

ATTACHMENT 3A

Academic Policy Series

1622.20A

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: [X] Major/Field of Study and X Minor [ ] Other Unit [ ] Policy
Level: [X] Undergraduate [ ] Graduate [ ] Law Effective Catalog Year 2011

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

Current Name BA, Computer Science and the Minor in Computer Science

College, School, Division ENGR Department Code CSCE

Current Code (6 digit Alpha) CSCEBA, CSCE-M Proposed Code (6 digit Alpha)
Prior approval from the Office of the Registrar is required.

[ ] Interdisciplinary Program CIP Code 11.0101
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/academicaffairs.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:

The CSCE department requests that the Bachelor of Arts in Computer Science degree and the Minor in Computer Science be moved from Fulbright College of Arts and Sciences to the College of Engineering.

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.)*

The BA degree and the Minor are supported entirely by the CSCE department whose funding is provided by the College of Engineering. The curriculum is administered by, and the students advised by, faculty from CSCE. Moving the degree and the minor to the College of Engineering would allow the students to have access to the support from the College of Engineering that the CSCE students receive, including tutoring and advising. In addition, the College of Engineering undergraduate recruiting office would be able to provide improved service to help increase the enrollment in the BA program.

### **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

### FACULTY

- Professors Andrews, 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 **Bachelor of Science** programs culminate in a capstone project completed in two consecutive semesters during the final year of studies. 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 in PDF format on the CSCE Web site at <http://csce.uark.edu/humn-social-electives.pdf>. in the advising section. 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.), the Bachelor of Science in Computer Science (B.S.C.S.), and the Bachelor of Arts in Computer Science (B.A.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.

### Computer Engineering B.S.Cmp.E. Eight-Semester Degree Program

The following sections contain the list of courses required for the Bachelor of Science in Computer Engineering (B.S.Cmp.E.) with a suggested sequence below.

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 Page 40 in the Academic Regulations chapter for university requirements of the program.

#### Fall Semester Year 1

4 MATH 2554 Calculus I  
3 CHEM 1103 University Chemistry I  
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 elective  
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 Discrete Math  
**15 Semester hours**

**Spring Semester Year 2**

4 MATH 3404 Differential Equations  
4 CSCE 2214 Computer Organization  
4 CSCE 2014 Programming Foundations II  
3 History/Government elective  
3 Social Science elective  
**18 Semester hours**

**Fall Semester Year 3**

3 CSCE 3953 System Synthesis and Modeling  
3 CSCE 3193 Programming Paradigms  
3 PHIL 3103 Ethics & the Professions  
4 Basic Science elective with lab\*\*  
3 Free elective  
**16 Semester hours**

**Spring Semester Year 3**

3 CSCE 3613 Operating Systems  
3 CSCE 3513 Software Engineering  
3 ELEG 3933 Circuits and Electronics  
3 CSCE Elective  
3 STAT 3013 Introduction to Probability and Statistics (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 Science elective  
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+)  
**15 Semester hours**

**126 Total hours**

\* Choose between PHYS 2074 University Physics II or CHEM 1123/1121L University Chemistry II and lab

\*\* If a student does not take CHEM 1121L, a lab will be required with the basic science elective

**Computer Science B.S.**

**Eight-Semester Degree Program**

The following sections contain the list of courses required for the Bachelor of Science in Computer Science (B.S.) degrees with a suggested sequence below:

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 Page 40 in the Academic Regulations chapter for university requirements of the program.

**Fall Semester Year 1**

4 MATH 2554 Calculus I  
4 PHYS 2054 University Physics I  
3 CHEM 1103 University Chemistry 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\*  
1 GNEG 1121 Intro to Engineering II  
3 ENGL 1023 Composition II  
3 Social Science elective  
**15 Semester hours**

**Fall Semester Year 2**

3 MATH 2103 Discrete Math  
4 Basic Science elective with lab\*\*  
4 CSCE 2004 Programming Foundations I  
4 CSCE 2114 Digital Design  
3 History/Government elective  
**18 Semester hours**

**Spring Semester Year 2**

3 MATH 3103 Combinatorics  
4 CSCE 2014 Programming Foundations II  
4 CSCE 2214 Computer Organization  
3 Humanities elective  
3 Social Science elective  
**17 Semester hours**

**Fall Semester Year 3**

3 CSCE 3193 Programming Paradigms  
3 CSCE 3313 Algorithms  
3 Free Elective  
3 MATH 3083 Linear Algebra  
3 PHIL 3103 Ethics and the Profession  
**15 Semester hours**

**Spring Semester Year 3**

3 CSCE 3613 Operating Systems  
3 CSCE 3513 Software Engineering  
3 Free elective  
3 STAT 3013 Introduction to Probability and Statistics (INEG 2313 can be substituted)  
3 Social Science elective  
**15 Semester hours**

**Fall Semester Year 4**

1 CSCE 4561 Capstone I  
3 CSCE 4523 Database Management  
3 CSCE elective  
3 CSCE elective  
3 CSCE elective  
3 Humanities/social sciences elective  
**16 Semester hours**

**Spring Semester Year 4**

3 CSCE 4963 Capstone II  
3 CSCE elective  
3 CSCE 4323 Formal Languages  
3 Free elective  
3 Humanities/social sciences elective (3000+)  
**15 Semester hours**

**126 Total hours**

\* Choose between PHYS 2074 University Physics II or CHEM 1123/1121L University Chemistry II and lab

\*\* If a student does not take CHEM 1121L, a lab will be required with the basic science elective

**Computer Science B.A.  
Eight-Semester Degree Program**

**Fall Semester Year 1**

3 CSCE 1013 Explorations in Computing  
3 ENGL 1013 Composition I  
3-4 MATH 1213 Plane Trig or MATH 1284C Pre-Calculus or †MATH 2554 Calculus I  
3 University/state core US History or fine arts requirement  
3 University/state core social science requirement  
**15-16 Semester Hours**

**Spring Semester Year 1**

4 †CSCE 2004 Programming Foundations I  
3 ENGL 1023 Technical Composition II  
3-4 †MATH 2554 Calculus I (as needed) or General Elective  
3 University/state core fine arts or U.S. history requirement (as needed)  
3 General Elective

**16-17 Semester Hours****Fall Semester Year 2**

4 CSCE 2014 Programming Foundations II  
3 †MATH 2603 Discrete Mathematics  
3 University/state core social science requirement  
6 General Electives

**16 Semester Hours****Spring Semester Year 2**

3 ENGL 2003 Advanced Composition  
3 †STAT 2303 Principles of Statistics  
3 University/state core social science requirement  
6 General Electives

**15 Semester Hours****Fall Semester Year 3**

3 †‡CSCE 3193 Programming Paradigms  
3 COMM 1313 Public Speaking  
4 Science University/state core lecture and corequisite lab requirement  
6 General Electives

**16 Semester Hours****Spring Semester Year 3**

3 †‡ 3000-level or higher CSCE Elective (1)  
3 †Study Area (1st Course)  
3 PHIL 2203 Logic (meets University/state humanities requirement)  
3 †‡3000-level or higher Fulbright College Elective  
3 General Electives

**15 Semester Hours****Fall Semester Year 4**

3 †‡3000-level or higher CSCE Elective (2)  
3 †Study Area (2nd course)  
4 Science University/state core lecture and corequisite lab requirement  
3 †‡3000-level or higher Fulbright College Elective  
3 General Elective

**16 Semester Hours****Spring Semester Year 4**

3 †‡CSCE 3000-level or higher Elective (3)  
3 †Study Area (3rd course)  
6 †‡3000-level or higher Fulbright College or †‡3000-level or higher CSCE  
Electives (as needed)  
3 General Elective

**15 Semester Hours****124 Total Hours**

† Meets 40-hour advanced credit hour requirement. See College Academic Regulations on page 127 of this chapter.  
‡ Meets 24-hour rule (24 hours of 3000-4000 level courses in Fulbright College), in addition to meeting the 40-hour

**Degree Program Changes**

Students must meet all requirements of their degree programs and are expected to keep informed concerning current regulations, policies, and program requirements in their fields of study. Changes made in the curriculum at a level beyond that at which a student is enrolled might become graduation requirements for that student. Changes made in the curriculum at a level lower than the one at which a student is enrolled are not required of that student. Students should consult their departmental adviser for additional information.

**Requirements for Departmental Honors in Computer Science and Computer Engineering**

The Honors Program in Computer Science and Computer Engineering is designed for the superior student and is intended to help the student develop a more comprehensive view of Computer Science and Computer Engineering. The program provides a vehicle for the recognition of achievements beyond the usual course of study. Higher degree distinctions are recommended only in truly exceptional cases and are based upon the candidate's whole program of honors studies. A minimum of 12 hours of honors coursework is required.

The following requirements are necessary for graduation with honors in either the Computer Engineering or Computer Science Bachelor of Science program:

1. The candidate must satisfy the requirements set forth by the College of Engineering.
2. A student must obtain at least a 3.50 grade-point average in required Computer Engineering and/or Computer Science courses.
3. The student must complete 7 hours of Honors credit in the major, which includes 4 hours of Honors Thesis taken as two successive semesters of CSCE 4912H and 3 hours of CSCE coursework.

**Requirements for the Bachelor of Arts degree with a Major in Computer Science (B.A.C.S.):**

The requirements and semester plan for the Computer Science B.A. degree are listed in the Fulbright College chapter.

**Requirements for a Minor in Computer Science:**

CSCE 2004, CSCE 2014, CSCE 3193, and three additional CSCE courses numbered above 2000.

**SECTION VIII: Action Recorded by Registrar's Office**

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