COURSE OUTLINE

Course Number	Course Title	Credits
ABT132	**Architectural Computer Drafting**	**2**
Hours: 2 Studio/Lab, 1 Lecture	**Co- or Pre-requisite DRA 190 with a minimum C grade**	**Implementation sem/year** Spring 2010

Course description: Using architectural software, students produce professional drawings, compile contract documents, date, store and retrieve information on both two- and three-dimensional projects. Involves creation of walls, doors, windows and roofs as well as implementation of symbols for structural, electrical, mechanical, plumbing, furnishing, and site work. *1 lecture/2 laboratory hours*

Required texts/other materials:

Accessing AutoCAD Architecture 2010

By William G. Wyatt

Other learning resources:

Online web site in text

Last Revised: Spring 2010

Course Coordinator: Garry Perryman, e-mail: perryg@mccc.edu, tel. x 3357

Available Resources:

Autodesk Student web site

Course Goals.

This course includes instruction in the use of AutoCAD Architecture 2010 to develop architectural working drawings. Topics include walls, doors, windows, stairs, roofs, annotation, symbols, elevations and details. Previous knowledge of AutoCAD drawing and editing commands and layouts is required.

OBJECTIVES

1. Create and edit architectural working drawings that include walls, doors, windows, stairs, and roofs.
2. Create door, stair, railing, roof slab, wall, and window styles.
3. Create and edit wall modifier styles to create wall design.
4. Tag, insert, and customize schedules for wall, door, window, stair, and structural members.
5. Create hip, gable, gambrel roofs, roof slabs, and multiple roof intersections.
6. Insert and modify blocks.
7. Insert symbols and annotations in a drawing.
8. Create elevation and section views of a building.
9. Create and keynote details using the Detail Component Manager.

. Units of Study in Detail

Unit 1 Introduction to AutoCAD Architecture

The student will be able to:

- Start Architectural Desktop and identify the components of the screen Layout.
- Configure Drawing Setup and tools of the Layer Manager
- Use Layouts
- View Objects with the Object Viewer
- Create Projects

Unit 2. Creating Floor Plans.

The student will be able to:

- Draw Walls and understand the Contents of the Wall Properties Palette
- Set up a drawing and Edit Walls
- Use Edit Justification and Change Wall Direction with Wallreverse
- Connect Walls with Autosnap and Modify Walls

Unit 3 Advanced Wall Feature

The student will be able to:

- Access Wall Styles and Create and Editing Wall Styles
- Extend a Wall and Create Wall Endcaps
- Use Edit in Place and Override
- Create Wall Modifiers and Styles
- Create Wall Sweeps using Profiles and Modify Swept Walls

- Add Mass Elements and Create Additional Floors
- Plot Sheets

Unit 4. Placing Doors and Windows

The student will be able to:

- Place Doors in Walls
- Create and Use Door Styles
- Edit a Door Style
- Place Windows in Walls and understand the Windows Palette
- Create a New Window Style
- Create Muntins for Windows
- Create Openings and Apply Tool Properties
- Import and Export Door and Window Styles

Unit 5. Creating Roofs and Roof Slabs.
The student will be able to:

- Create a Roof with RoofAdd and Define Roof Properties
- Create a variety of Roof types
- Edit an Existing Roof
- Convert Polylines or Walls
- Create and Modify Roof Slabs
- Determine Roof Intersections
- Create Roof Slab Styles and New Roof Edge Style
- Extend Walls to the Roof

Unit 6 Creating Slabs for Floors and Ceilings.
The student will be able to:

- Add and Modify a Floor Slab
- Understand Properties and Grips
- Access Slab Styles and Change the Profile

Unit 7. Stairs and Railings.
The student will be able to:

- Understand and Use the Stair and railing commands
- Edit stairs and railings

Unit 8.Using and Creating Symbols.
The student will be able to:

- Place Dimensions, Text, and Leaders from Annotation Palette
- Create Revision Clouds
- Create Tags for doors, windows, rooms, and walls
- Generate Schedules for Doors and Windows from Tags

Unit9. Annotating and Documenting the Drawing.
The student will be able to:

- Set the scale and layer
- Use the Content Browser
- Use the Design Center
- Insert symbols
- Access Properties of multi-view blocks
- Create and Edit a multi-view block
- Import and export blocks
- Insert multi-view blocks
- Insert layouts with fixtures
- Create masking blocks
- Insert new blocks
- Create symbols

Unit 10. Creating Elevations, Sections, and Details.
The student will be able to:

- Create the Model to generate Building Elevations and Sections
- Understand Refreshing and Regenerating drawings
- Editing the Linework
- Merging Lines
- Create Sections

Unit 11. **Final Project.**
The student will be able to:

- Use **Project Browser** to create a **New Project**
- Use **Project Navigator** to create **New Levels**
- Using **Project Navigator**, on the Constructs Tab, to set up a new Construct
- Using the **Tool Palette** to draw **walls, doors and windows**.
- Plot five views as required.

Method of Instruction: Lecture will be used as the primary method of information delivery. Use of PowerPoint explaining theories and working examples will form the base from which numerous homework problems and lab exercises to yield student proficiency. The lecture, problems, and laboratory work will emphasize the practical application of theories. The laboratory work will follow the lecture as close as practicable.

Course requirements and Grades:

1. Tutorials:
   - Students will complete tutorials as instructed during class and plot final image on 8-1/2 x 11 (letter size) paper, as large as possible, unless instructed otherwise.
   - Assignments will be graded according to accurate completion.
   - Hand in within **one** week of assignment.
   - Late assignments will be subject to grade reductions of one full letter grade per week.
   - **50% of final grade**

2. Exercises/Projects:
   - Students will complete Exercises/Projects as instructed during class. Grading information is the same as for Tutorials.
   - **20% of final grade**

3. Final Exam:
   - There will be a final exam consisting of comprehensive computer-based problems.
   - **20% of final grade**

4. Attendance:
   - Attendance is mandatory unless previously excused (notify instructor prior to missed class). One excused absence permitted.
   - **10% of final grade**

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).

Special Needs Students Statement

- Any student in this class who has special needs because of a disability is entitled to receive accommodations. Eligible students at Mercer County Community College are assured services under the Americans with Disabilities Act and Section 504 of the Rehabilitation Act of 1973. If you believe you are eligible for services, please contact Arlene Stinson, the Director of Academic Support Services. Ms. Stinson's office is LB221, and she can be reached at (609) 570-3525.