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: 1101

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

COURSE TITLE: Tool Safety, Construction Terms and Materials

CATALOG DESCRIPTION : The purpose of this course is to learn the different types of materials and
terms used on all construction sites and how to maintain and use all hand and power tools.

AUDIENCE : Carpentry I students

FULFILLS MN TRANSFER CURRICULUM AREA(S) (Leave blank if not applicable)
Area: by meeting the following competencies:
Area: by meeting the following competencies:
Area: by meeting the following competencies:

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: Tool and machine safety, job site safety, shop safety, tool and machine maintenance, construction terms, materials used in construction.

LIST OF EXPECTED COURSE OUTCOMES:
1. Operate woodworking machines safely such as table saw, jointer, radial arm saw, power miter saw, band saw, drill press, shaper, planer, drum sander, and disk sander.
2. Operate portable power tools safely such as router, circular saw, power plane, rotary hammer drill, belt sander, finish sander, reciprocating saw, saber saw, power drill, and power screw gun.
3. Operate pneumatic nailers and powder actuated tools safely.
4. Identify construction adhesives.
5. Identify concrete and masonry products.
6. Identify rough hardware used in construction.
7. Identify finish hardware used in construction.
8. Identify types of screws, nails, bolts, and anchors.
9. Identify species of lumber.
10. Identify lumber dimensions.
11. Demonstrate use of lumber span tables.
12. Identify job site hazards.
13. Demonstrate an understanding of OSHA requirements.
15. Demonstrate proper use of personal protection equipment when working in the shop and at the job site.

LEARNING/TEACHING TECHNIQUES used in the course are:
- Collaborative Learning
- Problem Solving
- Student Presentations
- Interactive Lectures
- Creative Projects
- Individual Coaching
- Lecture
- Films/Videos/Slides
- Demonstrations
- Other (describe below)
- Lab
ASSIGNMENTS AND ASSESSMENTS FOR THIS CLASS INCLUDE:

- ☒ Reading
- ☒ Oral Presentations
- ☒ Textbook Problems
- ☐ Group Problems
- ☐ Other (describe below)
- ☒ Tests
- ☒ Worksheets
- ☐ Papers
- ☐ Term Paper
- ☒ Individual Projects
- ☐ Collaborative Projects
- ☐ Portfolio

EXPECTED STUDENT LEARNING OUTCOMES:

1. Describe the hardwood and softwood classifications.
2. Recognize and name common defects in lumber.
3. Define lumber grading terms.
4. Identify common lumber sizes.
5. Explain plywood, hardboard, and particleboard grades and uses.
6. Identify nail types and sizes.
7. Recognize types of engineered lumber and list their uses and advantages.
8. Identify a variety of metal framing connectors and indicate where each is used.
9. Identify hand tools used in the carpentry trade and explain their use.
10. Identify power tools and machines used in the carpentry trade and explain their use.
11. Explain typical designs and construction of manufactured scaffold.
12. List ladder types and apply ladder and scaffolding safety rules.
13. Demonstrate safe use of hand tools, power tools, and machines.
14. Demonstrate proper care and maintenance of hand tools, power tools and machines.
15. Describe appropriate clothing suitable for carpenters to wear in safety.
16. List personal safety equipment recommended for carpenters to use.
17. Describe proper methods of lifting and carrying that avoids personal injury.
18. Explain housekeeping measures designed to promote safe working conditions.

Veteran Services: Minnesota West is dedicated to assisting veterans and eligible family members in achieving their educational goals efficiently. Active duty and reserve/guard military members should advise their instructor of all regularly scheduled military appointments and duties that conflict with scheduled course requirements. Instructors will make every effort to work with the student to identify adjusted timelines. If you are a veteran, please contact the Minnesota West Veterans Service Office.

To receive reasonable accommodations for a documented disability, please contact the campus Student Services Advisor or campus Disability Coordinator as arrangements must be made in advance. In addition, students are encouraged to notify their instructor.

This document is available in alternative formats to individuals with disabilities by contacting the Student Services Advisor or by calling 800-658-2330 or Minnesota Relay Service at 800-627-3529 or by using your preferred relay service.

A Member of the Minnesota State Colleges and Universities System
An Affirmative Action Equal Opportunity Educator/Employer
The information in this course outline is subject to revision.