UNDERGRADUATE CURRICULUM CHANGE MEMO

DATE: January 3, 2022

FROM: Austin Marshall, Civil Engineering Department

THROUGH: Dr. Carlos Ferregut, Chair

THROUGH: Dr. Dean Nava, Dean, COE

TO: Chair, Undergraduate Curriculum Committee

PROPOSAL TITLE: Modification to B.S. Construction Engineering and Management Degree Plan to Delete CE4188/4288, Senior Design 1 and 2, and add CE4381 Senior Construction Project

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CE4381 Senior Construction Project is being added to replace Senior Design 1 and 2 in the B.S. Construction Engineering and Management degree plan to provide a culminating construction engineering experience to meet ABET accreditation requirements.

Attachments included:

Curriculum Change Proposal Approval Page
Course add form
CE4381 Catalog Description
Catalog Changes
Changes to CEM degree flowchart

CURRICULUM CHANGE PROPOSAL

APPROVAL PAGE

Proposal Title: Modification to B.S. CEM degree plan to Delete CE4188/4288, Senior Design and add CE4381

College: Engineering **Department: Civil**

DEPARTMENT CHAIR- Dr. Carlos Ferregut

I have read the enclosed proposal and approve this proposal on behalf of the department.

Carlos Ferregut

Digitally signed by Carlos Ferregut
DN: cn=Carlos Ferregut, o=The University of Texas at El Paso, ou=Department of Civil Engineering, email=ferregut@utep.edu, c=US
Date: 2022.01.04 18:59:42 -07'00'

1/4/2022

Signature **Date**

COLLEGE CURRICULUM COMMITTEE CHAIR -

I have read the enclosed documents and approve the proposal on behalf of the college curriculum committee.

Signature **Date**

COLLEGE DEAN – Dr. Pat Nava

I have read the enclosed documents and approve the proposal on behalf of the college. I certify that the necessary funds will be allocated by the college in support of this proposal.

Signature **Date**

From: Granda, Virginia D
To: Rivera, Julie A
Subject: FW: UG Proposals Approved by our COECC
Date: Tuesday, January 25, 2022 10:40:35 AM
Attachments: image001.png
AEME--Changes to BSME and BS-AEAE Proposal.pdf
BSCEM Undergraduate Curriculum Change (revised).pdf
EEL--Changes to the BS-EIL-Course-Prerequisites-and-Catalog.pdf
MMBME Course Changes.pdf
ECE RA Minor Proposal - Revised.pdf
image004.png

Good morning Julie,

Attached are the approved UG proposals from our college.

Have a great week,

Virginia

Virginia Granda-Becker
Coordinator for Undergraduate Studies
and Academic Affairs

Enineering Edge Center
ENGR E-201B
The University of Texas at El Paso
500 WW. University Ave.
El Paso, TX 79968
Office: 915-747-8011
www.utep.edu/engineering/eec

From: Nava, Patricia A.
Sent: Tuesday, January 25, 2022 10:29 AM
To: Granda, Virginia D <granda@utep.edu>
Subject: RE: Updated Memo

All of the actions are approved.

From: Granda, Virginia D
Sent: Tuesday, January 25, 2022 8:52 AM
To: Nava, Patricia A. <pnava@utep.edu>
Subject: Updated Memo

Dr. Nava,

Per your request, attached is the modified memo from AEME.

Best Regards,

Virginia

Virginia Granda-Becker
Coordinator for Undergraduate Studies
and Academic Affairs

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El Paso, TX 79968
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Good afternoon Dr. Nava,

Attached are the UG Proposals that have been approved.

Please reply letting me know if you approve them.

Best Regards,

Virginia

Virginia Granda-Becker
Coordinator for Undergraduate Studies and Academic Affairs

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The University of Texas at El Paso
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El Paso, TX 79968
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www.utep.edu/engineering/eec

From: Everett, Louis
Sent: Monday, January 10, 2022 9:35 AM
To: Granda, Virginia D <granda@utep.edu>
Subject: Re: UG Proposals Approved by our COECC

I approve

Get Outlook for iOS

From: Granda, Virginia D <granda@utep.edu>
Sent: Monday, January 10, 2022 9:00:58 AM
To: Everett, Louis <leverett@utep.edu>

Subject: FW: UG Proposals Approved by our COECC

Good morning Dr. Everett,

Attached are the UG proposals that have been approved by the COECC and its chair.

Please reply letting me know if you approve them.

Best Regards,

Virginia

Virginia Granda-Becker
Coordinator for Undergraduate Studies and Academic Affairs

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The University of Texas at El Paso
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El Paso, TX 79968
Office: (915) 747-8011
www.utep.edu/engineering/eec

From: Gonzalez, Virgilio
Sent: Friday, January 7, 2022 5:04 PM
To: Granda, Virginia D <granda@utep.edu>
Subject: RE: UG Proposals Approved by our COECC

Virginia,
I approve the proposals reviewed in today's CoECC meeting.

Thank you

Virgilio Gonzalez
vgonzalez3@utep.edu

From: Granda, Virginia D <granda@utep.edu>
Sent: Friday, January 7, 2022 16:28
To: Gonzalez, Virgilio <vgonzalez3@utep.edu>
Subject: UG Proposals Approved by our COECC

Good afternoon Dr. Gonzalez,

Attached are the undergraduate proposals that were approved by our COECC today.

Can you please reply to this email if you approve the proposals?

Best Regards,

Virginia

Virginia Granda-Becker
Coordinator for Undergraduate Studies and Academic Affairs

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The University of Texas at El Paso
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El Paso, TX 79968
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COURSE ADD

All fields below are required

College : College of Engineering **Department :** Civil Engineering

Rationale for adding the course:
To replace CE4188 and CE4288 with a culminating experience specific to construction engineering and management to meet ABET requirements.

All fields below are required

Subject Prefix and # CE4381

Title (29 characters or fewer): Senior Construction Project

Dept. Administrative Code : 630

CIP Code 52.2001.00

Departmental Approval Required ☒Yes ☐No

Course Level ☒UG ☐GR ☐DR ☐SP

Course will be taught: ☒ Face-to-Face ☐ Online ☒ Hybrid

How many times may the course be taken for credit? (Please indicate 1-9 times): 3

Should the course be exempt from the "Three Repeat Rule?" ☐Yes ☒No

Grading Mode: ☒Standard ☐Pass/Fail ☐Audit

Description (600 characters maximum):
Final construction engineering and management construction project involving predesign , cost estimating, material selection and procurement, equipment selection and methods, onsite material staging and delivery, sequencing, scheduling, safety, close out procedures through commissioning. Students will analyze an actual project and prepare a summary report detailing all aspects of their analysis. Students will present the results of their project at the conclusion of the effort.

Contact Hours (per week): 1 Lecture Hours 3 Lab Hours Other

Types of Instruction (Schedule Type): Select all that apply

☒ A	Lecture	☐ H	Thesis
☒ B	Laboratory	☐ I	Dissertation
☐ C	Practicum	☐ K	Lecture/Lab Combined
☐ D	Seminar	☐ O	Discussion or Review (Study Skills)
☒ E	Independent Study	☐ P	Specialized Instruction
☐ F	Private Lesson	☐ Q	Student Teaching

Fields below if applicable

If course is taught during a part of term in addition to a full 16-week term please indicate the length of the course (ex., 8 weeks):

TCCN (Use for lower division courses) :

Prerequisite(s):		
Course Number/ Placement Test	**Minimum Grade Required/ Test Scores**	**Concurrent Enrollment Permitted? (Y/N)**
CE3336	**D**	**N**
CE3334	**D**	**N**
CE3348	**D**	**N**
CE4382	**D**	**N**
CE4358	**D**	**Y**
CE4158	**D**	**N**
CE4389	**D**	**Y**
CE4387	**D**	**Y**

Corequisite Course(s):

Equivalent Course(s):

Restrictions:	
Classification	**Senior**
Major	**Construction Engineering and Management**

CE4381 Senior Construction Project

Final construction engineering and management construction project involving predesign , cost estimating, material selection and procurement, equipment selection and methods, onsite material staging and delivery, sequencing, scheduling, safety, close out procedures through commissioning. Students will analyze an actual project and prepare a summary report detailing all aspects of their analysis. Students will present the results of their project at the conclusion of the effort.

Department: Civil Engineering

3 credit hours

3 Lab Hours

1 Lecture Hour 0 Other hours

CATALOG CHANGES

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- College of Engineering >
- Civil Engineering >
- BS in Construction Engineering & Management

BS in Construction Engineering & Management

- **Overview**
- **4-Year Sample Degree Plan**

The B.S. in Construction Engineering and Management (BSCEM) provides students with the knowledge and skills to become both construction engineers as well as construction managers.

Program Educational Objectives

A critical goal of the CEM faculty is to provide undergraduate students of varying backgrounds and abilities every opportunity for achieving success in the Construction profession. To address this goal, the Program Educational Objectives for the Bachelor of Science program have been established with input from alumni, students, and industry representatives. The mission of the BSCEM program is to produce students capable of functioning an entry level in construction management. The Construction Engineering and Management program accomplishes its mission by defining the following educational objectives for students who:

a. Will lead, represent, advance, and contribute to public safety and the profession in their communities and globally.
b. Will be well-rounded and ethical professionals displaying strong technical, managerial, and interpersonal skills.
c. Will be effective at communicating with diverse multi-disciplinary populations.

d. Will effectively reinforce their knowledge with real world experiences and apply their education to be lifelong learners and contribute to innovation in construction.
e. Will enrich the quality of life and sustainability of communities by providing ethical solutions to complex construction problems considering dynamic social, political, technological, and economic realities.
f. Will contribute to problem-solving, quality management and improvement of personal and organizational skills.

Program Student Outcomes

The program student's outcomes are in line with the learning outcomes described by the Accreditation Board for Engineering and Technology (ABET).

The graduates will have:

1. an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
2. an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
3. an ability to communicate effectively with a range of audiences
4. an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts
5. an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
6. an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions
7. an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Marketable Skills

1. Communication: Reach mutual understanding through the effective exchange of information, ideas, and feelings
2. Critical thinking: Analyze and evaluate issues in order to solve problems and develop informed opinions

3. Listening: Be able to accurately receive and interpret messages during a conversation
4. Organization: Use resources effectively and efficiently in order to stay focused on different tasks
5. Problem-solving: Find solutions to difficult or complex issues
6. Teamwork: Participate as an effective, efficient member of a group in order to meet a common goal
7. Writing: Be able to write in a clear and comprehensible manner to the reader

Additionally, students will learn Claims Avoidance and Schedule Management.

Fast Track

The Fast-Track Program enables outstanding undergraduate UTEP students to receive both undergraduate and graduate credit for up to 15 hours of UTEP course work as determined by participating Master's and Doctoral programs. Not all undergraduate programs have elected to participate in the Fast Track option, so students should see their departmental graduate advisor for information about requirements and guidelines. A list of courses that have been approved for possible use at the graduate level is found here.

Degree Plan

Required Credits: 120

Code	Title	Hours
University Core Curriculum (All courses require a grade of C or better.)		
Complete the University Core Curriculum requirements.		42
Designated Core (All courses require a grade of C or better.)		
Required Courses:		
CE 2326	Econ for Engrs & Scientists	3
CHEM 1105	Laboratory for CHEM 1305	1
CHEM 1305	General Chemistry	3
COMM 1302	Business/Profession Comm	3
GEOL 1111	Principles of Earth Sci - Lab	1

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Code	Title	Hours
GEOL 1211	Principles of Earth Sciences	2
MATH 1508	Precalculus ((Listed if completed, but not required))	3-5
or MATH 1310	Trigonometry and Conics	
or MATH 1411	Calculus I	
UNIV 1301	Seminar/Critical Inquiry	3
Foundational Math & Science		
Required Courses:		
MATH 1312	Calculus II	3
MATH 1411	Calculus I	4
MATH 2313	Calculus III	3
Construction Engineering & Management (Lower) (All courses require a grade of C or better.)		
Required Courses:		
ACCT 2301	Principles of Accounting I	3
CE 1301	Civil Engineering Fundamentals	3
CE 1313	Engineering Measurements	3
CE 2315	Statics	3
CE 2334	Mechanics of Materials	3
CE 2335	Geological Engineering	3
CE 2343	Structural Analysis	3
CE 2373	Engr Probability & Statistics	3
CE 2375	Intro to Fluid Mechanics	3
Construction Engineering & Management (Upper)		

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Code	Title	Hours
Required Courses:		
BLAW 3301	Legal Environment of Business	3
CE 3334	Construction Management	3
CE 3336	Civil Engineering Materials	3
CE 3348	Geotechnical Engineering	3
CE 4158	Constr Methods & Matrls Lab	1
~~CE 4188~~	~~Senior Design I~~	~~1~~
~~CE 4288~~	~~Senior Design II~~	~~2~~
CE 4339	Geostructural Design	3
CE 4354	Electrical & Mech Construction	3
CE 4358	Construction Methods & Materls	3
CE 4382	Constr. Cost Analys. & Bidding	3
CE 4385	Construction Internship	3
CE43~~XX~~81	Senior Construction Project	3
CE 4386	Construction Law & Ethics	3
CE 4387	Construction Scheduling	3
CE 4389	Construction Safety	3
FIN 3310	Business Finance	3
Total Hours		**120**

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Course List

C Courses require a grade of C or better.

Changes to the Bachelor of Science in Construction Engineering Degree Flowchart