



## BCCM 2010

**Division:** Career and Technical Education

**Department:** Building Construction and Construction Management

**Course:** BCCM 2010

**Title:** Framing Methods

**Catalog Description:**

This course provides practical hands-on learning experiences in layout procedures and erection of floor, wall, ceiling, stairs, and roof construction of a residential house. The course includes a study of the various kinds of insulations and their applications on project house.

**General Education Requirements:** N/A

**Semesters Offered:** Fall

**Credit/Time Requirement:** Credit: 7; Lecture: 4; Lab: 6

**Clock/Hour Requirements:** 0

**Offered for Non-Credit:** No

**Prerequisites:** N/A

**Corequisites:** N/A

**Justification:**

Plainly, the construction industry is a vital part of the nation's work force and economy. Framing methods are a large part of the construction phase. As such, the course is necessary for training students in Building Construction.

**Student Learning Outcomes:**

Upon successful completion of this course, students will:

- learn lumber sizes, grades, species, and plywood grades
- learn framing theory and procedures to construct a floor
- learn framing procedures and theory to construct exterior and interior walls
- learn layout and construction of various types and styles of stairs
- construct a flight of stairs and stairs with a landing for a building
- learn framing procedures and theory to construct a ceiling
- learn framing construction for layout and assembly of a roof and roofing materials
- study various types of insulations and specifications of insulations.

**Content:**

Course objectives will be accomplished by providing students with learning experiences in the following subject areas:

- Lumber and Building Materials
  - Lumber
    - Wood structure
    - Kinds of wood
    - Moisture and shrinkage
    - Cutting methods
    - Sizes and grades
  - Plywood
  - Fasteners
    - Nails
    - Adhesives
    - Power-driven fastening systems
  - Floor Framing
    - Sill Plate
    - Floor framing
      - Beams and girders
      - Types of joists
        - Solid
        - Truss joists
        - Wood "I" Beams
  - Bridging
  - Span calculations
  - Openings
  - Flooring
  - Estimating
  - Wall Framing
    - Parts of a wall
    - Corners
    - Wall intersentions
    - Rough openings/header spans
    - Layout
    - Estimating
    - Bracing
  - Stairs
    - Types of stairs
    - Stair parts and terms
    - Stair design
    - Stair calculations
    - Stair layout
    - Stair construction
    - Material estimating
  - Ceiling framing
    - Span calculations
    - Layout

- Estimating
- Roof Framing
  - Common, hip, valley, and jack rafter layout
  - Truss design, construction, and installation
  - Roof coverings and application
- Insulation
  - Heat transmission
  - Thermal properties
  - Types of insulation
  - Vapor barriers and condensation
  - Placement of insulation
  - Estimating materials.

**General Education Outcomes:**

**Applied Education Outcomes:**

1) Students will acquire entry-level skills specific to and appropriate for employment in their chosen field of study.

Students will have the opportunity to apply his/her knowledge in framing methods while working on the College Project house. Using that knowledge while working with his/her future employer.

**Key Performance Indicators:**

- Outcome assessment will be partially determined by scores on faculty-developed written tests (30%)
- Demonstrations of skills acquired by using the competencies developed for the course (60%)
- Partial outcome assessment will be determined by attendance, attitude and performance on house project (10%).

Percentages are approximate.

**Representative Text and/or Supplies:**

- Vogt, Floyd, *Carpentry*, current edition, Thomson Delmar Learning.
- Vogt, Floyd, *Carpentry Workbook*, current edition, Thomson Delmar Learning.

**Optimum Class Size:** 15

**Maximum Class Size:** 20

**Signatures:**

I hereby submit this course syllabus:

---

Officer Robert Wright, ,

I hereby find this course consistent with the goals and resources of the Building Construction and Construction Management Department:

---

Marlin Christensen, M. Ed., Instructor, Chair

I hereby find this course consistent with the goals and resources of the Career and Technical Education Division:

---

Michael P. Medley, MBA, Assistant Professor, Dean

I have discussed the need for library resources related to this class with the person submitting the syllabus:

---

Lynn Anderson, MLIS, Technical Services Librarian (Main Campus)

---

Michelle Olsen, MLS, Campus Librarian (Richfield Campus)