Date Submitted: 09/19/19 11:53 am

Viewing: **CSCEBS : Computer Science, Bachelor of Science in Computer Science**

Last approved: 04/22/19 10:37 am

Last edit: 09/19/19 11:53 am

Changes proposed by: drt

Catalog Pages Using
this Program
    Computer Science B.S.
    Computer Science and Computer Engineering (CSCE)

Submitter:	User ID:	**drt** ~~crsleaf1~~	Phone:
575-5090 ~~575-6036~~		

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 2020

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. **CSCE Chair**
6. **ENGR Curriculum Committee**
7. **ENGR Faculty**
8. **ENGR Dean**
9. **Global Campus**
10. **Provost Review**
11. **University Course and Program Committee**
12. Faculty Senate
13. Provost Final
14. Provost's Office-- Notification of Approval
15. Registrar Final
16. Catalog Editor Final

Approval Path

1. 09/17/19 7:34 am Norman Dennis (ndennis): Approved for ENGR Dean Initial
2. 09/19/19 10:46 am Alice Griffin (agriffin): Rollback to Initiator

Department Code

Department of Computer Science and Computer Engineering (CSCE)

Program Code   CSCEBS

Degree   Bachelor of Science in Computer Science

CIP Code

3. 09/19/19 12:15 pm Norman Dennis (ndennis): Approved for ENGR Dean Initial

4. 09/19/19 2:07 pm Alice Griffin (agriffin): Approved for Director of Program Assessment and Review

5. 09/19/19 4:42 pm Lisa Kulczak (lkulcza): Approved for Registrar Initial

6. 09/19/19 5:03 pm Gary Gunderman (ggunderm): Approved for Institutional Research

7. 09/30/19 5:18 pm Xiaoqing Liu (frankliu): Approved for CSCE Chair

8. 10/03/19 12:51 pm Manuel Rossetti (rossetti): Approved for ENGR Curriculum Committee

9. 10/04/19 9:35 am Norman Dennis (ndennis): Approved for ENGR Faculty

10. 10/04/19 9:36 am Norman Dennis (ndennis): Approved for ENGR Dean

11. 10/04/19 11:54 am
    Suzanne Kenner
    (skenner): Approved
    for Global Campus
12. 10/06/19 11:23 am
    Terry Martin
    (tmartin): Approved
    for Provost Review

History

1. Aug 15, 2014 by
   Leepfrog
   Administrator
   (clhelp)
2. Jan 14, 2015 by
   Susan Huskey (srh)
3. Apr 21, 2015 by
   Susan Huskey (srh)
4. May 9, 2016 by
   Susan Huskey (srh)
5. May 1, 2018 by
   Susan Huskey (srh)
6. Apr 22, 2019 by
   Charlie Alison
   (calison)

11.0701 - Computer Science.

Program Title

Computer Science, Bachelor of Science in Computer Science

Program Delivery
Method

On Campus

Is this program interdisciplinary?

Yes

College(s)/School(s)

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

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

No

| What are the total hours needed to complete the program? | **122** ~~126~~ |

Program Requirements and Description

Requirements

Computer science core courses include the fundamentals of programming concepts, data structures, operating systems, algorithms, formal languages, and database management systems.

The Bachelor of Science programs in Computer Engineering and Computer Science 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 the University Core Requirements listed in the Catalog of Studies. To satisfy the University Core, all CSCE students are required to take the following 18 hours of humanities/social science courses:

PHIL 3103	Ethics and the Professions	3
Fine Arts From Category "A"		3
U.S. History or Government		3
Social Science		9

The Undergraduate Handbook has a list of approved basic science, mathematics, and technical electives. Any course not included in these lists requires faculty approval.

8-Semester Plan

Computer Science B.S.C.S. Eight-Semester Degree Program

The following sections contain the list of courses required for the Bachelor of Science in Computer Science (B.S.C.S.) degree 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 the Eight-Semester Degree Policy in the Academic Regulations chapter for university requirements of the program.

First Year	Units	
	Fall	Spring
GNEG 1111 Introduction to Engineering I	1	
ENGL 1013 Composition I (ACTS Equivalency = ENGL 1013)	3	
CHEM 1103 University Chemistry I (ACTS Equivalency = CHEM 1414 Lecture)	3	

	Fall	Spring
MATH 2554 Calculus I (ACTS Equivalency = MATH 2405)	4	
PHYS 2054 University Physics I (ACTS Equivalency = PHYS 2034)	4	
GNEG 1121 Introduction to Engineering II	1	
MATH 2564 Calculus II (ACTS Equivalency = MATH 2505)	4	
Freshman Science Elective*	4	
ENGL 1023 Composition II (ACTS Equivalency = ENGL 1023)	3	
History/Government Elective	3	
Year Total:	15	15

Second Year	Units	
	Fall	Spring
CSCE 2004 Programming Foundations I	4	
CSCE 2114 Digital Design	4	
MATH 2603 Discrete Mathematics	3	
~~Basic Science Elective With Lab~~	~~4~~	~~-~~
Fine Arts Elective	**3**	
Social Science Elective	3	
CSCE 2014 Programming Foundations II		4
CSCE 2214 Computer Organization		4
MATH 3103 Combinatorial and Discrete Mathematics		3
~~Fine Arts Elective~~	~~-~~	~~3~~
Social Science Elective		3
Year Total:	17	14

Third Year	Units	
	Fall	Spring
CSCE 3193 Programming Paradigms	3	
CSCE 3613 Operating Systems	3	
~~COMM 1313 Public Speaking (ACTS Equivalency = SPCH 1003)~~	~~3~~	~~-~~
~~MATH 3083 Linear Algebra~~	~~3~~	~~-~~
~~INEG 2313 Applied Probability and Statistics for Engineers I~~	~~3~~	~~-~~
INEG 3313 Engineering Probability and Statistics Course INEG 3313 Engineering Probability and Statistics Not Found	**3**	
PHIL 3103 Ethics and the Professions	**3**	
General Elective	**3**	
CSCE 3513 Software Engineering		3
CSCE 4523 Database Management Systems		3
CSCE Elective		3
~~PHIL 3103 Ethics and the Professions~~	~~-~~	~~3~~
~~Free Elective~~	~~-~~	~~3~~
MATH 3083 Linear Algebra		**3**

MATH 3083 **Linear Algebra**   **3**

COMM 1313 **Public Speaking (ACTS Equivalency = SPCH 1003)**   **3**

Year Total: 15 15

Fourth Year	Units
	FallSpring
CSCE 4561 Capstone I	1
~~Two CSCE Electives~~	~~6~~ -
~~Two Free Electives~~	~~6~~ -
CSCE 4133 Algorithms	3
CSCE 4753 Computer Networks	**3**
CSCE Elective	**3**
General Elective	**3**
General Elective	**3**
CSCE 4963 Capstone II	3
CSCE 4323 Formal Languages and Computability	3
CSCE Elective	3
General Elective	3
Social Science Elective	3
Year Total:	16 15

Total Units in Sequence: 122

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

Are Similar Programs available in the area?	
No	
Estimated Student Demand for Program	na
Scheduled Program Review Date	**2020-2021** ~~2017 2018~~
Program Goals and Objectives	

Program Goals and Objectives

Program Goals and Objectives

Program Educational Objectives

For the B.S. degree program in computer science, the following set of program educational objectives describe what graduates are expected to attain within a few years after graduation.

Computer Science graduates will:

1. Enhance Arkansas' and the nation's information technology industry.

2. Engage in advanced study of Computer Science and other fields, including engineering, law, medicine, and business.

3. Possess a sufficiently broad education to be inquisitive, well-informed reasoning members of their profession and society.

4. Understand human, social and ethical issues so that they will be good employees or employers, citizens and neighbors. ~~na~~

Learning Outcomes

Learning Outcomes

Student Learning Outcomes

CS1. An ability to analyze a complex computing problem and to apply principles of computing and other relevant disciplines to identify solutions.
CS2. An ability to design, implement, and evaluate a computing-based solution to meet a given set of computing requirements in the context of the program's discipline.
CS3. An ability to communicate effectively in a variety of professional contexts.
CS4. An ability to recognize professional responsibilities and make informed judgements in computing practice based on legal and ethical principles.
CS5. An ability to function effectively as a member or leader of a team engaged in activities appropriate to the program's discipline.
CS6. An ability to apply computer science theory and software development fundamentals to produce computing-based solutions. ~~na~~

Description and justification of the request

Description of specific change	Justification for this change

Description of specific change	Justification for this change
Replace CSCE Elective with CSCE 4753 Computer Networks. Remove 4 hours of Basic Science Elective with lab. COMM 1313 moved to Spring semester. Replace INEG 2313 with INEG 3313.	This formalizes CAC of ABET requirement for CS programs to have topics on "principles and practices for secure computing" and "networking and communications". CAC of ABET only requires six credit hours in natural science course work and must include laboratory work. BS in CS program still requires CHEM 1103 University Chemistry I, PHYS 2054 University Physics I, and a choice of either PHYS 2074 University Physics II or CHEM 1133/1131L. Only freshman are permitted to enroll in COMM 1313 in fall semesters. INEG developed a new course, INEG 3313, for non-majors and the CS program has voted to replace INEG 2313 with INEG 3313. However, the INEG 3313 is in the approval chain and I cannot add it yet.

Upload attachments

Reviewer Comments

    Alice Griffin (agriffin) (09/19/19 10:32 am): Confirmed INEG 3313 is in approval process. Replaced course code with course code and course title to help clarify the name of the course in the catalog copy. Also removed pending language so as not to appear in the catalog.

    Alice Griffin (agriffin) (09/19/19 10:46 am): Rollback: Please insert your program goals and student learning outcomes into the template.

Key: 478