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Minnesota State University, Mankato HOLD and CLEAR buttons only compatible with Acrobat V. 4 and 5 Curriculum Proposal

Please type or select the requested information. Print completed forms, add appropriate paper attachments, and route through MSU's curricular process for recommendations and decisions.

		(Check all that apply):	Proposal # <u>105</u>
College: <u>Science, Engineering and Technology</u>	<input checked="" type="checkbox"/> Undergraduate		Effective Date of Change:
Department: <u>Computer and Information Sciences</u>	<input type="checkbox"/> Graduate		Academic Year <u>06-07</u>
Program: <u>Computer Information science</u>	CIP # <u>11.0701 00</u>		(For Office Use Only)
Type of Change: <u>COURSE PROPOSALS</u>		Course Designator	Number of
Proposed: <u>Dual Listing Course</u>		and Number	Credits
Title Current: <u>Double listed Courses are as attached</u>			
Title Proposed:			
24-Char. Abbrev:			(if applicable)

Include a course or program description for the Bulletin (30-40 words maximum for courses, 100 for programs):

Rationale or Justification for change:

*****For General Education or Cultural Diversity Courses Only*****

General Education Course:		Cultural Diversity Course:
GE Category #	GE Category Name (Maximum of 3 Categories)	(Please check one.)
<u>N/A</u>		<input type="checkbox"/> Core (At least 75% devoted to topics of race, gender, sexual orientation, age, class, and disabilities as they occur in United States Society.)
<u>N/A</u>		<input type="checkbox"/> Related (At least 25% devoted to the above topics or to a global perspective on topics related to African American, Asian, Hispanic, and Native American inhabitants of the United States.)
<u>N/A</u>		

? For Writing Intensive Courses, attach a description of the kind and quantity of writing.
 ? For Upper Division Courses, include a description of the respects in which it is broad and general rather than narrow and specific, and so suitable as GE.

Attach paper copies of the following:
 a. Syllabus or course outline.
 b. Course's student learning outcomes associated with each GE competency or CD designation.
 c. List of strategies to be used to assess students' achievement of each GE competency or CD designation.

*****For New Courses*****

(Check all that apply):	Instructional Type: <u>Lecture</u>	Course will be offered:
<input type="checkbox"/> Course is an elective.	Grading Format: <input type="checkbox"/> Grade <input type="checkbox"/> P/N	<input type="checkbox"/> Fall Semester
<input type="checkbox"/> Course is required for program		<input type="checkbox"/> Spring Semester
<input type="checkbox"/> Pre- or Co-requisites:		<input type="checkbox"/> Summer Session
<input type="checkbox"/> Other courses are being changed or eliminated. (Explain.)		

Course content or title is similar to courses in other departments. (Attach copy of letter of agreement with other program(s) contacted. Indicate the nature of the discussions and/or resolution of differences or potential conflicts.)

Attach paper copies of the following:
 a. Syllabus or course outline.
 b. Course's student learning outcomes.
 c. A list of resources required to offer and support this course.
 d. A description of how teaching this course will affect department staffing.
 e. If 400/500 level course, an explanation of added expectations of graduate students.



Minnesota State University, Mankato
Curriculum Proposal

Signature Page

Department			
<input checked="" type="checkbox"/> Recommended	(Category/ies _____)	<u>David J. Acchi</u>	<u>10/9/06</u>
<input type="checkbox"/> Not Recommended	(Category/ies _____)	Department Chair	Date
Comments:			
College Curriculum Committee			
<input checked="" type="checkbox"/> Recommended	(Category/ies _____)	<u>Karen C. Chow</u>	<u>11/2/06</u>
<input type="checkbox"/> Not Recommended	(Category/ies _____)	Committee Chair	Date
Comments:			
College Dean			
<input checked="" type="checkbox"/> Recommended	(Category/ies _____)	<u>[Signature]</u>	<u>11/6/06</u>
<input type="checkbox"/> Not Recommended	(Category/ies _____)	Dean	Date
Comments:			
General Education Subcommittee			
<input type="checkbox"/> Recommended	(Category/ies _____)		
<input type="checkbox"/> Not Recommended	(Category/ies _____)	General Education Subcommittee Chair	Date
Comments:			
Undergraduate Curriculum and Academic Policy Committee			
<input checked="" type="checkbox"/> Recommended	(Category/ies _____)	<u>[Signature]</u>	<u>1-31-07</u>
<input type="checkbox"/> Not Recommended	(Category/ies _____)	UCAP Faculty Chair	Date
Comments:			
Faculty Association Graduate Committee			
<input type="checkbox"/> Recommended			
<input type="checkbox"/> Not Recommended		Faculty Association Graduate Chair	Date
Comments:			
Graduate Dean			
<input type="checkbox"/> Recommended			
<input type="checkbox"/> Not Recommended		Graduate Dean	Date
Comments:			
Academic Affairs Council			
<input checked="" type="checkbox"/> Recommended	(Category/ies _____)	<u>David Flannery</u>	<u>2/9/07</u>
<input type="checkbox"/> Not Recommended	(Category/ies _____)	Assistant Vice President	Date
Comments:			
Senior Vice President and Vice President for Academic Affairs			
<input checked="" type="checkbox"/> Approved	(Category/ies _____)	<u>[Signature]</u>	<u>2/13/07</u>
<input type="checkbox"/> Not Approved	(Category/ies _____)	Sr. Vice President / Vice Pres. Academic Affairs	Date
Comments:			

Courses double listed between IT and ISYS majors

Sl	IT Major Courses	ISYS Major Courses
1	IT 110 Foundations of Computing	ISYS 110 Foundations of Computing
2	IT 202W Computers in Society	ISYS 202W Computers in Society
3	IT 210 Fundamentals of Programming	ISYS 210 Fundamentals of Programming
4	IT 311 Business Application Programming	ISYS 311 Business Application Programming
5	IT 340 Introduction to Database Systems	ISYS 340 Database Application Systems
6	IT 350 Information Security	ISYS 350 Information Security
7	IT 380 Systems Analysis and Design	ISYS 380 Systems Analysis and Design
8	IT 497 Internship	ISYS 497 Internship
9	IT 4/550 Information Warfare	ISYS 4/550 Information Warfare
10	IT 4/580 Software Quality Assurance and Testing	ISYS 4/580 Software Quality Assurance and Testing
11	IT 4/582 Human Computer Interaction	ISYS 4/582 Human Computer Interaction
12	IT 4/584 Software Engineering	ISYS 4/584 Software Engineering

Course Descriptions for cross listed IT courses

IT 110: Foundation of Computing

This course provides a comprehensive introduction to the foundations of information systems and information technology. The topics covered include algorithms, pseudocode, computer theory, computer hardware, computer software, and the related social issues. Lab work develops familiarity with both hardware and software. The course is intended to provide knowledge and skills applicable to all disciplines while providing a broad introduction to the field of information systems and technology. Cross listed with ISYS 110.

Pre: MATH 112 or MATH 115 or MATH 121 or MATH 181 F, S GE-13

IT 202W: Computers in Society

This course seeks to confront participants with complex social and ethical issues associated with computers. Through thoughtful questions, informative readings, and the analysis of dichotomous viewpoints, course participants will gain insight into the complexity of technology-related issues discussed as well as the lack of simplistic solutions to the problems.

Variable GE-1C

IT 210: Fundamentals of Programming

This is the first course in a two-course sequence for students who are planning to major or minor in information systems or information technology. The course emphasizes concepts needed for continuing study in information systems or information technology, the use of abstraction in program design, and advanced problem-solving skills. Programming in a high-level language is a focal point of the course.

Pre: A grade of A or B in IT 110 or ISYS 110 F, S

IT 311: Business Application Programming

This is a course in application program development designed to simulate large scale development. Students will be introduced to the programming language, COBOL, but the emphasis of the course will be on principles of application programming such as, control breaks, table manipulations, file manipulations, sorting, interactive programming, sub-programming, index-sequential file handling, structure charts, and program documentation.

Pre: IT 214 or ISYS 215 F, S

IT 340: Introduction to Database Systems

Introduction to the concept of database systems; database models; database management systems; file organization; design of databases using data modeling and normalization; conversion of data model into relational, network, and hierarchical data models; extensive coverage of SQL and implementation of an application using a relational database in a team environment.

Pre: IT 210 or ISYS 210 F, S

IT 350: Information Security

The course covers security concepts and mechanisms; security technologies; authentication mechanisms; mandatory and discretionary controls; basic cryptography and its applications; threats; intrusion detection and prevention; regulations; vulnerability assessment; information assurance; forensics; anonymity and privacy issues; disaster recovery planning, legal issues and ethics.

Pre: IT 214 or ISYS 215 F, S

IT 380: Systems Analysis and Design

This course explores both structured as well as object oriented systems analysis and design. Use of upper and lower CASE tools are employed in the analysis, design and implementation of a team oriented term project.

Pre: IT 214 or ISYS 215 F, S

IT 497: Internship

This course is designed to provide students with an opportunity to utilize their training in a real-world business environment. Participants work under the guidance and direction of a full-time staff member. (At most 4 hours toward a major in this department.)

Pre: Permanent admission to IT, completion of four courses from IT 320, 340, 350, 360, 380, 483 and consent
Variable

IT 450 / IT 550: Information Warfare

The course includes information warfare principles and technologies. The key areas are: Information warfare concepts; Protocols, Authentication, and Encryption; Network attack techniques, methodologies, and tools; Network defense; Malware: trojans, worms, viruses, and malicious code; Electronic crimes and digital evidence.

Pre: IT 350 or ISYS 350

F

IT 480 / IT 580: Software Quality Assurance and Testing

Topics include software quality assurance, software quality metrics, software configuration management, software verification and validation, reviews, inspections, and audits, configuration control boards and software process improvement models, black-box and white-box testing models.

Pre: IT 380 or ISYS 380

Variable

IT 482 / IT 582: Human Computer Interaction

Concepts and techniques for user interface design and human computer interaction. Emphasizes user-centered design, interface development techniques, and usability evaluation. Various interface devices and metaphors will be considered. Visual development environments and other development tools will be studied. Students will complete a substantial project.

Pre: IT 380 or ISYS 380

Variable

IT 484 / IT 584: Software Engineering

This is a course in software engineering that introduces the student to all important aspects of the discipline. The main purpose of this course is to simulate the engineering of a software product, from gathering requirements through implementation and maintenance. The course emphasizes a traditional development methodology. Students will be introduced to Visual Basic and Microsoft Project, but the emphasis of the course will be on principles of software engineering including project planning, requirements gathering, size and cost estimation, analysis, design, coding, testing, and implementation.

Pre: IT 380 or ISYS 380

F, S

Course Descriptions for cross-listed ISYS courses

ISYS 110: Foundation of Computing

This course provides a comprehensive introduction to the foundations of information systems and information technology. The topics covered include algorithms, pseudocode, computer theory, computer hardware, computer software, and the related social issues. Lab work develops familiarity with both hardware and software. The course is intended to provide knowledge and skills applicable to all disciplines while providing a broad introduction to the field of information systems and technology.

Pre: MATH 112 or MATH 115 or MATH 121 or MATH 181 F, S GE-13

ISYS 202W: Computers in Society

This course seeks to confront participants with complex social and ethical issues associated with computers. Through thoughtful questions, informative readings, and the analysis of dichotomous viewpoints, course participants will gain insight into the complexity of technology-related issues discussed as well as the lack of simplistic solutions to the problems.

Variable GE-1C

ISYS 210: Fundamentals of Programming

This is the first course in a two-course sequence for students who are planning to major or minor in information systems or information technology. The course emphasizes concepts needed for continuing study in information systems or information technology, the use of abstraction in program design, and advanced problem-solving skills. Programming in a high-level language is a focal point of the course.

Pre: A grade of A or B in IT 110 or ISYS 110 F, S

ISYS 311: Business Application Programming

This is a course in application program development designed to simulate large scale development. Students will be introduced to the programming language, COBOL, but the emphasis of the course will be on principles of application programming such as, control breaks, table manipulations, file manipulations, sorting, interactive programming, sub-programming, index-sequential file handling, structure charts, and program documentation.

Pre: IT 214 or ISYS 215 F, S

ISYS 340: Database Application Systems

Introduction to the concept of database systems; database models; database management systems; file organization; design of databases using data modeling and normalization; conversion of data model into relational, network, and hierarchical data models; extensive coverage of SQL and implementation of an application using a relational database in a team environment.

Pre: IT 210 or ISYS 210 F, S

ISYS 350: Information Security

In-depth examination of topics in the management of information technology security including access control systems and methodology, business continuity and disaster recovery planning, legal issues in information system security, ethics, computer operations security, physical security and security architecture & models using current standards and models.

Pre: IT 214 or ISYS 215 F, S

ISYS 380: Systems Analysis and Design

This course explores both structured as well as object oriented systems analysis and design. Use of upper and lower CASE tools are employed in the analysis, design and implementation of a team oriented term project.

Pre: IT 214 or ISYS 215 F, S

ISYS 497: Internship

This course is designed to provide students with an opportunity to utilize their training in a realworld business environment. Participants work under the guidance and direction of a full-time staff member. (At most 6 hours toward a major in this department.)

Pre: Permanent admission to the ISYS major, ISYS 340, ISYS 380 V

ISYS 450 / ISYS 550: Information Warfare

Information warfare principles and technologies, including information warfare concepts; protocols, authentication, and encryption; network attack techniques, methodologies, and tools; network defense; malware: trojans, worms, viruses, and malicious code; electronic crimes and digital evidence.

Pre: IT 350 or ISYS 350 F

ISYS 480 / ISYS 580: Software Quality Assurance and Testing

This course focuses on the processes, methods and techniques for developing quality software, assessing software quality, and maintaining software quality. Software testing processes at the unit, module, subsystem, and system levels is discussed. Testing methods covered include: automatic and manual generation of test data, static vs. dynamic analysis, functional testing, inspections, and reliability assessment.

Pre: IT 380 or ISYS 380 Variable

ISYS 482 / ISYS 582: Human Computer Interaction

Human factors issues in the development of software, use of database systems, and design of user interfaces for interactive systems. Science base (theories, models, usability studies, and controlled experimentation), and software development with user-interface-development environments. Issues include: command languages, menus, forms, and direct manipulation, graphical user interfaces, computer supported cooperative work, information search and visualization, World Wide

Web design, input/output devices, and display design.

Pre: IT 380 or ISYS 380 Variable

ISYS 484 / ISYS 584: Software Engineering

This is a course in software engineering that introduces the student to all important aspects of the discipline. The main purpose of this course is to simulate the engineering of a software product, from gathering requirements through implementation and maintenance. The course emphasizes a traditional development methodology. Students will be introduced to Visual Basic and Microsoft Project, but the emphasis of the course will be on principles of software engineering including project planning, requirements gathering, size and cost estimation, analysis, design, coding, testing, and implementation.

Pre: IT 380 or ISYS 380 F, S