

California State University Channel Islands

Program Update

For Minor Program Updates Only

Program updates must be submitted by October 15, 2013 and finalized by the end of the fall semester for the next catalog production.

Date (Change if modified and update the file name with the new date): 7/29/13

Program Area: Computer Science, B.S

Semester/Year first affected: Fall 2014

Instructions: Please use this Program Update form for minor changes to existing programs. **Highlight all changes in YELLOW.** Appropriate updates for this form include faculty or address changes, additions of approved electives, minor editing for clarity, and other minor updates. Any change to program requirements, units, outcomes, emphases or options, or other programmatic concerns require the standard two column Program Modification form, available at the Curriculum website.

CURRENTLY APPROVED PROGRAM WITH CHANGES TRACKED

Paste the latest approved version of your entire program in the below the line and before the Summary of Changes before you begin (If you are unsure about which version is the most recent, contact Kathy Musashi). If the form does not preset to the tracked changes mode, turn on tracked changes using Word Tools before making the necessary edits. Please set the view to ORIGINAL SHOWING MARKUP.

Computer Science

Careers

The program prepares students for careers in high-tech, computer and Internet-driven industries, where interdisciplinary, dynamic and innovative professionals trained in the latest technologies are increasingly sought.

Program Learning Outcomes

Students graduating from the Computer Science program will be able to:

- Demonstrate critical thinking and problem solving skills by identifying, evaluating, analyzing and presenting fundamental software solutions and their applications;
- Demonstrate the knowledge of current computing practices and broad technology use in industry and society, including a working knowledge of software development techniques;
- Be cognizant of emerging new technologies and industrial practices connected to the computer industry;

- Demonstrate communication, research and cooperation skills by working effectively with others in interdisciplinary group settings - both inside and outside the classroom; and
- Demonstrate a sense of exploration that enables them to pursue rewarding careers in high-tech and bio-tech industries with life-learning.

Faculty

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Contact Information

<http://compsci.csuci.edu>

SUMMARY OF CHANGES (Mark applicable change box below)

- ☐ Adding elective courses
☒ Updating faculty or addresses
☐ Minor editing for clarity
☐ Other, Please briefly explain

Computer Science, B.S. – 120 units

Special Grade Requirement

A grade of C- or better is required in all pre-requisite courses in the major

Summary of Units:

Lower Division Requirements 42

Upper Division Requirements 26

Upper Division Elective Major Courses 12

Elective Courses 6

General Education 28

American Institutions Requirement 6

TOTAL 120

Lower Division Requirements - 42 units

- COMP 150 - Object-Oriented Programming Units: 4
- COMP 151 - Data Structures and Program Design Units: 4
- COMP 162 - Computer Architecture and Assembly Language Units: 3
- COMP 232 - Programming Languages Units: 3
- COMP 262 - Computer Organization and Architecture Units: 3
- MATH 150 - Calculus I Units: 4
- MATH 151 - Calculus II Units: 4
- MATH 230 - Logic and Mathematical Reasoning (Cross-listed as PHIL 230) Units: 3
- MATH 240 - Linear Algebra Units: 3

Science

- PHYS 200 - General Physics I Units: 4
 - PHYS 201 - General Physics II Units: 4
 - a course from GE section B2 Units: 3
- or

- PHYS 200 - General Physics I Units: 4
- BIOL 200 - Principles of Organismal and Population Biology Units: 4
- BIOL 212 - Neurobiology and Cognitive Science (Cross-listed as PSY 212) Units: 3
- GE B1 and B2

Upper Division Requirements - 38 units

Required Courses - 26 units

- COMP 350 - Introduction to Software Engineering Units: 3
- COMP 362 - Operating Systems Units: 4
- COMP 454 - Automata, Languages, and Computation Units: 3
- COMP 491 - Capstone Preparation Units: 1
- COMP 499 - Capstone Project Units: 3
- MATH 300 - Discrete Mathematics Units: 3
- MATH 352 - Probability and Statistics Units: 3
- MATH 354 - Analysis of Algorithms Units: 3

Choose three units from the following:

- COMP 420 - Database Theory and Design (Cross-listed as IT 420) Units: 3
- COMP 464 - Computer Graphic Systems and Design I (Cross-listed as IT 464) Units: 3

Electives - 12 units

Choose 12 Elective units from:

- COMP 345 - Digital Image Processing (Cross-listed as PHYS 345, MATH 345) Units: 3
- COMP 351 - Distributed Computing Units: 3
- COMP 420 - Database Theory and Design (Cross-listed as IT 420) Units: 3
- COMP 421 - Unix System Programming II (Cross-listed as IT 421) Units: 3
- COMP 424 - Computer System Security (Cross-listed as IT 424) Units: 3
- COMP 425 - Computer Game Programming Units: 3
- COMP 429 - Computer Networks (Cross-listed as IT 429) Units: 3
- COMP 445 - Image Analysis and Pattern Recognition (Cross-listed as PHYS 445, MATH 445) Units: 3
- COMP 451 - Advanced Object-Oriented Programming Units: 3
- COMP 452 - Computational Bioinformatics (Cross-listed as MATH 452) Units: 4

- COMP 462 - Embedded Systems Units: 3
- COMP 464 - Computer Graphic Systems and Design I (Cross-listed as IT 464) Units: 3
- COMP 469 - Artificial Intelligence/Neural Nets Units: 3
- COMP 490 - Topics in Computer Science Units: 3
- COMP 492 - Internship Units: 1-3
- COMP 494 - Independent Research Units: 1-3
- COMP 497 - Directed Studies Units: 3
- ENGL 482 - Technical and Business Writing Units: 3
- IT 380 - Web Programming Units: 3
- IT 400 - eCommerce Units: 3
- IT 402 - Advanced Web Programming Units: 3
- MATH 429 - Operations Research Units: 3
- MATH 448 - Scientific Computing Units: 3

General Education Courses Included in Major Requirements - 11 units

- COMP 150 - Object-Oriented Programming Units: 4
- MATH 150 - Calculus I Units: 4
- MATH 230 - Logic and Mathematical Reasoning (Cross-listed as PHIL 230) Units: 3

		
Proposer of Program Modification		Date

APPROVAL SHEET

Program: [REDACTED]

If your course has a General Education Component or involves Center affiliation, the Center will also sign off during the approval process.

Multiple Chair fields are available for cross-listed courses.

The CI program review process includes a report from the respective department/program on its progress toward accessibility requirement compliance. By signing below, I acknowledge the importance of incorporating accessibility in course design.

Program Chair		
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Signature

Date

Curriculum Chair		
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Signature

Date

AVP		
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Signature

Date