop in conjunction with other programs and various file types
6. Know the various types of output and how to prepare computer files to obtain appropriate output.
7. Demonstrate ability to conceptualize and articulate visually his/her idea in a two-dimensional composition.

Evaluation of student learning:

1. A lecture and studio course, with demonstrations by the instructor.
2. Assignments with specific goals and objectives with discussions and critiques of student work. The student is responsible for regular attendance, participation in classroom discussions and critiques of student work.
3. Evaluation of grades are determined based upon the following:
4. Attendance, participation, and estimate of quality of class work and homework assignments (by instructor).
5. Values of quality, aesthetics, etc., are based upon the instructor's judgment of the work produced, and the total result. To receive full credit, all assignments are due on time. A late assignment will be accepted one class period after due date with a reduced letter grade. After one missed class period, late assignments will receive the grade of "F."

Academic Integrity Statement:

Students are expected to comply with the college-wide requirements for academic integrity. Mercer County Community College is committed to Academic Integrity—the honest, fair, and continuing pursuit of knowledge, free from fraud or deception. This implies that students are expected to be responsible for their own work. Presenting another individual's work as one's own and receiving excessive help from another individual will qualify as a violation of Academic Integrity. The entire policy on Academic Integrity is located in the Student handbook and is found on the college website (http://www.mccc.edu/admissions_policies_integrity.shtml).

See http://mlink.mccc.edu/omb/0403_academic_integrity_OMB210.pdf.]