Abbreviated Title (25 chars max): Soils and Concrete Tech
Course Title: Soils And Concrete Technology
Dept Abbr(s): CMSV

Course Number: 2100
Lecture Hours: 3
Lab Hours: __
Total (min-max) Credits: 3 - __
Registration Tally: 40
Lab Tally: __

Catalog Description:
Familiarizes students with the history and fundamentals of concrete, admixtures, soils and aggregates. The student will understand the interactions of concrete, weather, and soil conditions; the proper placement of concrete; bearing capacity of soils; and the basic principles of concrete and soil inspection.

Prerequisites: None

Topics: Topics covered and time allotments.
1. Soil Classification - 10%
2. Upper mid-west geology - 5%
3. Soil exploration and testing - 10%
4. Bearing capacity of soils - 5%
5. Fundamental and history of concrete - 5%
6. Strength, durability, and properties of concrete - 15%
7. Admixtures - 15%
8. Construct forms and place steel reinforcement - 10%
9. Batching and handling concrete - 5%
10. Finishing concrete - 5%
11. Testing and controlling concrete - 15%

If Qualifying Request for MN Transfer Curriculum, check here and select 1 or 2 Goals and their Competencies:

1st Goal: Select a goal
Competencies:

2nd Goal: Select a goal
Competencies:
**OUTCOMES:**

(Include thinking skills/thinking abilities objective(s). A minimum of four measurable course outcomes required.) Refer to Bloom’s Taxonomy for appropriate verbs.

<table>
<thead>
<tr>
<th>Students will be able to:</th>
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<tr>
<td>1. Classify soils types and their bearing capacities</td>
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<td>2. Explain the proper installation of concrete forms and steel reinforcement</td>
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<td>3. Distinguish between different types of concrete and admixtures</td>
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<td>4. Identify the properties and characteristics of concrete</td>
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<td>5. Recommend cost effective techniques for the placement and handling of materials</td>
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<td>6. Interpret plans, specifications and technical drawings</td>
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<td>7. Prepare technical documents</td>
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**OUTCOME MEASURES:**

(Indicate any activity that demonstrates student competence and ways in which the faculty member will ascertain the student learning outcomes.)

The department has agreed that these measures must be used:

- The instructor may also use any or all of the following measures:
  1. Quizzes
  2. Papers
  3. Classroom participation/discussion
  4. Experiential Learning
  5. Final test

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**Which of the college-wide learning outcomes does this course investigate?**

- Communication: Students will create shared meaning appropriate to a variety of audiences by writing and speaker.
- Critical Thinking: Students will apply creative, rational, and value-sensitive modes of thought to information and experience.
- Civic Engagement: Students will identify and address issues of public concern through individual and collective actions beyond the classroom.
- None of the Outcomes

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If Special Course Fee, check here □

**Semesters offered (check appropriate semester(s)):**

- Fall: Every Fall
- Spring: Springs (Variable)
- Summer: Not Offered in Summer

**Evaluate/Grading System (check):**

- A – F: ☒
- P / F: □
- Both: □
- A-NC Dev. Only: □

All changes are effective the next Fall semester unless noted ______

Check all that have changed:

- New Course: ☒
- Deleted Course: □
- Course Title: □
- Number: □
- Hours: □
- Credits: □
- Tally: □
- Description: □
- Prereq: □
- MTC Goal: □
- Outcomes: □
CURRICULUM COMMITTEE ACTION:

Academic Council Chair
Primary CIP Code: 0412

Date Approved