

**ADD, CHANGE OR DELETE UNIT, PROGRAM REQUIREMENTS, OR ACADEMIC POLICIES**

Complete this form consistent with the instructions in Academic Policy 1622.20. Use the form to add, change, or delete a program or unit or to change program policies. Proposed additions and changes must be consistent with Academic Policies 1100.40 and 1621.10 and any other policies which apply.

**SECTION I: Approvals**

Department / Program Chair _____	Date Submitted _____	Graduate Council Chair _____	Date _____
College Dean _____	Date _____	Faculty Senate Chair _____	Date _____
Honors College Dean _____	Date _____	Provost _____	Date _____
Core Curriculum Committee _____	Date _____	Board of Trustees Approval/Notification Date _____	
University Course and Programs Committee _____	Date _____	Arkansas Higher Education Coordinating Board Approval/Notification Date _____	

**SECTION II: Profile Data - Required Information and Name Change Information**

Academic Unit:       Major/Field of Study     Minor       Other Unit \_\_\_\_\_  Policy  
 Level:                 Undergraduate       Graduate       Law      Effective Catalog Year 2012-2013

Program changes are effective with the next available catalog. See Academic Policy Series 1622.20

Current Name                **BSCE, Bachelor of Science in Civil Engineering**

College, School, Division **ENGR**

Department Code **CVEG**

Current Code (6 digit Alpha) **CVEGBS**

Proposed Code (6 digit Alpha) \_\_\_\_\_

Prior approval from the Office of the Registrar is required.

Interdisciplinary Program

CIP Code **14.0801**

Prior assignment from Office of Institutional Research is required.

Proposed Name \_\_\_\_\_

When a program name is changed, enrollment of current students reflects the new name.

**SECTION III: Add a New Program/Unit**

For new program proposals, complete Sections II and VII and use as a cover sheet for a full program proposal as described in 'Criteria and Procedures for Preparing Proposals for New Programs in Arkansas.' ADHE  
[http://www.adhe.edu/divisions/academicaffairs/Pages/aa\\_academicproposals.aspx](http://www.adhe.edu/divisions/academicaffairs/Pages/aa_academicproposals.aspx)

Program proposal uses courses offered by another academic college, and that college dean's office has been notified. The signature of the dean of that academic college is required here: \_\_\_\_\_

**SECTION IV: Eliminate an Existing Program/Unit**

Code/Name \_\_\_\_\_ Effective Catalog Year \_\_\_\_\_

No new students admitted to program after Term: \_\_\_\_ Year: \_\_\_\_\_

Allow students in program to complete under this program until Term: \_\_\_\_ Year: \_\_\_\_\_

**SECTION V: Proposed Changes to an Existing Program or Program Policies**

Insert here a statement of the exact changes to be made:

**Overall, reduce BSCE program from 132 to 128 credit hours. Specific changes include:**

**(1) Remove BSCE requirement for CHEM 1133/1131L, University Chemistry for Engineers II.**

**(2) (a) Remove BSCE requirement for MATH 2574 (Calculus III); (b) Add BSCE requirement for MATH 3083 (Linear Algebra)**

**(3) Add BSCE requirement for CVEG 2002, Introduction to Plans and CADD (new course; refer to concurrent new course proposal)**

**(4) Add BSCE requirement for CVEG 3131L, Soil Mechanics Laboratory (new course; refer to concurrent new course proposal)**

**(5) Remove BSCE requirement for Science Elective**

**(6) Remove BSCE requirement for CVEG 4313, Structural Steel Design**

**(7) Reduce credit hours for CVEG 4852, Professional Practice Issues; revised course CVEG 4851 (refer to concurrent course change proposal)**

**(8) Increase credit hours for Civil Engineering Design Elective courses (4811; 4821; 4831; 4841); revised courses 4812; 4822; 4832; 4842 (refer to concurrent course change proposals)**

Check if either of these boxes apply and provide the necessary signature:

- Program change proposal adds courses offered by another academic college, and that college dean's office has been notified. The signature of the dean of that academic college is required here: \_\_\_\_\_
- Program change proposal deletes courses offered by another academic college, and that college dean's office has been notified. The signature of the dean of that academic college is required here: \_\_\_\_\_

Check all the boxes that apply and complete the required sections of the form:

- Change of Name and Code (Complete only sections I, II, V and VII.)
- Change Course Requirements: (Complete all sections of the form except "Proposed Name" in II, section III, and section IV.)
- Change Delivery Site/Method (Complete all sections of the form except "Proposed Name" in II, section III, and section IV.)
- Change Total Hours (Complete all sections of the form except "Proposed Name" in II, section III, and section IV.)
- Change in Program Policies

#### **SECTION VI: Justification**

*Justify this change and state its likely effect on any other degree program (including those outside the school or college). Identify any program or program components (other than courses) to be eliminated if this program is implemented. (Program and course change forms must also be submitted for such related changes.)*

**Act 747 of 2011, enacted by the Arkansas General Assembly, proscribes credit hour limits on baccalaureate programs offered by higher education institutions in Arkansas. The proposed changes to the BSCE program attempt to reduce overall credit hours to better comply with the requirements of Act 747. However, programs within the College of Engineering are accredited by the Engineering Accreditation Commission (EAC) of ABET, Inc., which require programs to have certain minimum characteristics. The proposed program fully complies with ABET accreditation criteria. In the process of reducing the overall program, specific courses were added, removed, and revised -- so that the proposed resulting course requirements more effectively produce graduates who comply with published program outcomes and objectives.**

#### **SECTION VII: Catalog Text and Format**

*In the box below, insert the current catalog text which is to be changed, with changes highlighted with the color yellow. Include all proposed changes identified in Section V. Only changes explicitly stated in Section V will be considered for approval by the University Course and Programs Committee, the Graduate Council and the Faculty Senate. If you are proposing a new program, give proposed text with all of the elements listed below. If you are proposing modified text, include these elements as appropriate.*

**Include the following elements, in order, in the catalog text for proposed undergraduate program(s) or program changes:**

- State complete major/program name
- Briefly define or describe the major/program or discipline.
- Identify typical career goals or paths for graduates. (Optional)
- State admission requirements (if any) for entry or entry into upper/advanced level of major/program.
- Identify location in catalog of university, college/school, and department/program requirements which the student must meet in addition to hours in the major, but do not restate these requirements.
- State course requirements in the major and any allied areas, giving number of hours and specific courses; specify electives or elective areas and give numbers of hours and courses in elective pools or categories; identify any other course requirements.

- State any other requirements (required GPA, internship, exit exam, project, thesis, etc.).
- Identify name and requirements for each concentration (if any).
- Specify whether a minor or other program component is allowed or required and provide details.
- State eight-semester plan requirements

**For minors, state requirements in terms of hours, required courses, electives, etc.**

**For graduate program/units, include elements (as needed) parallel to those listed for undergraduate programs above.**

**For Law School program/units, prepare text consistent with current catalog style.**

**For centers, prepare text consistent with current catalog style.**

## **Civil Engineering (CVEG)**

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- University Professor Emeritus Elliott
- University Professors Dennis, Selvam
- Professors Gattis, Hall, Young
- Associate Professors Cox, Edwards, Hale, Heymsfield, Soerens
- Associate Professor Emeritus Pleimann
- Research Associate Professor Williams (S.)
- Assistant Professors Braham, Coffman, Fairey, Grimmelman, Williams (R.), Williams (S.), Zhang

Civil engineering is the oldest of all the engineering fields, yet it is as contemporary as the need to provide solutions to today's environmental problems and to develop advanced transportation systems. The civil engineer plans, designs, builds, and operates projects for the advancement and well being of society while coordinating and conserving human and natural resources. Civil engineering projects range from small to monumental and include public water systems, buildings, bridges, rail and highway networks, wastewater treatment plants, solid and hazardous waste disposal facilities, airports, and soil conservation and flood diversion controls.

The civil engineering profession offers a vast array of opportunities. Civil engineers may work in private employment or with public agencies. They may work indoors in activities such as planning and design, or outdoors in areas such as construction supervision. Employment is possible anywhere in the world.

The objectives of the civil engineering program are to produce graduates who are:

1. employable in any of the following fields: foundation, earthwork, and embankment design and analysis; water, wastewater, and waste handling and treatment; highway facility design and operation; and structural design and analysis.
2. academically prepared to pursue licensure as a Professional Engineer.
3. prepared to pursue an advanced education.

To fulfill these objectives, all students must take courses in geotechnical, environmental, transportation, and structural engineering. Courses are designed to present "real world" applications without sacrificing conceptual and theoretical basics. Students complete design problems in each of these areas; and, as part of the senior year, they participate in two major design projects.

The Civil Engineering B.S.C.E. program is eligible for freshman students who want to participate in an [Eight-Semester Degree 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.

The university core courses for engineering students are listed at the bottom of this section.

**Fall Semester Year 1**

3 ENGL 1013 Composition I  
4 MATH 2554 Calculus I  
3 CHEM 1113 University Chemistry for Engineers I  
4 PHYS 2054 University Physics I  
0 PHYS 2054L University Physics Lab  
1 GNEG 1111 Introduction to Engineering I

**15 Semester hours**

**Spring Semester Year 1**

3 ENGL 1023 Technical Composition II  
4 Freshman Science Elective  
0 Freshman Science Elective Lab  
4 MATH 2564 Calculus II  
3 HIST 2003, HIST 2013, or PLSC 2003  
1 GNEG 1121 Introduction to Engineering II

**15 Semester hours**

**Fall Semester Year 2**

3 MATH 3083 Linear Algebra  
4 CVEG 2014 Civil Engineering Mechanics  
1 CVEG 2011L Civil Engineering Mechanics Lab  
3 Fine Arts Elective (from Univ/State Core list)  
3 CVEG 2053 Surveying Systems  
1 CVEG 2051L Surveying Systems Lab

**15 Semester hours**

**Spring Semester Year 2**

3 CVEG 2113 Structural Materials  
3 INEG 2313 Applied Probability and Statistics for Engineers I  
4 MATH 3404 Differential Equations  
3 GEOL 1113 General Geology  
1 GEOL 1111L General Geology Lab  
2 CVEG 2002 Introduction to Plans and CADD

**16 Semester hours**

**Fall Semester Year 3**

4 CVEG 3304 Structural Analysis  
3 CVEG 3133 Soil Mechanics  
1 CVEG 3131L Soil Mechanics Lab  
3 CVEG 3213 Hydraulics  
3 CVEG 3413 Transportation Engineering  
3 Humanities elective (from Univ/State Core list)

**17 Semester hours**

**Spring Semester Year 3**

3 INEG 2413 Engineering Economic Analysis  
3 CVEG 3223 Hydrology  
3 CVEG 3243 Environmental Engineering  
3 CVEG 4303 Reinforced Concrete Design I  
3 Social Science elective (from Univ/State Core list)  
3 Engineering Elective

**18 Semester hours****Fall Semester Year 4**

3 CVEG 4143 Foundation Engineering  
3 CVEG 4423 Geometric Design  
1 CVEG 4851 Professional Practice Issues  
3 Civil Engineering Elective  
3 Social Science elective (from Univ/State Core list)  
2 Civil Engineering Design Elective

**15 Semester hours****Spring Semester Year 4**

3 CVEG 4243 Environmental Engineering Design  
3 CVEG 4513 Construction Management  
6 Civil Engineering Electives  
2 Civil Engineering Design Elective  
3 Social Science elective (from Univ/State Core list)

**17 Semester hours****128 Total hours****Core Requirements**

The University of Arkansas has adopted University Core Requirements (sometimes called State Minimum Core) of 35 semester-credit-hours of general education courses that are required of all baccalaureate degree candidates. This is in compliance with Arkansas Act 98 of 1989 and the subsequent action of the Arkansas State Board of Higher Education. Beginning in the fall semester of 1991, all state institutions of higher education in Arkansas have a 35-hour minimum core requirement with specified hours in each of six academic areas. The University and the College of Engineering have identified those courses that meet the minimum requirement, and they are listed in the chart below.

Students should consult the requirements for specific departments and programs when choosing courses for use in the University Core.

Every student in the College of Engineering is required to complete a minimum of 18 semester hours in the humanities and social sciences.

No more than nine semester hours from any single discipline may be presented for degree credit. To meet the University Core requirements, the total number of hours in the fine arts/humanities courses must be at least six, and the social science hours must total at least nine (in addition to the U.S. history or government requirement).

**Specific University Core Requirements for Engineering Students****English – 6 hours**

ENGL 1013 Composition I  
ENGL 1023 Technical Composition II (ENGL 1023 Composition II may be taken in lieu of Technical Composition II)

**Mathematics – 4 hours**

MATH 2554 Calculus I

**Science – 8 hours**

PHYS 2054 University Physics I

PHYS 2074 University Physics II or

CHEM 1123, 1121L University Chemistry II

**U.S. History or Government – 3 hours**

HIST 2003 History of Amer. People to 1877

HIST 2013 History of Amer. People 1877 to Present

PLSC 2003 American National Government

**Fine Arts and Humanities – 6 hours****Social Sciences – 9 hours****Elective Courses**

Students must select four 3-hour engineering elective courses in conference with their adviser. The selection must include three civil engineering courses. The fourth course must be selected from one of the following: MEEG 2013 Dynamics, MEEG 2403 Thermodynamics, or ELEG 3903 Electric Circuits and Machines. 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. Humanities and social science electives are selected from courses approved by the college. Lists of approved electives are on file in the department office.

**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.

**Honors Program Requirements**

Students enrolled in the Honors College who are to receive the Bachelor of Science in Civil Engineering must complete a minimum of 12 hours of honors credit. At least 6 hours must be completed within the Civil Engineering program including at least 3 hours resulting in an Honors Thesis. The CVEG honors courses are acceptable as engineering electives and in some cases may be substituted for required courses. The following Civil Engineering courses are offered for honors credit: CVEG 491V H Honors Studies in Geotechnical Engineering, CVEG 492V H Honors Studies in Environmental Engineering, CVEG 493V H Honors Studies in Structural Engineering, CVEG 494V H Honors Studies in Transportation Engineering, and CVEG 4983 H Undergraduate Honors Thesis.

PROGRAM INVENTORY/DARS

PGRM \_\_\_\_\_ SUBJ \_\_\_\_\_ CIP \_\_\_\_\_ CRTS \_\_\_\_\_  
DGRE \_\_\_\_\_ PGCT \_\_\_\_\_ OFFC&CRTY VALID \_\_\_\_\_

REPORTING CODES

PROG. DEF. \_\_\_\_\_ REQ. DEF. \_\_\_\_\_  
Initials \_\_\_\_\_ Date \_\_\_\_\_

**Distribution**

Notification to:  
(1) College (2) Department (3) Admissions (4) Institutional Research (5) Continuing Education (6) Graduate School  
(7) Treasurer (8) Undergraduate Program Committee

5/12/08