



Western Technical College

## 31410331 Framing 1

### Course Outcome Summary

#### Course Information

<b>Description</b>	Students will be introduced to portable power tools, various hand tools, and measuring and layout procedures. Materials, methods, and procedures required to frame floor systems and walls will be studied.
<b>Career Cluster</b>	Architecture and Construction
<b>Instructional Level</b>	Technical Diploma Courses
<b>Total Credits</b>	2
<b>Total Hours</b>	72

#### Textbooks

*Carpentry and Building Construction (Student Edition)*. Copyright 2016. McGraw-Hill Education. Publisher: McGraw-Hill Publishing Company. **ISBN-13:** 978-0-02-140244-1. Required.

#### Learner Supplies

Scientific Calculator - \$20. **Vendor:** Campus Shop. Required.

#### Program Outcomes

1. Use hand and power tools and equipment.
2. Apply industry recognized safety practices and procedures.
3. Analyze sustainable building practices.
4. Interpret building codes.
5. Demonstrate industry building practices and material application.

#### Course Competencies

##### 1. Use hand and power tools.

###### Assessment Strategies

- 1.1. Skill Demonstration

- 1.2. Written Objective Test (score 70% or higher)

#### **Criteria**

*You will know you are successful when*

- 1.1. you select the correct power tool to use.
- 1.2. you demonstrate safe and accurate use of hand and power tools.

#### **Learning Objectives**

- 1.a. Use a circular saw in a safe and effective manner
- 1.b. Use a jig saw in a safe and effective manner
- 1.c. Use a drill in a safe and effective manner
- 1.d. Use a tape measure to perform basic measuring operations
- 1.e. Use different squaring devices to draw a square corner

### **2. Identify different types of framing systems.**

#### **Assessment Strategies**

- 2.1. Demonstration
- 2.2. Written Objective Test (score 70% or higher)

#### **Criteria**

*You will know you are successful when:*

- 2.1. you identify framing systems from an architectural drawing.

#### **Learning Objectives**

- 2.a. Identify platform frame construction.
- 2.b. Identify balloon frame construction.
- 2.c. Identify post and beam frame construction.
- 2.d. Identify SIP construction.

### **3. Identify the components used in floor framing.**

#### **Assessment Strategies**

- 3.1. Written Objective Test (score 70% or higher)

#### **Criteria**

*You will know you are successful when:*

- 3.1. you describe the location and components within the box sill.
- 3.2. you label the floor framing components from an architectural drawing.

#### **Learning Objectives**

- 3.a. Define a box sill.
- 3.b. Identify the sill plate.
- 3.c. Identify the sill sealer.
- 3.d. Identify a floor joist.
- 3.e. Identify the sub-floor.
- 3.f. Identify anchor bolts.

### **4. Examine the installation of a floor system.**

#### **Assessment Strategies**

- 4.1. Skill Demonstration

#### **Criteria**

*You will know you are successful when:*

- 4.1. You will complete an on-center layout of the floor joists
- 4.2. You will locate the position of a stairwell opening and its components
- 4.3. You discover the placement of subfloor on a properly constructed floor system

#### **Learning Objectives**

- 4.a. Locate position of floor joists in a floor system
- 4.b. Locate the position of stairwell opening components

4.c. Explore the installation of subfloor

## 5. Identify the components used in wall framing.

### Assessment Strategies

- 5.1. Written Objective Test (score 70% or higher)
- 5.2. Skill Demonstration

### Criteria

*You will know you are successful when:*

- 5.1. you label plate material from section and elevation view of a wall.
- 5.2. you label the vertical components used within a wall from an architectural drawing.
- 5.3. you locate and describe the construction of wall headers from an architectural drawing.
- 5.4. you identify the location and state the dimensions of a rough opening.

### Learning Objectives

- 5.a. Identify wall plate material including bottom plate, top plate, and double top plate.
- 5.b. Identify vertical framing members including common studs, king studs, trimmers, cripples, corner posts, and energy corners.
- 5.c. Identify headers.
- 5.d. Identify window and door openings in a wall.

## 6. Prepare plates for wall construction.

### Assessment Strategies

- 6.1. Skill Demonstration

### Criteria

*You will know you are successful when:*

- 6.1. you identify designated walls from a floor plan.
- 6.2. you cut wall plates to proper length as stated on a floor plan.
- 6.3. you mark correct location and size of rough openings on the plates.
- 6.4. you mark correct location of intersecting wall partition backing and energy corners where applicable.
- 6.5. you accurately mark a 16" on center stud lay-out.

### Learning Objectives

- 6.a. Interpret a floor plan to position walls within a structure.
- 6.b. Determine proper lengths of walls within a structure.
- 6.c. Draw rough openings, partitions, corner posts, and studs on wall plates.

## 7. Construct a wall.

### Assessment Strategies

- 7.1. Activity
- 7.2. Written Objective Test

### Criteria

*You will know you are successful when:*

- 7.1. you properly size and assemble rough opening headers.
- 7.2. you assemble intersecting wall partition backing and energy corners.
- 7.3. you cut rough opening trimmers, sills, and cripples to proper length.
- 7.4. you assemble trimmers and king studs, headers, rough sills, cripples, backing and energy corners, and common studs in the correct sequence and location as marked on wall plates.
- 7.5. you minimize waste by consuming framing materials in the most efficient manner.

### Learning Objectives

- 7.a. Select framing materials to be used for wall construction in the most efficient manner.
- 7.b. Prepare wall framing components for assembly.
- 7.c. Connect wall framing components within the wall assembly.