

California State University Channel Islands

Program Modification

Program modifications must be submitted by October 15, 2012, and finalized by the end of that fall semester for catalog production.
Enter data in **YELLOWED** areas.

Date (Change date if modified and update the file name with the new date): 6.13.12; rev 9.26.12

Program Area: INFORMATION TECHNOLOGY

Semester /Year First affected: FALL 2013

Instructions: Please use this Program Modification form for changes to existing program requirements, units, outcomes, emphases or options, or for other programmatic concerns. For minor changes (faculty or address changes, additions of approved electives, minor editing for clarity, and other minor updates) use the Program Update form, available at the Curriculum website.

Paste the latest approved version of your entire program in the left AND right boxes below. Make your deletions in the LEFT column by using the strikeout feature in Word or underlining, **and highlight**. Insert new language or other changes to the program on the RIGHT and highlight in **YELLOW** for easy identification. If possible, please align the two columns so that changes appear side-by-side with the original text.

SUMMARY OF CHANGES

1. Typos fixed
2. Faculty updated
3. Statistics course list re-ordered
4. Course name changed
5. New electives added

JUSTIFICATION

1. Minor bugs
2. Faculty retired, acquired, renamed.
3. To make list in ascending numerical order
4. Better reflects course content – separate course modification submitted
5. New courses similar to Computer Science electives; New Course proposals submitted

CURRENTLY APPROVED PROGRAM

PROPOSED PROGRAM

Information Technology

Information Technology

Bachelor of Science in Information Technology

Bachelor of Science in Information Technology

Programs Offered

- Bachelor of Science in Information Technology
- Minor in Information Technology

Programs Offered

- Bachelor of Science in Information Technology
- Minor in Information Technology

This BSIT program prepares students for careers in Information Technology such as Computer Systems Integrator, Computer Systems Manager, Information Technology Designer, Information Technology Support, Database Systems Manager, Database Systems Designer, Data Communications Analyst, Network Manager, Network Designer, Web Technology Manager and Web Technology Support.

This BSIT program prepares students for careers in Information Technology such as Computer Systems Integrator, Computer Systems Manager, Information Technology Designer, Information Technology Support, Database Systems Manager, Database Systems Designer, Data Communications Analyst, Network Manager, Network Designer, Web Technology Manager and Web Technology Support.

In addition to serving CSU Channel Islands (CI) freshmen, the program provides an avenue of advancement for students with associate's degrees in a technology discipline such as networking gained at a two-year institution (e.g., Moorpark College's Associate in Science Degree in Computer Network Systems Engineering).

In addition to serving CSU Channel Islands (CI) freshmen, the program provides an avenue of advancement for students with associate's degrees in a technology discipline such as networking gained at a two-year institution (e.g., Moorpark College's Associate in Science Degree in Computer Network Systems Engineering).

The coursework will provide a foundation in mathematics, programming, networking, databases, web systems, computer architecture and information systems. The BSIT covers the interdisciplinary ground between a BS in Computer Science and a BS in Management Information Systems, emphasizing the fastest growing segments of both: web systems, databases, and networks. This interdisciplinary program draws from both Computer Science and Management Information Systems: mathematics, science, and computer programming from Computer Science, and business organization and project management from Management Information Systems. From there it adds depth in IT Programming, Web Technology, Database Theory and Design, and Data Communications and Networking, while allowing for further depth in these or related areas such as e-Commerce, and Computer Security.

The coursework will provide a foundation in mathematics, programming, networking, databases, web systems, computer architecture and information systems. The BSIT covers the interdisciplinary ground between a BS in Computer Science and a BS in Management Information Systems, emphasizing the fastest growing segments of both: web systems, databases, and networks. This interdisciplinary program draws from both Computer Science and Management Information Systems: mathematics, science, and computer programming from Computer Science, and business organization and project management from Management Information Systems. From there it adds depth in IT Programming, Web Technology, Database Theory and Design, and Data Communications and Networking, while allowing for further depth in these or related areas such as e-Commerce, and Computer Security.

Program Learning Outcomes

Students graduating from the Information Technology program will be able to:

Program Learning Outcomes

Students graduating from the Information Technology 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

Peter Smith, Ph.D., Professor of Computer Science,
 Chair, Computer Science Program
 Academic Advisor
 Bell Tower West, Room 2265
 (805) 437-8882
peter.smith@csuci.edu

~~William J. Wolfe, Ph.D., Professor of Computer Science
 Bell Tower West, Room 2225
 (805) 437-8985
william.wolfe@csuci.edu~~

Andrzej **A. J.** Bieszczad, Ph.D., Associate Professor of
 Computer Science, Director of the Masters Program
 Bell Tower West, Room 2285
 (805) 437-2773
aj.bieszczad@csuci.edu

Contact Information

<http://www.cs.csuci.edu/>

**Bachelor of Science in
 Information Technology - (120 units)**

Special Grade Requirements

- 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

Peter Smith, Ph.D., Professor of Computer Science,
 Chair, Computer Science Program
 Academic Advisor
 Bell Tower West, Room 2265
 (805) 437-8882
peter.smith@csuci.edu

A. Michael Berman Ph.D.
 Professor of Computer Science
 Vice President for Technology and Communication

Andrzej (A. J.) Bieszczad, Ph.D., Associate Professor of
 Computer Science, Director of the Masters Program
 Bell Tower West, Room 2285
 (805) 437-2773
aj.bieszczad@csuci.edu

Contact Information

<http://www.cs.csuci.edu/>

**Bachelor of Science in
 Information Technology - (120 units)**

Special Grade Requirements

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

Lower Division Requirements.....	17
Core Courses	27
Upper Division Electives	18
Technology Electives.....	9
Capstone	4
General Education and Title V	42
University Electives.....	3
Total	120 units

Lower Division Requirements - 17 units

1. *Statistics 3 units*

Select one of the following:

MATH 201	Elementary Statistics	3
MATH 329	Statistics for Business and Economics	3
MATH 202	Biostatistics	3 reorder after MATH 201

2. *Two semesters of a Laboratory science:*

Physics, Chemistry, or Biology 8 units

BIOL 200	Principles of Organismal and Population Biology	4
----------	---	---

and

BIOL 201	Principles of Molecular and Cellular Biology.....	4
----------	---	---

or

CHEM 121	General Chemistry I	4
----------	---------------------------	---

and

CHEM 122	General Chemistry II	4
----------	----------------------------	---

or

PHYS 100	Introduction to Physics	4
----------	-------------------------------	---

and

PHYS 101	Introduction to Physics II.....	4
----------	---------------------------------	---

3. *First course in programming 3 units*

COMP 105	Computer Programming Introduction.....	3
----------	--	---

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

Lower Division Requirements.....	17
Core Courses	27
Upper Division Electives	18
Technology Electives.....	9
Capstone	4
General Education and Title V	42
University Electives.....	3
Total	120 units

Lower Division Requirements - 17 units

1. *Statistics 3 units*

Select one of the following:

MATH 201	Elementary Statistics	3
MATH 202	Biostatistics	3
MATH 329	Statistics for Business and Economics	3

2. *Two semesters of a Laboratory science:*

Physics, Chemistry, or Biology 8 units

BIOL 200	Principles of Organismal and Population Biology	4
----------	---	---

and

BIOL 201	Principles of Molecular and Cellular Biology.....	4
----------	---	---

or

CHEM 121	General Chemistry I	4
----------	---------------------------	---

and

CHEM 122	General Chemistry II.....	4
----------	---------------------------	---

or

PHYS 100	Introduction to Physics	4
----------	-------------------------------	---

and

PHYS 101	Introduction to Physics II.....	4
----------	---------------------------------	---

3. *First course in programming 3 units*

COMP 105	Computer Programming Introduction.....	3
----------	--	---

4. *First course in Computer Architecture and Assembly Language* 3 units

COMP 162 Computer Architecture and Assembly Language 3

Note: Appropriate community college courses may meet these requirements.

Core Courses - 27 units

MATH 300 Discrete Mathematics 3
or
MATH 301 Discrete Mathematics for IT 3
IT 151 **Data Structures for IT** 3
IT 221... Unix System Programming I (COMP) 3
IT 420.. Database Theory and Design (COMP) 3
IT 421.. Unix System Programming II (COMP) 3
IT 424..... Computer System Security (COMP) 3
IT 429 Computer Networks (COMP) 3
MIS 310 Management Information Systems..... 3
MGT 307 Management of Organizations..... 3

Upper Division Electives - 18 units

Choose 18 units from the following:

COMP 345 Digital Image Processing (MATH/PHYS)..... 3
COMP 350 Introduction to Software Engineering..... 3
COMP 362 Operating Systems..... 4
COMP 425 Computer Game Programming..... 3
IT 380..... Web Programming 3
IT 400 e-Commerce 3
IT 401 Web Intelligence 3
IT 402 Advanced Web Programming 3
IT 424 Computer System Security (COMP) 3
IT 464 Computer Graphics (COMP) 3
IT 490 Special Topics for IT 3
IT 492..... Internship 1-3
MGT 471 Project Management 3

(Additional electives to be added based on faculty availability).

Technology Electives - 9 units

4. *First course in Computer Architecture and Assembly Language* 3 units

COMP 162 Computer Architecture and Assembly Language 3

Note: Appropriate community college courses may meet these requirements.

Core Courses - 27 units

MATH 300 Discrete Mathematics 3
or
MATH 301 Discrete Mathematics for IT 3
IT 151 **IT Programming**..... 3
IT 221 Unix System Programming I (COMP) 3
IT 420 Database Theory and Design (COMP)..... 3
IT 421 Unix System Programming II (COMP) 3
IT 424 Computer System Security (COMP)..... 3
IT 429 Computer Networks (COMP)..... 3
MIS 310 Management Information Systems..... 3
MGT 307 Management of Organizations..... 3

Upper Division Electives - 18 units

Choose 18 units from the following:

COMP 345 Digital Image Processing (MATH/PHYS)..... 3
COMP 350 Introduction to Software Engineering..... 3
COMP 362 Operating Systems..... 4
COMP 425 Computer Game Programming..... 3
IT 380 Web Programming 3
IT 400 e-Commerce..... 3
IT 401 Web Intelligence 3
IT 402 Advanced Web Programming..... 3
IT 464 Computer Graphics (COMP)..... 3
IT 490 Special Topics for IT..... 3
IT 492 Internship..... 1-3
IT 494..... Independent Research 1-3
IT 497..... Directed Studies 3
MGT 471 Project Management 3

(Additional electives to be added based on faculty availability).

Technology Electives - 9 units

For a listing of suitable CI courses, see the BSIT program advisor

Capstone - 4 units

IT	491	Capstone Preparation.....	1
IT	499	Capstone	3

General Education and American Institutions - 42 units

General Education	36
American Institutions	6

University Electives - 3 units

Minor in Information Technology - (21 units)

Minor in Information Technology augments other programs with the knowledge and skills necessary for storing, managing, transporting, and securing information. Students learn how to securely store information in databases, integrate information from a variety of sources, move information over communication networks, and protect the confidentiality and integrity of data.

Lower Division Core Requirements - 9 units

COMP	105	Computer Programming Introduction.....	3
IT	151	.....Data Structures for IT	3
IT	221	.....Unix System Programming I	3

Upper Division Electives - 12 units

Choose 12 units from the following:

IT	380	.....Web Programming	3
IT	400	.....eCommerce	3
IT	401	.....Web Intelligence	3
IT	402	.....Advanced Web Programming	3
IT	420	.....Database Theory and Design (COMP)	3
IT	421	.....Unix System Programming II (COMP)	3
IT	424	.....Computer System Security (COMP)	3
IT	429	.....Computer Networks (COMP)	3
COMP	350	.....Software Engineering.....	3

For a listing of suitable CI courses, see the BSIT program advisor

Capstone - 4 units

IT	491	Capstone Preparation.....	1
IT	499	Capstone.....	3

General Education and American Institutions - 42 units

General Education	36
American Institutions.....	6

University Electives - 3 units

Minor in Information Technology - (21 units)

Minor in Information Technology augments other programs with the knowledge and skills necessary for storing, managing, transporting, and securing information. Students learn how to securely store information in databases, integrate information from a variety of sources, move information over communication networks, and protect the confidentiality and integrity of data.

Lower Division Core Requirements - 9 units

COMP	105	Computer Programming Introduction.....	3
IT	151	.....IT Programming.....	3
IT	221	.....Unix System Programming I.....	3

Upper Division Electives - 12 units

Choose 12 units from the following:

IT	380	.....Web Programming.....	3
IT	400	.....eCommerce.....	3
IT	401	.....Web Intelligence.....	3
IT	402	.....Advanced Web Programming.....	3
IT	420	.....Database Theory and Design (COMP).....	3
IT	421	.....Unix System Programming II (COMP).....	3
IT	424	.....Computer System Security (COMP).....	3
IT	429	.....Computer Networks (COMP).....	3
COMP	350	.....Software Engineering.....	3

--	--

Peter Smith

6/20/12

Proposer of Program Modification

Date

APPROVAL SHEET

Program: INFORMATION TECHNOLOGY

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		
---------------	--	--

Signature

Date

Curriculum Chair		
------------------	--	--

Signature

Date

AVP		
-----	--	--

Signature

Date