

**MINNESOTA WEST COMMUNITY & TECHNICAL COLLEGE  
COURSE OUTLINE**

*Faculty are required to have the outline submitted to the Academic Affairs Office. The course outline is the form used for approval of new courses by the Academic Affairs and Standards Council.*

DEPT. CRPT

COURSE NUMBER: 1120

NUMBER OF CREDITS: 2 (1 lecture, 1 lab)

COURSE TITLE: Roof Framing Part II

CATALOG DESCRIPTION : This course is a continuation of Roof Framing Part I. Students will learn more complex roof systems of today's houses. Subjects covered will be layout of hip rafters, construction of both cut in valleys and blind valleys, intersecting roofs as well as unequal pitched roofs.

AUDIENCE : Carpentry I students

FULFILLS MN TRANSFER CURRICULUM AREA(S) (*Leave blank if not applicable*)

Area: by meeting the following competencies:

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PREREQUISITES OR NECESSARY ENTRY SKILLS/KNOWLEDGE: Desire to learn through a combination of lecture and hand-on activities. Career interest in the building construction trade.

LENGTH OF COURSE : One semester

THIS COURSE IS USUALLY OFFERED:

Every other year  fall  spring  summer  undetermined

Four goals are emphasized in course at Minnesota West Community & Technical College:

- 1) **ACADEMIC CONTENT:** The academic objectives of this course are:
  - a. Improve writing skills with the completion of required written assignments.
  - b. Improve mathematical skills calculating linear measurements, dimensions, area, and volume measurements.
  - c. Improve reading skills with the completion of required reading assignments.
  
- 2) **THINKING SKILLS:** This course will help students improve the effectiveness of their thinking skills through:

- a. Interpretation of blueprints and building product specifications as they apply to construction methods and techniques.
  - b. Demonstration by individuals to calculate statistics into current building situations.
  - c. Decision making processes that involve recalling facts and specifics about given situations or problems encountered in building construction, evaluating the situation, and reaching a conclusion.
- 3) COMMUNICATIONS SKILLS: This course will help students improve their oral and written communication skills through:
- a. Group problem solving, collaborative projects and individual demonstrations.
  - b. Individual classroom assignments and interactive lectures.
- 4) HUMAN DIVERSITY: This course will help students recognize, understand, and appreciate human diversity through:
- a. Working in a team with persons of different race, gender, and cultural background.

#### TOPICS TO BE COVERED:

1. Types of rafters used for hip roofs or intersecting gable roofs.
2. Calculating the length of a hip rafter, valley rafter, and jack rafter with a framing square (rafter table).
3. Layout of hip, valley, and jack rafters.
4. Making plumb cuts, side cuts, and seat cuts.
5. Installing hip, valley, and jack rafters.
6. Applying roof sheathing on a hip roof or intersecting gable roof.

#### LIST OF EXPECTED COURSE OUTCOMES:

1. identify ridge board
2. identify hip rafter
3. identify valley rafter
4. identify jack rafter
5. calculate lengths of common rafters
6. calculate lengths of hip rafters
7. calculate lengths of valley rafters
8. calculate lengths of jack rafters
9. demonstrate use of framing square rafter tables
10. layout out common rafter
11. layout hip rafter
12. layout valley rafter
13. layout jack rafter
14. cut common rafter
15. cut hip rafter
16. cut valley rafter
17. cut jack rafter
18. identify intersecting roofs

19. install ridge board
20. install common rafter
21. install hip rafter
22. install valley rafter
23. install jack rafter
24. cut rafter tails
25. install regular valley
26. install valley boards
27. install lookouts
28. brace roof members

**LEARNING/TEACHING TECHNIQUES** used in the course are:

- |  |  |
|--|--|
| <input checked="" type="checkbox"/> Collaborative Learning | <input checked="" type="checkbox"/> Problem Solving      |
| <input type="checkbox"/> Student Presentations             | <input checked="" type="checkbox"/> Interactive Lectures |
| <input checked="" type="checkbox"/> Creative Projects      | <input type="checkbox"/> Individual Coaching             |
| <input checked="" type="checkbox"/> Lecture                | <input checked="" type="checkbox"/> Films/Videos/Slides  |
| <input checked="" type="checkbox"/> Demonstrations         | <input type="checkbox"/> Other (describe below)          |
| <input checked="" type="checkbox"/> Lab                    |  |

**ASSIGNMENTS AND ASSESSMENTS FOR THIS CLASS INCLUDE:**

- |   |  |  |
|---|--|--|
| <input checked="" type="checkbox"/> Reading           | <input checked="" type="checkbox"/> Tests      | <input checked="" type="checkbox"/> Individual Projects    |
| <input type="checkbox"/> Oral Presentations           | <input checked="" type="checkbox"/> Worksheets | <input checked="" type="checkbox"/> Collaborative Projects |
| <input checked="" type="checkbox"/> Textbook Problems | <input type="checkbox"/> Papers                | <input type="checkbox"/> Portfolio                         |
| <input checked="" type="checkbox"/> Group Problems    | <input type="checkbox"/> Term Paper            |  |
| <input type="checkbox"/> Other (describe below)       |  |  |

**EXPECTED STUDENT LEARNING OUTCOMES:**

1. Identify types of rafters used in hip roofs or intersecting gable roofs.
2. Calculate the length of hip, valley, and jack rafters using the framing square.
3. Accurately make plumb cuts, side cuts, and seat cuts on hip, valley, and jack rafters.
4. Erect ridge board, common rafters, hip rafters, valley rafters, and jack rafters on a given roof.
5. Apply sheathing to a hip roof or intersecting gable roof.

**To receive accommodations for a documented disability, please contact the campus Student Services Advisor as soon as possible. Students are also encouraged to notify the instructor.**

**This document can be made available in alternative format by contacting Student Services, the Campus CEOs or calling Minnesota Relay Service at 1-800-627-3529. Reasonable accommodations will be provided upon request for documented disabilities. An Affirmative Action Equal Opportunity Educator/Employer. ADA Accessible.**

*The information in this course outline is subject to revision.*

