Program Modification

Date (Change if modified and update the file name with the new date): 9.25.09, catalog copy; rev 1.27.10

Program Area: COMPUTER SCIENCE
Semester /Year First affected: FALL 2010

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.

CURRENTLY APPROVED PROGRAM	PROPOSED PROGRAM
Computer Science Programs Offered • Bachelor of Science in Computer Science • Minor in Computer Science • Minor in Computer Game Design and Development • Master of Science in Computer Science • Bachelor of Science in Information Technology The Computer Science degree offers the latest cutting edge education for various industrial and applied fields. Students are given a strong background in computer hardware and software, as well as a substantial amount of "hands-on" experience. The program stresses interdisciplinary applications in other sciences and business and prepares students for graduate studies. 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.	Computer Science Programs Offered • Bachelor of Science in Computer Science • Minor in Computer Science • Minor in Computer Game Design and Development • Master of Science in Computer Science • Bachelor of Science in Information Technology The Computer Science degree offers the latest cutting edge education for various industrial and applied fields. Students are given a strong background in computer hardware and software, as well as a substantial amount of "hands-on" experience. The program stresses interdisciplinary applications in other sciences and business and prepares students for graduate studies. 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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Bachelor of Science in Computer Science - (~~122~~ units)

Lower Division Required Major Courses 42
Upper Division Required Major Courses ....~~28~~
Upper Division Elective Major Courses........................ 12
Elective Courses...6
General Education..28
American Institutions Requirement 6
TOTAL ....~~122~~ units

Note: General Education Included in Major Requirements 14

~~**Special Grade Requirement**~~
~~A grade of C- or better is required in all pre-requisite courses in the major~~

Lower Division Requirements - 42 units

COMP	150	Object-Oriented Programming 4 GE-B4
COMP	151	Data Structures and Program Design 4
COMP	162	Computer Architecture and Assembly Language...............................3
COMP	232	Programming Languages 3
COMP	262	Computer Organization and Architecture 3
MATH	150	Calculus I...4 GE-B3
MATH	151	Calculus II 4
MATH	230	Logic and Mathematical Reasoning........ 3 GE-A3, B3
MATH	240	Linear Algebra 3

Science: Choose either

Contact Information
http://compsci.csuci.edu

Bachelor of Science in Computer Science - (123 units)

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

Lower Division Required Major Courses 42
Upper Division Required Major Courses 29
Upper Division Elective Major Courses 12
Elective Courses...6
General Education..28
American Institutions Requirement 6
TOTAL ....123 units

Note: General Education Included in Major Requirements 14

Lower Division Requirements - 42 units

COMP	150	Object-Oriented Programming.................4 GE-B4
COMP	151	Data Structures and Program Design......4
COMP	162	Computer Architecture and Assembly Language................................3
COMP	232	Programming Languages 3
COMP	262	Computer Organization and Architecture 3
MATH	150	Calculus I..4 GE-B3
MATH	151	Calculus II 4
MATH	230	Logic and Mathematical Reasoning 3 GE-A3, B3
MATH	240	Linear Algebra...3

Science: Choose either

a. Physics 200 General Physics I (4), Physics 201 General Physics II (4) and a course from GE section B2.
   or
b. Physics 200 General Physics I (4), Biology 200 Principles of Organismal and Population Biology (4), Biology 212 Neurobiology and Cognitive Science (3) GE B1 and B2

Upper Division Requirements - ~~40~~ units
Major Requirements - ~~28~~ units
COMP	350	Introduction to Software Engineering 3
COMP	362	Operating Systems ....~~3~~
COMP	447	Societal Issues in Computing 3
		GE-B4, D, INTD
COMP	454	Automata, Languages and Computation 3
COMP	491	Capstone Preparation 1
COMP	499	Capstone Project...................................3
MATH	300	Discrete Mathematics 3
MATH	352	Probability and Statistics 3
MATH	354	Analysis of Algorithms...........................3

Choose <u>*three*</u> *units from the following:*
COMP	420	Database Theory and Design................3
COMP	464	Computer Graphic Systems and Design I 3

Electives - 12 units
Choose <u>*12*</u> *Elective units from:*
COMP	345	Digital Image Processing 3
		(MATH/PHYS) GE-B1, B4, INTD
COMP	351	Distributed Computing 3
COMP	420	Database Theory and Design................3
COMP	421	Unix for Programmers............................3
COMP	424	Computer System Security....................3
COMP	425	Computer Game Programming 3
COMP	429	Computer Networks 3
COMP	445	Image Analysis & Pattern Recognition (MATH/PHYS)...3 GE-B1, B4, INTD
COMP	451	Advanced Object Oriented Programming3

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a. Physics 200 General Physics I (4), Physics 201 General Physics II (4) and a course from GE section B2.
   or
b. Physics 200 General Physics I (4), Biology 200 Principles of Organismal and Population Biology (4), Biology 212 Neurobiology and Cognitive Science (3) GE B1 and B2

Upper Division Requirements - 41 units
Major Requirements - 29 units
COMP	350	Introduction to Software Engineering 3
COMP	362	Operating Systems 4
COMP	447	Societal Issues in Computing 3
		GE-B4, D, INTD
COMP	454	Automata, Languages and Computation....3
COMP	491	Capstone Preparation...........................1
COMP	499	Capstone Project 3
MATH	300	Discrete Mathematics 3
MATH	352	Probability and Statistics.......................3
MATH	354	Analysis of Algorithms...........................3

Choose <u>*three*</u> *units from the following:*
COMP	420	Database Theory and Design................3
COMP	464	Computer Graphic Systems and Design I 3

Electives - 12 units
Choose <u>*12*</u> *Elective units from:*
COMP	345	Digital Image Processing.......................3
		(MATH/PHYS) GE-B1, B4, INTD
COMP	351	Distributed Computing 3
COMP	420	Database Theory and Design...............3
COMP	421	Unix for Programmers...........................3
COMP	424	Computer System Security....................3
COMP	425	Computer Game Programming 3
COMP	429	Computer Networks 3
COMP	445	Image Analysis & Pattern Recognition (MATH/PHYS)...3 GE-B1, B4, INTD
COMP	451	Advanced Object Oriented Programming3

COMP	452	Computational Bioinformatics (MATH) ..4	
COMP	462	Embedded Systems...............................3	
COMP	464	Computer Graphic Systems and Design I	3
COMP	469	Artificial Intelligence/Neural Nets 3	
COMP	490	Topics in Computer Science.................3	
COMP	492	Internship................................ 1-3	
COMP	494	Independent Research...................... 1-3	
COMP	497	Directed Studies 3	
ENGL	482	Technical Writing...................................3	
MATH	429	Operations Research.............................3	
MATH	448	Scientific Computing 3	
		GE B3, B4, INTD	

Proposed Course of Study
Freshman Year - 31 units

COMP	150	Object-Oriented Programming GE-B4 ..4
COMP	151	Data Structures and Program Design ...4
COMP	162	Computer Architecture and Assembly Language 3
ENGL	105	Composition and Rhetoric 3* GE-A2
MATH	150	Calculus I..4 GE-B3
MATH	151	Calculus II...4
MATH	230	Logic and Mathematical Reasoning 3 GE-A3, B3
		GE Section A or C.................................3

* **or** ENGL 102 and 103 6

Sophomore Year - 23 - 24 units

COMP	232	Programming Languages 3
COMP	262	Computer Organization & Architecture..3
MATH	240	Linear Algebra......................................3
MATH	300	Discrete Mathematics 3

Science: *Choose either*

a. Physics 200 General Physics I (4), Physics 201 General Physics II (4) and a course from GE section B2.

   or

b. Physics 200 General Physics I (4), Biology 200 Principles of Organismal and Population Biology (4),

Biology 212 Neurobiology and Cognitive Science (3)
GE B1 and B2

Junior Year - 18 units + GE
COMP	350	Introduction to Software Engineering 3
COMP	362	Operating Systems.................................3
COMP	421	Unix for Programmers...........................3
COMP	454	Automata, Languages, & Computation .3
MATH	352	Probability and Statistics.......................3
MATH	354	Analysis of Algorithms 3

Senior Year - 19 units + GE
COMP	420	Database Theory and Design................3
COMP	424	Computer System Security 3
COMP	429	Computer Networks 3
COMP	447	Societal Issues in Computing 3
		GE-B4, D, INTD
COMP	469	Artificial Intelligence/Neural Nets 3
COMP	491	Capstone Preparation 1
COMP	499	Capstone Project..................................3

General Education Courses Included in Major
Requirements - 14 units
COMP	150	Object-Oriented Programming...............4
		GE-B4
COMP	447	Societal Issues in Computing Sciences 3
		GE-B4, D
MATH	150	Calculus I...4
		GE-B3
MATH	230	Logic and Mathematical Reasoning 3
		GE-A3, B3

Minor in Computer Science
(23 units)

The Computer Science minor teaches the fundamentals of computer systems and

Biology 212 Neurobiology and Cognitive Science (3)
GE B1 and B2

Junior Year - 19 units + GE
COMP	350	Introduction to Software Engineering 3
COMP	362	Operating Systems 4
COMP	421	Unix for Programmers...........................3
COMP	454	Automata, Languages, & Computation .3
MATH	352	Probability and Statistics.......................3
MATH	354	Analysis of Algorithms 3

Senior Year - 19 units + GE
COMP	420	Database Theory and Design................3
COMP	424	Computer System Security 3
COMP	429	Computer Networks 3
COMP	447	Societal Issues in Computing 3
		GE-B4, D, INTD
COMP	469	Artificial Intelligence/Neural Nets 3
COMP	491	Capstone Preparation...........................1
COMP	499	Capstone Project 3

General Education Courses Included in Major
Requirements - 14 units
COMP	150	Object-Oriented Programming 4
		GE-B4
COMP	447	Societal Issues in Computing Sciences 3
		GE-B4, D
MATH	150	Calculus I...4
		GE-B3
MATH	230	Logic and Mathematical Reasoning......3
		GE-A3, B3

Minor in Computer Science
(23 units)

The Computer Science minor teaches the fundamentals of computer systems and

programming. This minor includes the fundamentals of computer programming, including design, implementation, and testing of object-oriented programs. It also teaches the basic architecture of the computer hardware, including the fundamental components of a computer system and the logical reasoning that it is based upon. Since these computer skills are extremely useful in most other disciplines, enhancing the students knowledge of technology no matter which major they have chosen.

Careers

Computer Programmer; Computer Systems Analyst; Any career that requires a basic knowledge of computer systems and programming

Requirements - 23 units
Lower Division Requirements - 14 units

COMP	105	Computer Programming Introductio	 3
COMP	150	Object Oriented Programming	 4
COMP	151	Data Structures and Program Design	... 4
COMP	162	Computer Architecture and Assembly	... 3

Upper Division Requirements - 9 units
Three upper-division courses from the CS program approved by the advisor.

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Master of Science in
Computer Science
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(Offered through CSU Channel Islands Extended Education Program)

The MS in Computer Science prepares students for advanced careers in high-tech, computer-driven industries, including applications to business, aerospace, education, military, and government where interdisciplinary, dynamic and innovative professionals trained in latest technologies are increasingly sought. Students develop a strong background in computer theory, software and hardware, as well as skills to conduct applied research. The program stresses interdisciplinary applications while preparing students for a wide range of industry, academic, and research positions.

Admission

Students seeking admission are expected to have an undergraduate degree in computer science, mathematics, engineering, or science. The applicant is expected to have a 2.7 or higher cumulative undergraduate grade point average (GPA). A GRE report is also required for applicant whose GPA is less than 3.0.

Graduation

To obtain the degree, the student must complete each course with a minimum grade of B, and defend a thesis before an examination committee.

Required Courses - 32 units

COMP	599	Graduate Seminar	2
COMP	597	Thesis	6
		Electives (minimum of _18_ units must be COMP)	24

Electives - 24 units

A minimum of _18_ units must be COMP

COMP	510	Algorithms	3
COMP	520	Advanced Database Systems	3
COMP	524	Security	3
COMP	529	Network Computing	3
COMP	549	Human-Computer Interaction	3
COMP	550	Advanced Software Engineering	3
COMP	569	Artificial Intelligence	3
COMP	571	Biologically Inspired Computing	3
COMP	572	Neural Networks	3
COMP	575	Multi-agent Systems	3
COMP	578	Data Mining	3
COMP	590	Special Topics in Computer Science	3
COMP	581	Mathematical Methods in Artificial Intelligence (MATH)	3
COMP	597	Master Thesis	1-6
COMP	599	Graduate Seminar	1
MATH	510	Probabilistic Methods &	

Admission

Students seeking admission are expected to have an undergraduate degree in computer science, mathematics, engineering, or science. Other majors will be considered on a case by case basis. The applicant is expected to have a 2.7 or higher cumulative undergraduate grade point average (GPA). A GRE report is also required for applicant whose GPA is less than 3.0.

Graduation

To obtain the degree, the student must complete each course with a minimum grade of B, and defend a thesis before an examination committee.

Required Courses - 32 units

COMP	599	Graduate Seminar	2
COMP	597	Thesis	6
		Electives (minimum of _18_ units must be COMP)	24

Electives - 24 units

A minimum of _18_ units must be COMP

COMP	510	Algorithms	3
COMP	520	Advanced Database Systems	3
COMP	524	Security	3
COMP	529	Network Computing	3
COMP	549	Human-Computer Interaction	3
COMP	550	Advanced Software Engineering	3
COMP	566	Geometry and Computer Graphics	3
COMP	569	Artificial Intelligence	3
COMP	571	Biologically Inspired Computing	3
COMP	572	Neural Networks	3
COMP	575	Multi-agent Systems	3
COMP	578	Data Mining	3
COMP	590	Special Topics in Computer Science	3
COMP	581	Mathematical Methods in Artificial Intelligence (MATH)	3
COMP	597	Master Thesis	1-6
COMP	599	Graduate Seminar	1
MATH	510	Probabilistic Methods & Measure Theory	3

		Measure Theory	3
MATH	511	Functional Analysis	3
MATH	555	Actuarial Sciences	3
MATH	565	Research In Mathematics Education	3
MATH	582	Number Theory And Cryptography	3
MATH	584	Algebraic Geometry & Coding Theory	3
MATH	587	Markov Chains & Markov Processes	3
MATH	588	Stochastic Analysis	3
PHYS	510	Advanced Image Analysis Techniques	3
PHYS	546	Pattern Recognition	3

Graduate Writing Assessment Requirement

Writing proficiency prior to the awarding of the degree is demonstrated by successful completion of COMP 597 Masters Thesis with a grade of B or higher.

Bachelor of Science in Information Technology

Programs Offered

• Bachelor of Science in Information Technology

This BSIT program is specifically designed to provide an avenue of advancement for students with associate's degrees in a technology discipline such as networking (e.g.: Moorpark College's Associate in Science Degree in Computer Network Systems Engineering). This new program gives the student the opportunity to complete a Bachelor of Science degree in Information Technology. The course work will provide a foundation in mathematics, programming, networking, databases, web, computer architecture and information systems. The BSIT sits between a BS in Computer Science and a BS in Management Information Systems, emphasizing the fastest growing segments of the both: Web Systems, Databases, and Networks. For a foundation, the BSIT program draws from both camps: 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.

Careers
Potential career option for BSIT graduates include: 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, Web Technology Support.

Program Learning Outcomes and Contact Information
http://www.cs.csuci.edu/

Bachelor of Science in Information Technology - (120 units)

Lower Division Requirements
Students entering this program are expected to have completed an associate's degree (or equivalent) in a technology area, including:
1. Statistics
2. One semester of a Laboratory science (Physics, Chemistry, or Biology).
3. First course in a computer programming language such as C, Java or C++.
4. First course in Computer Architecture and Assembly Language.
5. CSU GE Certification or courses fulfilling the CSUCI lower division general education requirements.
6. A minimum of 10 units of lower division coursework in a technology area (computer technology, electronics technology, manufacturing technology, engineering, computer science, etc.).

Students who have not completed these _60_ units prior to their admission to the program will be required to complete them at CSUCI or a community college. Course substitutions for these requirements may be made with the approval of the program chair.

Upper Division Requirements - 60 units

allowing for further depth in these or related areas such as e-Commerce, Computer Security, and Multimedia.

Careers
Potential career option for BSIT graduates include: 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, Web Technology Support.

Program Learning Outcomes and Contact Information
http://www.cs.csuci.edu/

Bachelor of Science in Information Technology - (121 units)

Lower Division Requirements
Students entering this program are expected to have completed an associate's degree (or equivalent) in a technology area, including:
1. Statistics
2. One semester of a Laboratory science (Physics, Chemistry, or Biology).
3. First course in a computer programming language such as C, Java or C++.
4. First course in Computer Architecture and Assembly Language.
5. CSU GE Certification or courses fulfilling the CSUCI lower division general education requirements.
6. A minimum of 10 units of lower division coursework in a technology area (computer technology, electronics technology, manufacturing technology, engineering, computer science, etc.).

Students who have not completed these _60_ units prior to their admission to the program will be required to complete them at CSUCI or a community college. Course substitutions for these requirements may be made with the approval of the program chair.

Upper Division Requirements - 61 units

Mathematics and Science Requirements
7 units
    MATH   301   Discrete Mathematics for IT..................3
    Lab Science II-Physics, Chemistry or Biology 4
Core Courses - 25 units
    COMP 151   Data Structures and Program Design ...4
    COMP 262   Computer Organization and Architecture .3
    COMP 362   Operating Systems................................~~3~~
    IT   280   Web Programming.................................3
    ~~IT~~   420   Database Theory and Design ~~for IT~~ 3
    IT   429   Computer Networks for IT......................3
    MIS   310   Management Information Systems........3
    MGT   307   Management of Organizations 3

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│                                            │
│         Upper Division Interdisciplinary   │
│              GE - (9 units)                │
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As a graduation requirement, all CSUCI students must complete *48* units of General Education. Nine of the *48* units must be resident upper division, interdisciplinary courses numbered in the 330-349 or 430-449 ranges.

Electives 15 units
Choose 15 units from the following:
Note: 9 units of the15 units must be taken in IT courses
    ART   324   Communication Design Technology:
                       Web Design...3
    ART   326   Digital Media Art:
                       3D Computer Animation 3
    COMP 232   Programming Languages 3
    COMP 337   Survey of Computer Gaming.................3
    COMP 345   Digital Image Processing
                       (MATH/PHYS)......................................3
    COMP 350   Introduction to Software Engineering 3
    COMP 425   Computer Game Programming 3
    COMP 447   Societal Issues in Computing 3

Mathematics and Science Requirements
7 units
    MATH   301   Discrete Mathematics for IT..................3
    Lab Science II-Physics, Chemistry or Biology 4
Core Courses - 25 units
    COMP 151   Data Structures and Program Design ...4
    COMP 262   Computer Organization and Architecture .3
    COMP 362   Operating Systems 4
    IT   280   Web Programming.................................3
    COMP 420   Database Theory and Design................3
    IT   429   Computer Networks for IT 3
    MIS   310   Management Information Systems 3
    MGT   307   Management of Organizations 3

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│                                            │
│         Upper Division Interdisciplinary   │
│              GE - (9 units)                │
│                                            │
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As a graduation requirement, all CSUCI students must complete *48* units of General Education. Nine of the *48* units must be resident upper division, interdisciplinary courses numbered in the 330-349 or 430-449 ranges.

Electives 15 units
Choose 15 units from the following:
Note: 9 units of the15 units must be taken in IT courses
    ART   324   Communication Design Technology:
                       Web Design...3
    ART   326   Digital Media Art:
                       3D Computer Animation 3
    COMP 232   Programming Languages 3
    COMP 337   Survey of Computer Gaming.................3
    COMP 345   Digital Image Processing
                       (MATH/PHYS)......................................3
    COMP 350   Introduction to Software Engineering 3
    COMP 425   Computer Game Programming.............3
    COMP 447   Societal Issues in Computing 3
    COMP 449   Human Computer Interaction (PSY) 3

COMP 449   Human Computer Interaction (PSY)......3
COMP 452   Computational Bioinformatics (MATH)..4
IT   400 .... e-Commerce   3
IT   401 .... Web Intelligence   3
IT   424 ..... Computer System Security for IT   3
IT   402 ....Advanced IT Programming   3
IT   424 ..... Computer System Security for IT   3
IT   464 ....Computer Graphics for IT   3
IT   469 Artificial Intelligence/Neural Networks
            for IT 3
IT   490 .... Special Topics for IT   3
MATH 137   Strategies and Game Design.................3
MATH 330   Mathematics and Fine Arts 3
MATH 437   Mathematics for Game Programming ...3
(Additional electives to be added based on faculty availability).

Capstone - 4 units
   MGT   471   Project Management..............................3
   IT   499   BSIT Capstone Project 1

BSIT Summary - 120 units
   Lower Division Requirements 60
   Mathematics and Science Requirements 7
   Core Courses 25
   Upper Division Interdisciplinary GE................................9
   Upper Division Electives 15
   Capstone.......... 4

Proposed Course of Study
Junior Year
Fall - 17 units
Lab Science II (Bio, Chem, or Phys) 4
   ENGL   330   Interdisciplinary Writing 3
   COMP   151   Data Structures 4
   COMP   262   Computer Organization and Architecture .3
   MATH   301   Discrete Mathematics for IT 3

Spring - 15 units
   COMP   447   Societal Issues in Computing 3
   COMP   362   Operating Systems................................3

COMP 452   Computational Bioinformatics (MATH)..4
IT   400 .... e-Commerce   3
IT   401 ....Web Intelligence   3
IT   424 ..... Computer System Security for IT   3
IT   402 ....Advanced IT Programming   3
IT   424 ..... Computer System Security for IT   3
IT   464 .... Computer Graphics for IT   3
IT   469 Artificial Intelligence/Neural Networks
             for IT 3
IT   490 .... Special Topics for IT   3
MATH   137   Strategies and Game Design 3
MATH   330   Mathematics and Fine Arts....................3
MATH   437   Mathematics for Game Programming ...3
(Additional electives to be added based on faculty availability).

Capstone - 4 units
   MGT   471   Project Management..............................3
   IT   499   BSIT Capstone Project 1

BSIT Summary - 121 units
   Lower Division Requirements 60
   Mathematics and Science Requirements 7
   Core Courses 26
   Upper Division Interdisciplinary GE................................9
   Upper Division Electives 15
   Capstone 4

Proposed Course of Study
Junior Year
Fall - 17 units
Lab Science II (Bio, Chem, or Phys) 4
   ENGL   330   Interdisciplinary Writing.........................3
   COMP   151   Data Structures 4
   COMP   262   Computer Organization and Architecture.3
   MATH   301   Discrete Mathematics for IT 3

Spring - 15 units
   COMP   447   Societal Issues in Computing 3
   COMP   362   Operating Systems 4
   IT   280   Web Programming.................................3

		Left (current)				Right (proposed)	

IT   280   Web Programming 3
~~IT~~   420   Database Theory and Design ~~for IT~~ 3
MGT 307   Management of Organizations 3

Senior Year
Fall - 15 units
   IT   400   e-Commerce 3
   IT   402   Advanced IT Programming....................3
   IT   429   Computer Networks for IT.....................3
   MGT 471   Project Management..............................3
   MIS   310   Management Information Systems........3

Spring - 11 units
   COMP 449   Human Computer Interaction (PSY)......3
   IT   424 ..... Computer System Security for IT   3
   IT   401   Web Intelligence.....................................3
   IT   499   BSIT Capstone......................................1

COMP 420   Database Theory and Design.................3 *(highlighted)*
MGT 307   Management of Organizations 3

Senior Year
Fall - 15 units
   IT   400   e-Commerce 3
   IT   402   Advanced IT Programming...................3
   IT   429   Computer Networks for IT 3
   MGT 471   Project Management.............................3
   MIS   310   Management Information Systems 3

Spring - 11 units
   COMP 449   Human Computer Interaction (PSY) 3
   IT   424 ..... Computer System Security for IT   3
   IT   401   Web Intelligence 3
   IT   499   BSIT Capstone......................................1

SUMMARY OF CHANGES

1. Relocate section advising of C- grade requirement.
2. Changes to number of units in CS and IT major and various sub-totals to reflect increase of 1 unit for Comp 362.
3. Specify admission procedure to MS program for students with non-science degrees.
4. Addition of Comp 566 to list of electives in the MS program.
5. Change BSIT required course from IT 420 to COMP 420.

JUSTIFICATION

1. Make more likely for students to see it.
2. To make totals accurate with modified COMP 362 (Operating Systems) where a 1-unit addition provides a lab experience. This course requires a lab component, something that has been sorely missing since the start of our CS program. All CS programs that we are familiar with (e.g.: CSUN) have this lab component. Please see the "Justification" section of the Comp 362 course modification submitted in parallel with this program modification.
3. To broaden access to the MS program.
4. Fix unintended omission of an existing course.

5. IT 420 (Database Theory and Design for IT) and COMP 420 (Database Theory and Design) have identical topics and learning goals, so there is no need for separate courses for IT and CS majors. When the BSIT program was conceived it was believed that IT students should have a special database class, one that was geared to their level of mathematical expertise (which is typically much lower than that of a CS major). But, experience has taught us that this is not true with respect to the topics in Database Theory and Design. Although the CS majors have much more mathematical depth in their program, the level of mathematics in the COMP 420 class does not justify a separate class. Additionally, we have found from experience that a mix of IT and CS majors in the Database class helps enrich and diversify the class (IT majors have more "hands on" experience whereas CS majors have more "theory"). Finally, the consolidation of IT 420 and COMP 420 will contribute to more efficient scheduling and timely completion of degree requirements. (Note: A course modification for COMP 420 is also being submitted. That course modification changes the COMP 420 prerequisite to "MATH 300 or MATH 301", a prerequisite that is more appropriate for both IT and CS majors. Currently COMP 420 has "COMP 350" as a prerequisite. In any case, COMP 350 is not the correct prerequisite for COMP 420).

_____William Wolfe, Peter Smith, AJ Bieszczad_____10/22/2009_____
Proposer of Program Modification   Date

Program:

Program Chair		
	Signature	Date

Curriculum Chair		
	Signature	Date

Dean of Faculty		
	Signature	Date

3.4.08 km2