CE 130L: HYDRAULICS LABORATORY

In Workflow

1. CE Committee Chair (j.garcia@csus.edu)
2. CE Chair (khan@csus.edu)
3. ECS College Committee Chair (abadi@csus.edu)
4. ECS Dean (arad@csus.edu)
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9. Catalog Editor (catalog@csus.edu)
10. Registrar's Office (wlindsey@csus.edu)
11. PeopleSoft (PeopleSoft@csus.edu)

Approval Path

1. Sat, 17 Sep 2022 21:58:03 GMT
   Jose Garcia (j.garcia): Approved for CE Committee Chair
2. Sun, 18 Sep 2022 00:24:34 GMT
   Ghazan Khan (khan): Approved for CE Chair
3. Fri, 23 Sep 2022 17:37:30 GMT
   Masoud Ghodrat Abadi (abadi): Approved for ECS College Committee Chair
4. Mon, 26 Sep 2022 17:20:31 GMT
   Behnam Arad (arad): Approved for ECS Dean

History

1. Sep 20, 2019 by Julie Fogarty (fogarty)
2. Mar 13, 2020 by Julie Fogarty (fogarty)
3. Jun 8, 2022 by 302822325

Date Submitted: Fri, 16 Sep 2022 22:24:50 GMT

Viewing: CE 130L : Hydraulics Laboratory

Formerly known as: CE 135

Last approved: Wed, 08 Jun 2022 14:00:53 GMT

Last edit: Fri, 23 Sep 2022 17:37:20 GMT

Changes proposed by: Julie Fogarty (218645519)

Contact(s):

Name (First Last)	Email	Phone 999-999-9999
Ghazan Khan	khan@csus.edu	916-278-3886

Catalog Title:
Hydraulics Laboratory

Class Schedule Title:
Hydraulics Lab

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 2023 (2023/2024 Catalog)

Subject Area: (prefix)
CE - Civil Engineering

Catalog Number: (course number)
130L

Course ID: (For administrative use only.)
202957

Units:
1

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, Spring

Does this course require a room for its final exam?
Yes, final exam requires a room

This course complies with the credit hour policy:
Yes

Justification for course proposal:
Changed CE 101 to be a concurrent prerequisite to remove structural barrier to student success and align all upper-division CE core courses (CE 130/140/150/160/170 and labs) as CE 150/150L already has CE 101 as a concurrent prerequisite. While skills gained from CE 101 are relevant to upper-division CE students, the course content can be taken at the same time as their core courses.

Course Description: (Not to exceed 80 words and language should conform to catalog copy.)
Laboratory experiments relating the principles of fluid mechanics to real fluid flow. Laboratory three hours.

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:
CE 101 and CE 130. CE 130 may be taken concurrently. CE 101 may be taken concurrently. WPJ Score of 70+ or equivalent. Not currently enrolled in CE 130L.

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):
Laboratory

Laboratory Classification
CS#16 - Science Laboratory (K-factor=2 WTU per unit)
Laboratory Units
1

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	Apply concepts from hydraulics to civil engineering problems.	Pre-lab exercises Lab reports Exam
2	Write organized lab reports that provide adequate evidence for claims and effectively integrate figures and tables.	Lab reports
3	Operate three different devices for flow measurement in pipes and evaluate the advantages and disadvantages of each.	Lab reports Exam
4	Measure energy losses in pipes and fittings and contrast energy losses in rough and smooth pipes and different types of fittings.	Lab reports Exam
5	Measure pump performance and identify the best operating point for a particular pump and system.	Lab reports Exam
6	Operate weirs to measure open channel flow and evaluate the accuracy of these flow measurement devices.	Lab reports Exam
7	Operate an acoustic flow measurement device and identify how velocity varies across a channel	Lab reports Exam
8	Measure the characteristics of a hydraulic jump including head loss and compare them to theoretically obtained values.	Lab reports Exam

Attach a list of the required/recommended course readings and activities:
CE130L (F19)-v2.docx

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
Integrative learning
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: 534