

Milwaukee Area Technical College

## ARCHT-110 Computer Applications for Architecture

### Course Outcome Summary

#### Course Information

**Description** This computer applications course is designed to provide students with word processing, spreadsheet, PowerPoint, and Internet skills used in the field of Architecture. Additionally, the course is designed to introduce students to Google Sketchup

**Total Credits** 2

**Total Hours** 48

#### Types of Instruction

**Instruction Type**

Lecture

Lab

**Credits/Hours**

#### Target Population

Students seeking an Associate's degree in Architectural Technology

#### Learner Supplies

USB/Flash Drive. **Manufacturer:** Any. **Quantity:** 1. **Description:** at least 128Mb. Not Required.

Report cover. **Manufacturer:** any. **Quantity:** 1. **Description:** For project. Required.

Binder or folder. **Manufacturer:** any. **Quantity:** 1. **Description:** For class notes and assignments. Not Required.

#### Career Essentials

1. Effective Communication Through Speaking and Listening

#### Program Outcomes

1. **Develop construction documents**

Status W/P

#### Criteria

- 1.1. you use Architectural Engineering Construction related technology
- 1.2. you use industry drafting standards
- 1.3. you use industry design/performance standards
- 1.4. you use established project criteria
- 1.5. you produce architectural and/or construction drawings

2. **Develop building designs**

Status W/P

#### Criteria

- 2.1. you use Architectural Engineering Construction related technology
- 2.2. you use industry design/performance standards
- 2.3. you apply sustainable principles to site and/or building design
- 2.4. you satisfy project program requirements
- 2.5. you produce presentation drawings

### Course Competencies

1. **Perform file management tasks.**

#### Assessment Strategies

- 1.1. through assignments
- 1.2. in the lab

#### Criteria

*Performance will be successful when:*

- 1.1. the learner creates a folder tree that complies 100% with class standards.
- 1.2. the learner demonstrates the correct use of the folder tree.
- 1.3. the learner demonstrates backing up files.

#### Learning Objectives

- 1.a. Identify a primary storage device and folder.
- 1.b. Identify a backup storage device.
- 1.c. Create a folder tree.
- 1.d. Save files to the primary location.

- 1.e. Backup saved files.

2. **Create a model using Sketchup.**

#### Assessment Strategies

- 2.1. through assignments
- 2.2. in a laboratory

#### Criteria

*Performance will be successful when:*

- 2.1. the learner's model is 100% accurate.
- 2.2. the learner's model is correctly grouped.
- 2.3. the learner's model has the groups correctly assigned to layers.
- 2.4. the learner's scenes are accurate.
- 2.5. the learner successfully exports a 2D graphic of the model.

#### Learning Objectives

- 2.a. Complete the tutorials "Start a Drawing, Parts 1-3" found at <https://3dwarehouse.sketchup.com/collection.html?id=36e1fad0d054a15eecc725c514c21d975>
- 2.b. Use the LINE command in conjunction with the Axes to model rectilinear objects. Select objects using a selection window, a crossing window, a context menu, the Control key, and the Shift key.
- 2.c. Delete objects.
- 2.d. Navigate in the model using Zoom, Orbit, Pan, and Zoom Extents.
- 2.e. Create Guide Lines and Guide Points.
- 2.g. Use the Measurements Toolbar to model accurately.
- 2.h. Use Inferences to model accurately.
- 2.i. Use basic commands - Move, Copy, Push/Pull, Rotate, Offset.
- 2.j. Create Groups.
- 2.k. Edit a Group.

- 2.l. Create Layers.
- 2.m. Assign Groups to Layers in order to control their visibility.
- 2.n. Create a model with walls, floor, roof, openings, and doors.
- 2.o. Use the Section tool to cut the model with a plan cutting plane and a section cutting plane.
- 2.p. Insert existing Components into a model.
- 2.q. Create Components.
- 2.r. Print a plan view of the model to scale.
- 2.s. Create Scenes.
- 2.t. Apply Materials to faces and groups.
- 2.u. Export 2D graphics.

### 3. Create a document using Microsoft Word.

- Assessment Strategies
- 3.1. through assignments
  - 3.2. in lab

#### Criteria

*Performance will be successful when:*

- 3.1. finished documents are 100% complete.
- 3.2. finished documents are formatted correctly.

#### Learning Objectives

- 3.a. Create a new file from a standard MS Word template.
- 3.b. Enter text.
- 3.c. Edit text.
- 3.d. Adjust styles.
- 3.e. Import graphics.
- 3.f. Save the file.
- 3.g. Print the file.

### 4. Create a spreadsheet using Microsoft Excel.

#### Assessment Strategies

- 4.1. through assignments
- 4.2. in lab

#### Criteria

*Performance will be successful when:*

- 4.1. the spreadsheets are 100% complete.
- 4.2. the spreadsheets are formatted correctly.

#### Learning Objectives

- 4.a. Enter data in a spreadsheet.
- 4.b. Use add, subtract, multiply, divide to calculate the value of cells.
- 4.c. Use SUM() to calculate the value of cells.
- 4.d. Use SQRT() or similar basic function to calculate the value of cells.
- 4.e. Make a simple graph.
- 4.f. Save the file.
- 4.g. Print the file.

### 5. Create a presentation using Microsoft PowerPoint.

#### Assessment Strategies

- 5.1. through assignments
- 5.2. in a lab

#### Criteria

*Performance will be successful when:*

- 5.1. the presentations are 100% complete.
- 5.2. the presentations are formatted correctly.

#### Learning Objectives

- 5.a. Choose a standard master
- 5.b. Insert a text box
- 5.c. Size a text box.
- 5.d. Enter text in a text box.
- 5.e. Format text.
- 5.f. Insert a graphic file.
- 5.g. Size a graphic.
- 5.h. Crop a graphic.
- 5.i. Save the file.
- 5.j. Present the file using a projector.

### 6. Create a project in response to a request for proposal

Linked Career Essentials  
Effective Communication Through Speaking and Listening

Linked Program Outcomes

Develop construction documents  
Develop building designs

Assessment Strategies

- 6.1. By developing a document based upon a realistic Request for Proposal (RFP)

#### Criteria

*Performance will be successful when:*

- 6.1. the cover letter is 100% complete.
- 6.2. the project includes SketchUp images.
- 6.3. the Excel spreadsheet is 100% complete and accurate.
- 6.4. the PowerPoint presentation is delivered to the class

#### Learning Objectives

- 6.a. Write a cover letter.
- 6.b. Create a SketchUp model.
- 6.c. Create a financial spreadsheet.
- 6.d. Create a PowerPoint presentation.