

Program Modification

Program modifications must be submitted by October 15, 2010, and finalized by the end of the fall semester for catalog production.
Enter data in **YELLOWED** areas.

Date (Change date if modified and update the file name with the new date): 9/15/11; REV 9.23.11

Program Area: INFORMATION TECHNOLOGY

Semester /Year First affected: FALL 2012

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 strikethrough 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.

CURRENTLY APPROVED PROGRAM

INFORMATION TECHNOLOGY

Bachelor of Science in
Information Technology

Programs Offered

- Bachelor of Science 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

PROPOSED PROGRAM

INFORMATION TECHNOLOGY

Bachelor of Science in
Information Technology

Programs Offered

- Bachelor of Science 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

<p>Support.</p> <p>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).</p> <p>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 Web Programming and Technology, Database Theory and Design, and Data Communications and Networking, while allowing for further depth in these or related areas such as e-Commerce, Computer Security, and Multimedia.</p> <p>Faculty</p> <p>William J. Wolfe, Ph.D. Professor of Computer Science Bell Tower West, Room 2225 (805) 437-8985 william.wolfe@csuci.edu</p> <p>Peter Smith, Ph.D. Professor of Computer Science Interim Chair, Computer Science Program Academic Advisor Bell Tower West, Room 2265 (805) 437-8882 peter.smith@csuci.edu</p> <p>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</p>	<p>Support.</p> <p>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).</p> <p>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.</p> <p>Faculty</p> <p>William J. Wolfe, Ph.D. Professor of Computer Science Bell Tower West, Room 2225 (805) 437-8985 william.wolfe@csuci.edu</p> <p>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</p> <p>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</p>
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Contact Information

<http://compsci.csuci.edu>

Program Learning Outcomes and Contact Information

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

Bachelor of Science in Information Technology - (121 units)

Special Grade Requirements

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

Lower Division Requirements	18
Core Courses ..	29
Upper Division Electives	15
Technology Electives.....	9-10
Capstone.....	4
General Education and Title V	42
University Electives.....	3-4
Total	121-units

Lower Division
Requirements - (18 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

2. *Two semesters of a Laboratory science:*

Physics, Chemistry, or Biology 8 units

BIOL 200	Principles of Organismal and
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Contact Information

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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

2. *Two semesters of a Laboratory science:*

Physics, Chemistry, or Biology 8 units

BIOL 200	Principles of Organismal and
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	Population Biology4		Population Biology4
and		and	
BIOL 201	Principles of Molecular and Cellular Biology4	BIOL 201	Principles of Molecular and Cellular Biology4
or		or	
CHEM 121	General Chemistry I4	CHEM 121	General Chemistry I4
and		and	
CHEM 122	General Chemistry II4	CHEM 122	General Chemistry II4
or		or	
PHYS 100	Introduction to Physics4	PHYS 100	Introduction to Physics4
and		and	
PHYS 101	Introduction to Physics II4	PHYS 101	Introduction to Physics II4
3. First course in Java programming language 4 units		3. First course in programming 3 units	
COMP 150	Object-Oriented Programming4	COMP 105	Computer Programming Introduction ..3
4. First course in Computer Architecture and Assembly Language 3 units		4. First course in Computer Architecture and Assembly Language 3 units	
COMP 162	Computer Architecture and Assembly Language 3	COMP 162	Computer Architecture and Assembly Language 3
Note: Appropriate community college courses may meet these requirements.		Note: Appropriate community college courses may meet these requirements.	
Core Courses - 29 units		Core Courses - 27 units	
MATH 300	Discrete Mathematics3	MATH 300	Discrete Mathematics3
or		or	
MATH 301	Discrete Mathematics for IT3	MATH 301	Discrete Mathematics for IT3
COMP 151	Data Structures and Program Design4	IT 151	Data Structures and Program Design for IT3
COMP 262	Computer Organization and Architecture3	COMP/IT221	Unix System Programming I3
COMP 362	Operating Systems4	COMP/IT421	Unix System Programming II 3
COMP 420	Database Theory and Design3	COMP/IT420	Database Theory and Design3
IT 280	Web Programming3	COMP/IT424	Computer System Security 3
IT 429	Computer Networks for IT3	COMP/IT429	Computer Networks3
MIS 310	Management Information Systems3	MIS 310	Management Information Systems3

MGT 307 Management of Organizations3

Upper Division Electives - 15 units

Choose 15 units from the following:

Note: 9 units of the 15 units must be taken in IT or COMP courses

- ART 324 Communication Design Technology:
Web Design.....3
- ART 326 Digital Media Art:
3D Computer Animation3
- COMP 232 Programming Languages3
- COMP 337 Survey of Computer Gaming3
- COMP 345 Digital Image Processing
(MATH/PHYS).....3
- COMP 350 Introduction to Software Engineering3
- COMP 425 Computer Game Programming3
- COMP 447 Societal Issues in Computing3
- COMP 449 Human Computer Interaction (PSY).....3
- COMP 452 Computational Bioinformatics (MATH) ..4
- IT 400 e-Commerce3
- IT 401 Web Intelligence.....3
- IT 402 Advanced IT Programming3
- IT 424 Computer System Security for IT3
- IT 464 Computer Graphics for IT3
- IT 469 Artificial Intelligence/Neural Networks
for IT3
- IT 490 Special Topics for IT3
- MATH 137 Strategies and Game Design.....3
- MATH 330 Mathematics and Fine Arts3
- MATH 437 Mathematics for Game Programming ...3

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

Technology Electives - 9-10 units

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

Capstone - 4 units

- MGT 471 Project Management.....3
- IT 499 BSIT Capstone.....4

General Education and American Institutions - 42 units

- General Education36
- American Institutions6

MGT 307 Management of Organizations3

Upper Division Electives - 18 units

Choose 18 units from the following:

- COMP 345 Digital Image Processing
(MATH/PHYS).....3
- COMP 350 Introduction to Software Engineering3
- COMP 362 Operating Systems 4
- COMP 425 Computer Game Programming3
- IT 380 Web programming.....3
- IT 400 e-Commerce3
- IT 401 Web Intelligence3
- IT 402 Advanced Web Programming3
- COMP/IT424 Computer System Security3
- COMP/IT464 Computer Graphics3
- IT 490 Special Topics for IT3
- IT 492 ...Internship 1-3
- 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 Capstone3

General Education and American Institutions - 42 units

- General Education36
- American Institutions6

University Electives - 3-4 units

Proposed Course of Study

Freshman Year

Fall - **15** units

ENGL 105*	Composition and Rhetoric	3
MATH 201	Elementary Statistics	3
MATH 230	Logic and Mathematical Reasoning (GE A3).....	3
	General Education.....	6
* or ENGL 102 and 103		6

Spring - **13** units

COMP 150	Object-oriented programming.....	4
Title V		3
General Education.....		6

Sophomore Year

Fall - **16** units

COMP 162	Computer Architecture and Assembly	3
Title V		3
General Education		7
University elective.....		3

Spring - **16** units

Lab Science (Bio 200 or Chem 121 or Phys 100)		4
University Elective		3
General Education.....		9

Junior Year

Fall - **17** units

Lab Science II (Second semester Bio, Chem, or Phys)4		
ENGL 330	Interdisciplinary Writing	3
COMP 151	Data Structures	4
COMP 262	Computer Organization and Architecture.....	3

University Electives - **3** units

Typical Course of Study

Freshman Year

Fall - **15** units

ENGL 105*	Composition and Rhetoric	3
MATH 201	Elementary Statistics	3
MATH 230	Logic and Mathematical Reasoning (GE A3).....	3
	General Education.....	6
* or ENGL 102 and 103		6

Spring - **15** units

COMP 105	Introduction to programming.....	3
Title V		3
General Education.....		6
University Elective.....		3

Sophomore Year

Fall - **15** units

COMP 162	Computer Architecture and Assembly	3
Title V		3
General Education		3
IT 151	Data Structures for IT.....	3
MATH 301	Discrete Structures for IT.....	3

Spring - **16** units

Lab Science (Bio 200 or Chem 121 or Phys 100)		4
MIS 310	Information Management Systems	3
COMP/IT 221	Unix System Programming i.....	3
General Education.....		3

Junior Year

Fall - **16** units

Lab Science II (Second semester Bio, Chem, or Phys)4		
Technical Elective.....		3
COMP/IT 421	Unix System Programming II	3
MGT 307	Management of Organizations	3

MATH 301 Discrete Mathematics for IT.....3	General Education3
Spring - 16 units	Spring - 16 units
COMP 447 Societal Issues in Computing3	Technical Elective.....3
COMP 362 Operating Systems.....4	COMP/IT 429 Computer Networks.....3
COMP 420 Database Theory and Design.....3	COMP/IT 420 Database Theory and Design.....3
IT 280 Web Programming.....3	COMP/IT424 Computer System Security.....3
MGT 307 Management of Organizations3	General Education4
Senior Year	Senior Year
Fall - 15 units	Fall - 13 units
IT 400 eCommerce.....3	Upper Division Elective... ..3
IT 402 Advanced IT Programming3	Upper Division Elective3
IT 429 Computer Networks for IT.....3	Upper Division Elective3
MGT 471 Project Management.....3	IT 491 Capstone Preparation.....1
MIS 310 Management Information Systems.....3	Technical Elective.....3
Spring - 13 units	Spring - 15 units
COMP 449 Human Computer Interaction (PSY).....3	Upper Division Elective3
IT 424 Computer System Security for IT3	Upper Division Elective..... 3
IT 401 Web Intelligence.....3	Upper Division Elective.....3
IT 490 Special Topics for IT3	University Elective..... 3
IT 499 BSIT Capstone.....4	IT 499 BSIT Capstone.....3

SUMMARY OF CHANGES

0. Changes to the BSIT core to differentiate it further from the BSCS
1. BSIT Capstone aligned with the BSCS Capstone: 1-unit preparation then 3-unit project.
2. ART, some COMP and MATH courses removed from the electives list; IT 492 (new course), IT380 (renumbered course) and MGT471 added.
3. Reduce University Electives to 3 units and Technology Electives to 9 units, bringing the major to 120 units

JUSTIFICATION

0. BSIT had too much overlap with the BSCS, the new core is more appropriate for an IT degree

1. Simplifies the supervision of students in the two degree programs. MGT471 is Biotechnology oriented.
2. Removes courses considered inappropriate for elective credit; adds course providing internship credit, web programming and project management.

Peter Smith
Proposer of Program Modification

9/15/11
Date

Program: BS in Information Technology

Program Chair		
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Signature

Date

Curriculum Chair		
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Signature

Date

Dean of Faculty		
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Signature

Date