

MINNESOTA WEST COMMUNITY & TECHNICAL COLLEGE

COURSE OUTLINE

DEPT. CRPT

COURSE NUMBER:2234

NUMBER OF CREDITS: 3

Lecture: 1 Lab: 2 OJT 0

Course Title:
Construction Techniques

Catalog Description:
Construction Techniques discusses the theory behind hand-built roof systems. Students will be taught how to use a framing square and roof terminology. Finishing of the interior and exterior portions of these systems will be taught on site.

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 (General)
Parts of common rafters, hip rafters, valley rafters and jack rafters
Proper cutting common, hip, valley and jack rafters.
Rafter and ceiling joist layouts

Student Learning Outcomes
Identify the parts of a common rafter.
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.
Cut rafter tails and install lookouts.
Install fascia board to the ends of rafters.
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.

Is this course part of a transfer pathway: Yes ☐ No ☒

Revised Date: 4/29/2024