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.

DEPARTMENT: CRPT COURSE NUMBER: 1142

NUMBER OF CREDITS: 4 (1 lecture, 3 lab)

COURSE TITLE: Blueprint Reading, Estimating, and Project Planning

CATALOG DESCRIPTION: In this course, students will learn to read and interpret residential blueprints and do an accurate “take-off” or estimate of materials needed for a residential structure. Students will also learn site layout and establishing building elevations necessary prior to the excavation of a building site.

AUDIENCE: First Year Carpentry 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 plans and symbols.
2. Reading and interpreting plot plans, basement plans, floor plans, and elevations.
3. Reading and interpreting section plans and detail plans.
4. Window, door, and finish schedules.
7. Project specifications.
8. The bidding process.
10. Building layout prior to excavation.
12. Forming for footings.

LIST OF EXPECTED COURSE OUTCOMES:
1. read all plans in set of construction blueprints
2. explain general and specific notes
3. identify symbols on construction plans
4. explain finish schedules
5. explain window and door schedules
6. estimate materials for concrete footings
7. estimate form materials for footings
8. estimate concrete
9. estimate all materials required to construct a house per a given plan
10. estimate interior doors, door hardware, and trim
11. estimate roofing
12. estimate insulation and vapor retarder
13. estimate drywall
14. estimate exterior doors and windows
15. estimate overhead doors for garage
16. write bid specifications for a house project
17. identify aspects of site selection
18. locate lot boundary, establish benchmark and building elevation
19. layout building lines within property lines per local zoning and building regulations
20. form for footings and place concrete

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)

EXPECTED STUDENT LEARNING OUTCOMES:

1. Recognize common symbols used on architectural plans.
2. Accurately read and interpret dimensions on architectural plans.
3. Demonstrate an understanding of product detail catalogs.
4. Demonstrate accurate interpretation of information on plot plans, foundation plans, floor plans, elevation views, and section plans.
5. Accurately list all building materials required for a residential house based on a given plan.
6. Demonstrate an understanding of bid specifications and the bidding process.
7. Explain the role of subcontractors.
8. Locate lot corner stakes and establish lot boundary.
9. Layout a house on a lot prior to excavation.
10. Survey grade elevations on a given lot and determine building elevation.
11. Set building corners and layout building lines.
12. Set forms for foundation footings.
13. Set steel reinforcement in footings per building code requirements.
14. Place concrete for foundation footings.

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.

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The information in this course outline is subject to revision.