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 _____

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

Current Name   **BSCMPE, Computer Engineering**

College, School, Division **ENGR**   Department Code **CSCE**

Current Code (6 digit Alpha) **CENGBS**   Proposed Code (6 digit Alpha)   _____
                            Prior approval from the Office of the Registrar is required.

☐Interdisciplinary Program   CIP Code **14.0901**
                            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

☐ 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: Remove the 3000-level social science requirement, remove one 3-hour technical elective, add COMM 1313 Public Speaking to the requirements, drop CHEM 1103/1101L University Chemistry I, add CHEM 1113/1111L University Chemistry I for Engineers, and update course numbers for Math.

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

$\boxtimes$ 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.)

$\boxtimes$ 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.)

The CENG BS degree is being updated 1) to reflect the changes to the State Minimum core by removing the 3000-level social science elective, 2) reducing the number of hours in the major by removing 3 hours of technical electives and 3) adding COMM 1313 Public Speaking to the requirements. The total number of hours for the degree will not change.

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.

Computer Science and Computer Engineering (CSCE)

Susan Gauch
Head of the Department
504 JB Hunt Center for Academic Excellence
479-575-6197

- Professors Andrews, ~~Apon,~~ Deaton, Gauch (J.), Gauch (S.), Li, Panda, Thompson (C.)
- Associate Professors Beavers, Bobda, Di, Parkerson, Thompson (D.)

- Assistant Professors Banerjee, Huang

The faculty of the Computer Science and Computer Engineering Department is engaged in multidisciplinary academic research, course offerings, and student projects in areas such as: high performance and scientific computing, networking, data security, low power chip design, web search, embedded systems, and graphics.

The educational objectives of the department are to produce graduates who are recruited in a competitive market and make valuable contributions to a wide variety of industries, particularly in computer and information technology; succeed in graduate or professional studies; pursue life-long learning and continued professional development; and undertake leadership roles in their profession, in their communities, and in the global society.

The computer engineering degree has required sequences of courses in both hardware and software aspects of computer applications and design. Since almost all of today's complex systems encompass hardware and software elements, computer engineering graduates must acquire the skills required to design, build, and test complex digital systems. At the advanced level, students are exposed to hands-on experience with open-ended problems with opportunities for research and design.

A degree in computer science provides a wide variety of career choices. Computer science graduates can design, implement, or manage computer systems, as well as adapt computers to new applications. Computer science core courses include the fundamentals of programming concepts, data structures, operating systems, algorithms, formal languages, and database management systems.

The CE and CS programs culminate in a capstone project completed in two consecutive semesters. In the first semester, students form teams and develop a project proposal. In the second semester, students develop, implement, and present the final project.

Humanities and social science electives are selected from courses approved by the College of Engineering. This list is available as a PDF document. The Undergraduate Handbook has a list of approved basic science, mathematics, and technical electives. Any course not included in these lists requires faculty approval.

The following sections contain the list of courses required for the Bachelor of Science in Computer Engineering (B.S.Cmp.E.) and the Bachelor of Science in Computer Science (B.S.C.S.) degrees with suggested sequences for each.

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. Students wishing to follow the eight-semester degree plan should see the Eight-Semester Degree Completion Policy in the Academic Regulations chapter for university requirements of the program.

The Computer Engineering B.S.Cmp.E. program is eligible for freshman students who want to participate in an Eight-Semester Degree Program. The plan below lists a semester-by-semester sequence of courses to finish the degree in eight semesters. University core courses for engineering students are listed at the bottom of this page.

Fall Semester Year 1

4 MATH 2554 Calculus I

3 CHEM ~~1103~~1113 University Chemistry I for Engineers

4 PHYS 2054 University Physics I

1 GNEG 1111 Introduction to Engineering I

3 ENGL 1013 English Composition

15 Semester hours

Spring Semester Year 1

4 MATH 2564 Calculus II

4 Freshman Science elective*

3 ~~Social science~~ <mark>HIST 2003 or HIST 2013 or PLSC 2003</mark>

1 GNEG 1121 Introduction to Engineering II

3 ENGL 1023 Composition II

15 Semester hours

Fall Semester Year 2

4 MATH 2574 Calculus III

4 CSCE 2004 Programming Foundations I

4 CSCE 2114 Digital Design

3 MATH ~~2103~~ <mark>2603</mark> Discrete Math

15 Semester hours

Spring Semester Year 2

4 MATH ~~3404~~ <mark>2584</mark> Differential Equations

4 CSCE 2214 Computer Organization

4 CSCE 2014 Programming Foundations II

3 ~~History/Government~~<mark>Social Science elective (from University/State Core list)</mark>

3 Social Science elective <mark>(from University/State Core list)</mark>

18 Semester hours

Fall Semester Year 3

3 CSCE 3953 System Synthesis & Modeling

3 CSCE 3193 Programming Paradigms

3 PHIL 3103 Ethics & the Professions

4 Basic Science elective with lab**

3 <mark>~~Free Elective~~ COMM 1313 Public Speaking</mark>

16 Semester hours

Spring Semester Year 3

3 CSCE 3613 Operating Systems

3 CSCE 3513 Software Engineering

3 ELEG 3933 Circuits & Electronics

3 ~~CSCE~~ Free elective

3 STAT 3013 Introduction to Probability and Statistics ~~(or~~ INEG 2313 ~~may be substituted)~~

15 Semester hours

Fall Semester Year 4

1 CSCE 4561 Capstone I

4 CSCE 4114 Embedded Systems

3 CSCE elective

3 CSCE elective

3 ~~Humanities/social sciences~~ Fine Arts elective (from University/State Core list)

3 Free Elective

17 Semester hours

Spring Semester Year 4

3 CSCE 4963 Capstone II

3 CSCE 4213 Computer Architecture

3 CSCE elective

3 CSCE elective

3 ~~Humanities/social sciences elective (3000+)~~ Social Science elective (from University/State Core list)

15 Semester hours

126 Total hours

* ~~Choose between PHYS 2074 University Physics II or CHEM 1123/1121L University Chemistry II and lab.~~ Either the science elective in the second semester of Year 1 or the science elective in the fall of Year 3 must be PHYS 2074 University Physics II
** If a student does not take CHEM 1133/1131L, a lab will be required with the basic science elective.

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