Date Submitted: 04/23/20 3:05 pm

Viewing: CVEGBS : Civil Engineering, Bachelor of Science in Civil Engineering

Last approved: 05/21/19 10:56 am

Last edit: 08/25/20 9:53 am

Changes proposed by: kdhall

Catalog Pages Using this Program

- Civil Engineering B.S.C.E.
- Civil Engineering (CVEG)

Submitter:	User ID:	Phone:
479-640-2525	kdhall ~~crsleaf1~~	
~~575-6731~~		

Program Status	Active
Academic Level	Undergraduate
Type of proposal	Major/Field of Study

Select a reason for this modification

Making Minor Changes to an Existing Degree (e.g. changing 15 or fewer hours, changing admission/graduation requirements, adding/changing Focused Study or Track)

Are you adding a concentration?

No

Are you adding or modifying a track?

No

Are you adding or modifying a focused study?

No

Effective Catalog Year Fall 2021

College/School Code

College of Engineering (ENGR)

In Workflow

1. ENGR Dean Initial
2. Director of Program Assessment and Review
3. Registrar Initial
4. Institutional Research
5. CVEG Chair
6. ENGR Curriculum Committee
7. ENGR Faculty
8. ARSC Dean
9. ENGR Dean
10. Global Campus
11. Provost Review
12. University Course and Program Committee
13. Faculty Senate
14. Provost Final
15. Provost's Office--Notification of Approval
16. Registrar Final
17. Catalog Editor Final

Approval Path

1. 04/23/20 12:47 pm Norman Dennis (ndennis): Rollback to Initiator
2. 04/24/20 10:02 am Norman Dennis (ndennis): Approved for ENGR Dean Initial

Department Code

Department of Civil Engineering (CVEG)

Program Code CVEGBS

Degree Bachelor of Science in Civil Engineering

CIP Code

3. 05/08/20 1:51 pm Alice Griffin (agriffin): Approved for Director of Program Assessment and Review
4. 07/22/20 12:34 pm Lisa Kulczak (lkulcza): Approved for Registrar Initial
5. 07/22/20 1:04 pm Gary Gunderman (ggunderm): Approved for Institutional Research
6. 07/22/20 1:13 pm Micah Hale (micah): Approved for CVEG Chair
7. 08/24/20 3:08 pm Manuel Rossetti (rossetti): Rollback to Director of Program Assessment and Review for ENGR Curriculum Committee
8. 08/25/20 10:04 am Alice Griffin (agriffin): Approved for Director of Program Assessment and Review
9. 09/02/20 9:51 am Lisa Kulczak (lkulcza): Approved for Registrar Initial

10. 09/02/20 10:04 am Gary Gunderman (ggunderm): Approved for Institutional Research
11. 09/02/20 10:21 am Micah Hale (micah): Approved for CVEG Chair
12. 09/11/20 1:04 pm Manuel Rossetti (rossetti): Approved for ENGR Curriculum Committee
13. 09/11/20 1:20 pm Norman Dennis (ndennis): Approved for ENGR Faculty
14. 09/11/20 5:04 pm Jeannie Hulen (jhulen): Approved for ARSC Dean
15. 09/11/20 7:11 pm Norman Dennis (ndennis): Approved for ENGR Dean
16. 09/14/20 10:40 am Suzanne Kenner (skenner): Approved for Global Campus
17. 09/17/20 12:59 pm Terry Martin (tmartin): Approved for Provost Review

History

1. Aug 15, 2014 by Leepfrog

Administrator (clhelp)
2. Mar 23, 2015 by Charlie Alison (calison)
3. Aug 18, 2015 by Lisa Kulczak (lkulcza)
4. May 9, 2016 by Kevin Hall (kdhall)
5. Jul 27, 2016 by Charlie Alison (calison)
6. Apr 24, 2017 by Kevin Hall (kdhall)
7. Jun 12, 2017 by Charlie Alison (calison)
8. May 21, 2019 by Rodney Williams (rdw)

14.0801 - Civil Engineering, General.

Program Title

Civil Engineering, Bachelor of Science in Civil Engineering

Program Delivery Method

On Campus

Is this program interdisciplinary?

No

Does this proposal impact any courses from another College/School?

Yes

College(s)/School(s)

College/School Name
Fulbright College of Arts and Sciences (ARSC)

What are the total hours needed to complete the program?

128

Program Requirements and Description

Requirements

Elective Courses

Students must select three 3-hour civil engineering elective courses in conference with their adviser. Normally, the civil engineering courses are selected from among the 4000-level elective CVEG courses. Exceptional students may be allowed to choose from the 5000 (graduate-level) course **series.**
~~series.~~
Students must also choose one elective course in science, engineering, technology, or math (STEM) field. Humanities and social science electives are selected from courses approved by the university which satisfy the University **General Education Curriculum and the Arkansas State Minimum** Core **requirements.**
~~general education requirement.~~
Students are required to complete 40 hours of upper division courses (3000-4000 level). It is recommended that students consult with their adviser when making course selections.
~~**Lists of approved electives are on file in the departmentoffice.**~~**Civil Engineering Design Electives**
Students must complete two of the following four CVEG design project electives: CVEG 4812 Environmental Design Project, CVEG 4822 Geotechnical Design Project, CVEG 4832 Structural Design Project, and CVEG 4842 Transportation Design Project. Each design project elective is associated with a specific design-oriented course. The associated course must be taken at the same time as the design project elective. The associated courses may be taken alone but the design electives cannot.

8-Semester Plan

Civil Engineering B.S.C.E.

Eight-Semester Degree Program

The Civil Engineering B.S.C.E. program is eligible for freshman students who want to participate in an Eight-Semester Degree Program. See the Eight-Semester Degree Policy for details of the program.

The following section contains the list of courses required for the Bachelor of Science in Civil Engineering degree and a suggested sequence. Not all courses are offered every semester, so students who deviate from the suggested sequence must pay careful attention to course scheduling and course prerequisites.

See the list of **state minimum** ~~university~~ core courses available for engineering students.

First Year	Units Fall	Spring
MATH 2554 Calculus I (ACTS Equivalency = MATH 2405) (Satisfies General Education Outcome 2.1)1	4	
PHYS 2054 University Physics I (ACTS Equivalency = PHYS 2034) (Satisfies General Education Outcome 3.4)	4	
GNEG 1111 Introduction to Engineering I	1	
CHEM 1103 University Chemistry I (ACTS Equivalency = CHEM 1414 Lecture)	3	
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013) (Satisfies General Education Outcome 1.1)	3	
MATH 2564 Calculus II (ACTS Equivalency = MATH 2505)		4
GNEG 1121 Introduction to Engineering II		1
Freshman Science Elective		4
Freshman Science Elective Lab		0
~~ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023)~~	-	~~3~~
ENGL 1033 Technical Composition II (ACTS Equivalency = ENGL 1023) (Satisfies General Education Outcome 1.2)		**3**
Select one of the following to satisfy General Education Outcome 4.2: PLSC 2003 American National Government (ACTS Equivalency = PLSC 2003) HIST 2003 History of the American People to 1877 (ACTS Equivalency = HIST 2113) HIST 2013 History of the American People, 1877 to Present (ACTS Equivalency = HIST 2123)		3
Year Total:	15	15

Second Year	Units Fall	Spring
MATH 2574 Calculus III (ACTS Equivalency = MATH 2603)	4	
CVEG 2013 Civil Engineering Mechanics I	3	
CVEG 2002 Introduction to Civil Engineering Plans and CADD	2	
CVEG 2053 Surveying Systems	4	

Are Similar Programs available in the area?

No

Estimated Student Demand for Program	**300** ~~260~~
Scheduled Program Review Date	2021

Program Goals and Objectives

Program Goals and Objectives
The objective of the civil engineering program is to produce graduates who are prepared to pursue: (a) careers in the broad field of civil engineering; (b) licensure as a Professional Engineer; (c) advanced education.

Learning Outcomes

Learning Outcomes
1. Identify, formulate, ~~a) Apply knowledge of mathematics~~ and ~~science to~~ solve **complex** engineering **problems by applying principles of engineering, science, and mathematics** ~~problems.~~
2. apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, societal, environmental, and economic factors ~~b) Design and conduct experiments, and analyze and evaluate the resulting data.~~
3. communicate effectively with a range of audiences ~~c) Design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and constructability.~~
4. 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 ~~d) Function effectively as a member of a multidisciplinary team.~~
5. function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives ~~e) Identify, formulate, and solve engineering problems.~~
6. develop and conduct appropriate experiments, analyze and interpret data, and use engineering judgment to draw conclusions ~~f) Identify key elements of professional ethics; discuss the importance of professional licensure.~~
7. acquire and apply new knowledge as needed, using appropriate learning strategies ~~g) Organize and deliver effective communications.~~

Learning Outcomes
~~h) Explain possible impacts of engineering solutions on the economy, environment, political landscape, and society.~~
~~i) Discuss the need for life-long learning, and demonstrate the ability to learn through independent study.~~
~~j) Explain the impact of contemporary issues on the identification, formulation, and solution of engineering problems.~~
~~k) Apply relevant knowledge, techniques, skills, and modern engineering tools to address engineering problems.~~

Description and justification of the request

Description of specific change	Justification for this change
1. Specify allowable elective courses in the arts, humanities, and social sciences so that all requirements related to both the UA General Education Curriculum and the Arkansas State Minimum Core are met. 2. Revise program learning outcomes to reflect those adopted by the program faculty, to comply with external (ABET) accreditation requirements - which underwent major revision for the 2019-20 academic year.	1. The University of Arkansas is implementing a new General Education Curriculum beginning with the 2020-21 academic year; this new General Education Curriculum contains a series of learning outcomes, which are satisfied by approved courses (or sequences of courses). The change to the listing(s) of allowable elective courses in the arts, humanities, and social sciences provides each student the ability to meet all General Education learning outcomes - while continuing to satisfy Arkansas State Minimum Core requirements. 2. The external accreditation of this program is provided by ABET. Program learning outcomes required in the ABET criteria underwent significant change in 2019. The new CVEG program learning outcomes reflect the revised ABET criteria.

Upload attachments

Reviewer Comments

Norman Dennis (ndennis) (04/23/20 12:47 pm): Rollback: Can you annotate next to specific courses which Gen Ed outcome it satisfies, e.g. ENGL 1013, Gen Ed 1.1. Based on previous comments by Alice it seems to be be better to make a statement like "Choose a a social science elective that meets Gen Ed outcomes 3.2 and 5.1" with a footnote to a statement outside the

eight semester plan showing the list of courses that currently meet that requirement. This would be in lieu of listing them in the eight semester plane. Theoretically this would prevent us from making a major program change if the list changes.

Alice Griffin (agriffin) (05/08/20 1:40 pm): Added statement to program requirements regarding the 40 hour rule with permission from the college dean's office.

Charlie Alison (calison) (06/02/20 9:16 am): Updated "university core" and link to "state minimum core"

Manuel Rossetti (rossetti) (08/24/20 3:08 pm): Rollback: update footnotes

Alice Griffin (agriffin) (08/24/20 4:56 pm): Revised footnotes to include a clearer statement for learning outcome 2.1 with approval from Gen Ed and Core Curriculum Committee Chair. As a result, renumbered each footnote. Also inserted into footnotes the additional courses approved later in the spring. Renamed Social Science to Social Sciences to match domain area in State Minimum Core.

Key: 495