CE 150T: ENVIRONMENTAL ENGINEERING

In Workflow

1. CE Committee Chair (fogarty@csus.edu)
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Approval Path

1. 2026-09-28T23:16:43Z
   Julie Fogarty (fogarty): Approved for CE Committee Chair
2. 2026-09-29T20:37:06Z
   Saad Merayyan (merayyan): Approved for CE Chair
3. 2026-10-16T16:55:06Z
   Tongren Zhu (tongren.zhu): Approved for ECS College Committee Chair
4. 2026-10-16T17:00:00Z
   Behnam Arad (arad): Approved for ECS Dean

New Course Proposal

Date Submitted: 2026-09-28T22:46:18Z

Viewing: CE 150T : Environmental Engineering

Last edit: 2026-10-16T15:56:03Z

Changes proposed by: Julie Fogarty (218645519)

Contact(s):

Name (First Last)	Email	Phone 999-999-9999
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Catalog Title:
Environmental Engineering

Class Schedule Title:
Environmental Engineering

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 2027 (2027/2028 Catalog)

Subject Area: (prefix)
CE - Civil Engineering

Catalog Number: (course number)
150T

Course ID: (For administrative use only.)
TBD

Units:
3

Is the ONLY purpose of this change to update the term typically offered or the enforcement of existing requisites at registration?
No

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

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:
The proposed change will combine CE 150 Principles of Environmental Engineering (2 units) and CE 151 Environmental Engineering Practice (2 units) courses into one 3-unit CE 150T Environmental Engineering course. This change will make CE 150T consistent in units with other area core courses. Combining these two courses into one course also helps streamline students' pathway towards elective courses in environmental engineering. The unit change will not affect the overall degree requirements, as shown in the program change form.

The combination of content is feasible by shifting some of the sustainability content to other courses (CE 1, 1L, CE 100) and moving CHEM 1E (prerequisite) to be closer to CE 150 on the flowchart so less substantial chemistry review must take place before students are applying the content in an environmental engineering context.

Course Description: (Not to exceed 90 words and language should conform to catalog copy.)
Application of physical, chemical, biological, and mass-balance principles to environmental systems and treatment processes. Topics include equilibrium chemistry, reaction kinetics, reactor analysis, surface water quality and regulations, drinking water treatment, wastewater treatment, air quality, and public health.

Are one or more field trips required with this course?
No

Fee Course?
No

Is this course designated as Service Learning?
No

Is this course designated as Curricular Community Engaged 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:
CHEM 1E or CHEM 1A, CE 1, CE 10, ENGR 115, CE 150L. CE 10 may be taken concurrently. CE 150L may be taken concurrently. Not currently enrolled in CE 150T.

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):
Discussion

Discussion Classification
CS#04 - Lecture /Recitation (K-factor=1 WTU per unit)
Discussion 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 and Assessment Strategies:

List the Expected Learning Outcomes and their accompanying Assessment Strategies (e.g., portfolios, examinations, performances, pre-and post-tests, conferences with students, student papers). Click the plus sign to add a new row.

	Expected Learning Outcome	Assessment Strategies
1	Characterize environmental water quality conditions using physical, chemical, and biological parameters, including solids, dissolved oxygen, biochemical oxygen demand, pH, alkalinity, and contaminant concentration.	Homework assignments, quizzes, exams
2	Apply aqueous equilibrium principles, including gas–liquid equilibrium, acid–base reactions, carbonate chemistry, adsorption, and mineral solubility, to solve environmental engineering problems.	Homework assignments, quizzes, exams
3	Formulate and solve mass balance models for conservative and reactive constituents in natural and engineered environmental systems using reaction kinetics concepts.	Homework assignments, quizzes, exams
4	Analyze mass transfer and separation processes used in environmental engineering, including gas transfer, coagulation and flocculation, sedimentation, filtration, and adsorption.	Homework assignments, quizzes, exams
5	Perform preliminary analysis and design calculations for selected drinking water and wastewater treatment processes.	Homework assignments, quizzes, exams
6	Evaluate surface water quality and explain the effects of wastewater and other pollutant discharges on receiving waters.	Homework assignments, quizzes, exams
7	Explain the public health and regulatory basis for managing drinking water, wastewater, and air pollution within civil engineering practices.	Homework assignments, quizzes, exams

Attach a list of the required/recommended course readings and activities:
CE 150T_Syllabus.pdf

For whom is this course being developed?
Majors in the Dept

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

Yes

Has a corresponding Program Change been submitted to Workflow?

Yes

Identify the program(s) in which this course is required:

Programs:
BS in Civil Engineering

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?

No

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

Undergraduate Learning Goals:

Competence in the disciplines
Knowledge of human cultures and the physical and natural world
Intellectual and practical skills
Integrative learning

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 General Education (GE) or Graduation Requirement (GR) course or is it being considered for GE/GR?

Is this a General Education (GE) course or is it being considered for GE?

No

Key: 15613