



Western Technical College

## 10614133 Architectural Detailing

### Course Outcome Summary

#### Course Information

<b>Description</b>	This course guides intermediate architectural students in the process of creating architectural detail drawings. Students will use sketching and CAD software to layout 2D and 3D details. Industry references will be used to properly identify elements, standards and sustainability parameter. Details will be properly called out and placed on construction documents in a clear and understandable manner.
<b>Career Cluster</b>	Architecture and Construction
<b>Instructional Level</b>	Associate Degree Courses
<b>Total Credits</b>	3
<b>Total Hours</b>	90

#### Pre/Corequisites

Pre/Corequisite	10614132 Architectural Drafting - Commercial
Prerequisite	10614106 Architectural CAD

#### Textbooks

*Design Integration Using Autodesk Revit 2022*. Copyright 2021. Stine, Daniel John. Publisher: Schroff Development Corporation. **ISBN-13**: 978-1-63057-451-2. Required.

#### Learner Supplies

Architectural Technology Kit. **Vendor**: Campus Shop. Required.

#### Success Abilities

1. Live Responsibly: Foster Accountability
2. Refine Professionalism: Act Ethically

## Program Outcomes

1. Develop construction documents
2. Evaluate building materials
3. Develop building designs
4. Integrate building systems

## Course Competencies

### 1. Choose appropriate materials for construction system assembly.

#### Assessment Strategies

- 1.1. Written Product
- 1.2. Presentation

#### Criteria

*You will know you are successful when*

- 1.1. you identify correct component sizes.
- 1.2. you properly show material connections.
- 1.3. you make selections based on sustainability attributes of materials.

#### Learning Objectives

- 1.a. Recognize material purposes
- 1.b. Identify building materials available for project/construction.
- 1.c. Identify proper types of connections for different materials.
- 1.d. Properly represent material graphics in drawing.

### 2. Classify building materials using Construction Specifications Institute (CSI) specification division numbers.

#### Assessment Strategies

- 2.1. Written Product

#### Criteria

*You will know you are successful when*

- 2.1. you identify the CSI criteria for each type of material.
- 2.2. you associate each code with a specific material.
- 2.3. you track codes.

#### Learning Objectives

- 2.a. Explore the criteria and code number for each type of material.
- 2.b. Correlate material type to CSI code format.
- 2.c. Track codes.

### 3. Investigate sustainability parametrics of construction detail materials.

#### Assessment Strategies

- 3.1. Written Product

#### Criteria

*You will know you are successful when*

- 3.1. you summarize the environmental impact various materials have.
- 3.2. you explain the LEED certification process.
- 3.3. you summarize the life-cycle of different materials.
- 3.4. you identify the type of recycled content in different building materials.

### **Learning Objectives**

- 3.a. Explore the sustainability and environmental impact of various materials.
- 3.b. Develop awareness of the LEED certification process.
- 3.c. Explore how buildings are designed to meet different LEED criteria.
- 3.d. Identify the cradle-to-grave durability of materials (life cycle).
- 3.e. Research and identify the recycled content of building materials.

## **4. Create detail sketches that represent the material and system assembly.**

### **Assessment Strategies**

- 4.1. Drawing/Illustration

### **Criteria**

*You will know you are successful when*

- 4.1. you generate a sketch using CAD techniques.
- 4.2. you select the correct drawing scale for each detail.
- 4.3. you select the correct line weights for each detail.
- 4.4. you represent each material graphics in the drawing using industry accepted graphics.
- 4.5. you identify material conflicts by using the class detection tool.
- 4.6. you correct material conflicts in the sketch.

### **Learning Objectives**

- 4.a. Properly represent the material graphics in drawing.
- 4.b. Apply CAD skills to create drawings.
- 4.c. Apply proper line weights to the details.
- 4.d. Choose the appropriate drawing scale for the detail.
- 4.e. Develop the ability to use clash detection tool to avoid material conflicts.

## **5. Identify different uses and styles of detail drawings.**

### **Assessment Strategies**

- 5.1. Drawing/Illustration

### **Criteria**

*You will know you are successful when*

- 5.1. you apply the correct annotations for detail creation.
- 5.2. you select the detail view needed to show material connections in drawings.
- 5.3. you create a collection of detail drawing styles.

### **Learning Objectives**

- 5.a. Choose the appropriate detail view to best explain material connections.
- 5.b. Choose the correct annotation for detail creation.
- 5.c. Review existing drawings for detail uses.
- 5.d. Compare and contrast detail styles.

## **6. Using CAD software, refine system assembly into a detail drawing.**

### **Assessment Strategies**

- 6.1. Drawing/Illustration

### **Criteria**

*You will know you are successful when*

- 6.1. you label the building elements in the detail drawing.
- 6.2. you select building elements from the Imperial Library.
- 6.3. you apply correct line weights to details as needed.

### **Learning Objectives**

- 6.a. Label proper building elements
- 6.b. Use Imperial Library to select pre-drawn building elements.
- 6.c. Use proper line weight for detail materials in drawings.

## **7. Arrange details in a logical manner on drawing sheets.**

## **Assessment Strategies**

7.1. Drawing/Illustration

### **Criteria**

*You will know you are successful when*

- 7.1. you locate detail drawings in a logical order on a drawing sheet.
- 7.2. you choose a proper scale for each detail.
- 7.3. you annotate details with a sequential numbering system and descriptive title.

### **Learning Objectives**

- 7.a. Develop awareness of detail arrangement in the industry.
- 7.b. Choose appropriate scale for placement on drawing sheets.
- 7.c. Align common materials and annotations across sheet for consistency.
- 7.d. Maintain numbering consistency across sheet.

## **8. Provide proper annotation for detail drawings.**

### **Assessment Strategies**

8.1. Drawing/Illustration

### **Criteria**

*You will know you are successful when*

- 8.1. you accurately note materials using acceptable standards.
- 8.2. you properly dimension detail for constructability.
- 8.3. you provide notes for clarity of construction.

### **Learning Objectives**

- 8.a. Apply correct spelling to annotations.
- 8.b. Use correct industry standard abbreviations on sheets.
- 8.c. Apply quality control measures that verify details are documented.
- 8.d. Determine notes needed for documents.

## **9. Validate constructability and applicability of detail as part of a quality control check.**

### **Assessment Strategies**

9.1. Critique

### **Criteria**

*You will know you are successful when*

- 9.1. you perform a systematic self-check of a detail drawing.
- 9.2. you offer a peer review of a detail drawing.
- 9.3. you modify detail drawing to reflect quality control review comments.

### **Learning Objectives**

- 9.a. Provide initial quality control review of class assignments.
- 9.b. Review quality control comments.
- 9.c. Revise details according to comments.
- 9.d. Verify drawing matches manufacturer's accepted installation.

## **10. Save details using a proper filing system.**

### **Assessment Strategies**

10.1. Product

### **Criteria**

*You will know you are successful when*

- 10.1. you save detail in a proper format.
- 10.2. you place file in a logical detail folder or project folder.
- 10.3. you allow appropriate file sharing releases.

### **Learning Objectives**

- 10.a. Examine file management protocols.

- 10.b. Use proper file management plan for class files.
- 10.c. Create and maintain backup files.
- 10.d. Understand work sharing concepts and protocols for successful project development.