

MINNESOTA WEST COMMUNITY & TECHNICAL COLLEGE

COURSE OUTLINE

DEPT. CRPT

COURSE NUMBER: 1160

NUMBER OF CREDITS: 4

Lecture: 2 Lab: 2 OJT 0

Course Title:
Roof Framing

Catalog Description:
Roof Framing will teach students the theory behind trusses, stick framing and roof loads. Students will be taught how to use a framing square and roof terminology. Students completing this class will be able to build a gable roof system, layout and cut hip and valley rafters and identify various types of roof trusses. Students will install roof truss systems, hand frame roof sections of various styles, including ceiling vaults and trays and install roof sheathing.

Prerequisites or Necessary Entry Skills/Knowledge:
None

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

Goal 1: Communication: ____ by meeting the following competencies:

Goal 2: Critical Thinking: ____ by meeting the following competencies:

Goal 3: Natural Sciences: ____ by meeting the following competencies:

Goal 4: Mathematics/Logical Reasoning: ____ by meeting the following competencies:

Goal 5: History and the Social and Behavioral Sciences: ____ by meeting the following competencies:

Goal 6: The Humanities and Fine Arts: ____ by meeting the following competencies:

Goal 7: Human Diversity: ____ by meeting the following competencies:

Goal 8: Global Perspective: ____ by meeting the following competencies:

Goal 9: Ethical and Civic Responsibility: ____ by meeting the following competencies:

Goal 10: People and the Environment: ____ by meeting the following competencies:

Topics to be Covered
Types of roofs
Parts of common rafters, hip rafters, valley rafters and jack rafters
Rafter and ceiling joist layouts
Use of a framing square to calculate rafter lengths
Use of a framing square to lay out a common rafter
Proper cutting common, hip, valley and jack rafters
Calculating total rise of a roof and installing the ridge board
Use of trusses in roof framing
Bracing conventional roof framing and roof trusses
Proper application of roof sheathing

Various sizes of dimension lumber
Roof systems
Sheathing materials
Estimating

Student Learning Outcomes
Read a set of truss blueprints.
Complete assembly of roof components including sheathing so as to be ready for shingling and other exterior finishes.
Identify the parts of a common rafter.
Explain the design and erection of roof trusses.
Define slope and pitch.
Use a framing square and rafter tables to calculate rafter lengths.
Use a framing square to layout cut on rafters.
Make all plumb cuts and seat cuts on a common rafter.
Calculate length of common rafters for a given span and roof slope.
Accurately cut all plumb cuts and seat cuts on a common rafter.
Layout and install common rafters on a top plate.
Demonstrate the proper procedure for sheathing a roof.
Cut rafter tails and install lookouts.
Install fascia board to the ends of rafters.
Identify types of rafters used in hip roofs or intersection gable roofs.
Calculate the length of hip, valley and jack rafters using the framing square.
Erect ridge board, common rafters, hip rafters, valley rafters and jack rafters on a given roof.
Apply sheathing to a hip roof or intersecting gable roof.

Is this course part of a transfer pathway: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
<i>*If yes, please list the competencies below</i>

Revised Date: 1/2022