

CE 270: ADVANCED SOIL MECHANICS AND FOUNDATION ENGINEERING I

In Workflow

1. CE Committee Chair (fogarty@csus.edu)
2. CE Chair (khan@csus.edu)
3. ECS College Committee Chair (mohammed.eltayeb@csus.edu)
4. ECS Dean (arad@csus.edu)
5. Academic Services (torsetj@csus.edu; cnewsome@skymail.csus.edu)
6. Senate Curriculum Subcommittee Chair (curriculum@csus.edu)
7. Dean of Undergraduate (james.german@csus.edu; celena.showers@csus.edu)
8. Dean of Graduate (cnewsome@skymail.csus.edu)
9. Catalog Editor (torsetj@csus.edu)
10. Registrar's Office (w lindsey@csus.edu)
11. PeopleSoft (PeopleSoft@csus.edu)

Approval Path

1. Tue, 14 Sep 2021 18:32:22 GMT
Julie Fogarty (fogarty): Approved for CE Committee Chair
2. Fri, 17 Sep 2021 22:41:17 GMT
Ghazan Khan (khan): Approved for CE Chair
3. Fri, 24 Sep 2021 19:33:07 GMT
Mohammed Eltayeb (mohammed.eltayeb): Approved for ECS College Committee Chair
4. Tue, 28 Sep 2021 05:38:26 GMT
Behnam Arad (arad): Approved for ECS Dean

Date Submitted: Mon, 13 Sep 2021 21:55:44 GMT

Viewing: CE 270 : Advanced Soil Mechanics and Foundation Engineering I

Formerly known as: CE 280A

Last edit: Fri, 24 Sep 2021 19:32:31 GMT

Changes proposed by: Julie Fogarty (218645519)

Contact(s):

Name (First Last)	Email	Phone 999-999-9999
Cyrus Aryani	aryani@csus.edu	916-278-6096

Catalog Title:

Advanced Soil Mechanics and Foundation Engineering I

Class Schedule Title:

Adv Soil Mech+Foundtn I

Academic Group: (College)

ECS - Engineering & Computer Science

Academic Organization: (Department)

Civil Engineering

Will this course be offered through the College of Continuing Education (CCE)?

No

Catalog Year Effective:

Fall 2022 (2022/2023 Catalog)

Subject Area: (prefix)

CE - Civil Engineering

Catalog Number: (course number)

270

Course ID: (For administrative use only.)

107771

Units:

3

Is the primary purpose of this change to update the term typically offered or the enforcement of requisites at registration?

No

In what term(s) will this course typically be offered?

Fall term only - even years

Does this course require a room for its final exam?

Yes, final exam requires a room

Does this course replace an existing experimental course?

No

This course complies with the credit hour policy:

Yes

Justification for course proposal:

Graduate CE courses are being renumbered to clarify course topic areas to help students plan their path to graduation and be consistent with the undergraduate CE course numbers. Prerequisites numbers (not courses) are being changed to reflect course number changes that occurred in the undergraduate program in 2019-2020.

Course Description: (Not to exceed 80 words and language should conform to catalog copy.)

Advanced analyses in soil mechanics and their practical applications in foundation engineering; compressibility of soils, settlement analysis, and tolerable settlement; lateral earth pressures and design of earth retaining structures; bearing capacity of shallow foundations; in-situ soil testing for foundation design; design of deep foundations, including driven piles, drilled shaft foundations, and laterally loaded piles.

Are one or more field trips required with this course?

No

Fee Course?

No

Is this course designated as Service Learning?

No

Does this course require safety training?

No

Does this course require personal protective equipment (PPE)?

No

Does this course have prerequisites?

Yes

Prerequisite:

CE 170 and CE 170L or equivalent.

Prerequisites Enforced at Registration?

Yes

Does this course have corequisites?

No

Graded:

Letter

Approval required for enrollment?

No Approval Required

Course Component(s) and Classification(s):

Seminar

Seminar Classification

CS#05 - Seminar (K-factor=1 WTU per unit)

Seminar Units

3

Is this a paired course?

No

Is this course crosslisted?

No

Can this course be repeated for credit?

No

Can the course be taken for credit more than once during the same term?

No

Description of the Expected Learning Outcomes: Describe outcomes using the following format: "Students will be able to: 1), 2), etc."

- 1) Analyze compressibility of soils based on primary consolidation, elastic compression, and secondary compression.
- 2) Calculate magnitude and rate of settlement.
- 3) Evaluate foundation alternatives to control settlement within the tolerable values and the project requirements.
- 4) Analyze lateral earth pressures and design conventional retaining walls.
- 5) Evaluate soil engineering properties using in-situ test methods including Standard Penetration Test, Cone Penetration Test, Vane Shear Test, Dilatometer Test, and Plate Load Test.
- 6) Design shallow foundations by evaluating soil bearing capacity
- 7) Design deep foundations including driven piles and drilled shaft foundations.

Assessment Strategies: A description of the assessment strategies (e.g., portfolios, examinations, performances, pre-and post-tests, conferences with students, student papers) which will be used by the instructor to determine the extent to which students have achieved the learning outcomes noted above.

Homework (ELOs 1-7)

Exams (ELOs 1-7)

Is this course required in a degree program (major, minor, graduate degree, certificate?)

No

Does the proposed change or addition cause a significant increase in the use of College or University resources (lab room, computer)?

No

Will there be any departments affected by this proposed course?

Yes

Indicate which department(s) will be affected by the proposed course:

Department(s)
Civil Engineering

I/we as the author(s) of this course proposal agree to provide a new or updated accessibility checklist to the Dean's office prior to the semester when this course is taught utilizing the changes proposed here.

I/we agree

University Learning Goals**Graduate (Masters) Learning Goals:**

Critical thinking/analysis
 Communication
 Information literacy

Disciplinary knowledge
Professionalism

Is this course required as part of a teaching credential program, a single subject, or multiple subject waiver program (e.g., Liberal Studies, Biology) or other school personnel preparation program (e.g., School of Nursing)?

No

Is this a Graduate Writing Intensive (GWI) course?

No

Please attach any additional files not requested above:

CE270 SyllabusV2.pdf

Key: 590