

# CE 150: PRINCIPLES OF ENVIRONMENTAL ENGINEERING

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## In Workflow

1. CE Committee Chair (fogarty@csus.edu)
2. CE Chair (fellb@csus.edu)
3. ECS College Committee Chair (troy.topping@csus.edu)
4. ECS Dean (kevan@csus.edu)
5. Academic Services (torsetj@csus.edu;%20212408496@csus.edu;%20cnewsome@skymail.csus.edu)
6. Senate Curriculum Subcommittee Chair (curriculum@csus.edu)
7. Dean of Undergraduate (james.german@csus.edu;%20celena.showers@csus.edu)
8. Dean of Graduate (cnewsome@skymail.csus.edu)
9. Catalog Editor (212408496@csus.edu;%20torsetj@csus.edu;%20cnewsome@skymail.csus.edu)
10. Registrar's Office (wwd22@csus.edu;%20wlindsey@csus.edu;%20sac19595@csus.edu;%20danielle.ambrose@csus.edu;%20h.skocilich@csus.edu;%20205109584@csus.edu)
11. PeopleSoft (PeopleSoft@csus.edu)

## Approval Path

1. Sat, 12 Oct 2019 03:22:01 GMT  
Julie Fogarty (fogarty): Approved for CE Committee Chair
2. Mon, 14 Oct 2019 18:00:31 GMT  
Benjamin Fell (fellb): Approved for CE Chair
3. Fri, 25 Oct 2019 16:31:44 GMT  
Troy Topping (troy.topping): Approved for ECS College Committee Chair
4. Fri, 25 Oct 2019 16:53:31 GMT  
Kevan Shafizadeh (kevan): Approved for ECS Dean

## History

1. Feb 12, 2019 by Amir Motlagh (motlagh)

## New Course Proposal

Date Submitted: Sat, 12 Oct 2019 03:14:16 GMT

## Viewing: CE 150 : Principles of Environmental Engineering

### Formerly known as: CE 170A

Last approved: Tue, 12 Feb 2019 15:00:40 GMT

Last edit: Sat, 12 Oct 2019 03:14:15 GMT

Changes proposed by: Julie Fogarty (218645519)

### Contact(s):

Name (First Last)	Email	Phone 999-999-9999
Amir Motlagh	motlagh@csus.edu	916-278-2937

### Catalog Title:

Principles of Environmental Engineering

### Class Schedule Title:

Principles of Envir Engr

### 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 2020 (2020/2021 Catalog)

**Subject Area: (prefix)**

CE - Civil Engineering

**Catalog Number: (course number)**

150

**Course ID: (For administrative use only.)**

202987

**Units:**

2

Changes to a course's units impact any related programs. As a result, a corresponding change must also be submitted for those programs

**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:**

There is a high DFW rate for many of the combined CE lecture/lab courses. This leads to delayed graduation since repeating students need to be accommodated and those seeking to take the course for the first time are prevented from enrolling in the limited laboratory seats.

Separating the civil engineering lab and lecture experiences will:

- 1) open up the limited lab seats available for students first attempting the course;
- 2) enable students who have failed the combined lab/lecture courses to better spend their time on the lecture content when repeating the course if they have already successfully completed the lab activities

Undergraduate CE courses are being renumbered to clarify course pre- and co-requisites and topic areas to help students plan their path to graduation. Prerequisites numbers (not courses) are being changed to reflect course number changes.

The current offering of the 3-unit CE 170A will be separated into a 2-unit lecture only session (CE 150) and a 1-unit laboratory only session (CE 150L). The new offerings will be co-requisites meaning students must take CE 150 and CE 150L together unless a student has already successfully completed one course in the co-requisite pair.

Through curriculum paper forms in 2016, each CE course had the "Not currently enrolled in CE XXX" as a prerequisite approved, so that students could not register for a "CE" prefix course if they were currently enrolled in it. This was to prevent students who thought they were failing from giving up or taking up a seat they didn't need if they passed the course. That prefix managed to make it into the online system for only one or two classes and is being put through curriculum workflow again.

Slight changes to the course description reflect a more realistic split of topics between current CE 170A and CE 170B (renumbered CE 150 and CE 150B) as this is the first semester the split version of the former CE 170 Environmental Engineering is being taught.

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

Introduction to principles of environmental quality management. Physical and chemical principles affecting environmental quality including equilibrium and kinetics. Water quality parameters, their importance, and natural processes that affect them. Application of thermodynamic principles to environmental systems.

**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:**

CHEM 1E or CHEM 1A, ENGR 115, CE 1, and CE 101. CE 101 may be taken concurrently. Not currently enrolled in CE 150.

**Prerequisites Enforced at Registration?**

Yes

**Does this course have corequisites?**

Yes

**Corequisite:**

CE150L

**Corequisites Enforced at Registration?**

Yes

**Graded:**

Letter

**Approval required for enrollment?**

No Approval Required

**Course Component(s) and Classification(s):**

Lecture

**Lecture Classification**

CS#02 - Lecture/Discussion (K-factor=1WTU per unit)

**Lecture Units**

2

**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."**

Students will be able to:

1. Explain equilibrium-based chemical principles related to environmental processes and apply them to solve problems
2. Identify major issues pertaining to water, ecosystem health, and human health
3. Use kinetics and mass balance techniques to model constituent concentrations in environmental systems such as rivers, lakes, or engineered reactors
4. Apply principles of energy conservation, energy loss and system efficiency to environmental systems
5. Describe goals, standards, and regulatory practices employed in environmental quality management

**Attach a list of the required/recommended course readings and activities:**

CE150 (F19).docx

**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.**

Assignments, quizzes, midterm exams, final exam (ELO 1-5).

**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  
Personal and social responsibility  
Intellectual and practical skills

**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

## **GE Course and GE Goal(s)**

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

No

Key: 13681