MINNESOTA WEST COMMUNITY & TECHNICAL COLLEGE
COURSE OUTLINE

Faculty is 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:____1150_____

NUMBER OF CREDITS: 3

COURSE TITLE: Site Layout and Foundations

CATALOG DESCRIPTION:
Introduce students to the tools and skills necessary to lay out a building site and construction methods used to form and pour concrete footings for a building.

AUDIENCE: Carpentry 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:
N/A

LENGTH OF COURSE:
1 semester

THIS COURSE IS USUALLY OFFERED:
Every other year □ fall □ spring □ x 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. Builder’s level, level-transit, and laser level and set-up of each
2. Establishing grades and elevations
3. Locating the building on a lot
4. Building layout
5. The function of batter boards
6. Components of concrete and their function
7. Forming for concrete pours
8. Placing and finishing concrete
9. Types of foundations for residential buildings

COURSE LEARNING OUTCOMES (GENERAL):
1. Identify parts of a builder’s level
2. Identify parts of a builder’s transit
3. Identify parts of a laser transit
4. Set up a builder’s level and transits
5. Respond to hand signals when using builder’s level and transits
6. Check grade elevations with a builder’s level and transits
7. Establish benchmark elevations
8. Lay out lot lines
9. Lay out building lines
10. Square building corners
11. Set batter boards
12. Pull building lines from batter boards
13. read and interpret plot plans
14. read and interpret foundation plans
15. read and interpret floor plans
16. identify types of foundations
17. identify proper footing sizes for given foundation wall
18. identify proper steel reinforcement to meet building code
19. identify and describe the function of cement in concrete
20. identify and describe the function of aggregates in concrete
21. identify tools used for placing concrete and finishing concrete
22. calculate amount of concrete required for a given footing size
23. calculate amount of concrete required for a given foundation size
24. calculate amount of concrete required for a given floor and/or driveway
25. discuss the hydration process and explain the curing of concrete
26. discuss common defects that can occur in concrete and their prevention
27. identify decorative concrete surfaces and their application

STUDENT LEARNING OUTCOMES (SPECIFIC):
1. Demonstrate the proper set-up of a builder’s level, level-transit, and laser transit.
2. Establish grades and elevations with a builder’s level and/or a level-transit.
3. Lay out lines for a given lot.
4. Lay out building corners and pull building lines for a given building size.
5. Square building corners using the 3-4-5 method.
6. Square building corners using a builder’s level.
7. Set batter boards and explain their function
8. Demonstrate a proficiency in reading and interpreting plot plans, foundation plans, and floor plans.
9. Describe how concrete is mixed and the function of each component.
10. Identify tools used to pour and finish concrete.
11. Identify defects that may occur in concrete and their cause.
12. Identify types of foundations and advantages of each.

LEARNING/TEACHING TECHNIQUES used in the course are:
- [ ] Collaborative Learning
- [ ] Problem Solving
- [x] Student Presentations
- [x] Interactive Lectures
- [x] Creative Projects
- [x] Individual Coaching
- [x] Lecture
- [x] Films/Videos/Slides
- [x] Demonstrations
- [ ] Other (describe below)
- [x] Lab

ASSIGNMENTS AND ASSESSMENTS FOR THIS CLASS INCLUDE:
- [x] Reading
- [ ] Oral Presentations
- [x] Textbook Problems
- [x] Group Problems
- [ ] Other (describe below)
- [x] Tests
- [ ] Worksheets
- [x] Papers
- [ ] Term Paper
- [x] Individual Projects
- [ ] Collaborative Projects
- [ ] Portfolio
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.

The information in this course outline is subject to revision

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 via your preferred Telecommunications Relay Service.

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