

08-50



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 #	88				
College:	Science, Engineering and Technology	<input checked="" type="checkbox"/>	Undergraduate	Effective Date of Change:					
Department:	Information Systems & Technology	<input type="checkbox"/>	Graduate	Academic Year	07-08				
Program:	Information Technology	CIP # _____		(For Office Use Only)					
Type of Change	PROGRAM PROPOSALS		<table border="1"> <thead> <tr> <th>Course Designator and Number</th> <th>Number of Credits</th> </tr> </thead> <tbody> <tr> <td></td> <td>20</td> </tr> </tbody> </table>			Course Designator and Number	Number of Credits		20
Course Designator and Number	Number of Credits								
	20								
Proposed:	New Minor								
Title Current:			(if applicable)						
Title Proposed:	Software Development Minor								
24-Char. Abbrev:	Software Dev. Minor								

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

The software development minor provides the students with an understanding of the successful delivery of software projects that support organizational goals. Students gain knowledge in the use of tools necessary to organize project objectives, create realistic plans, and build and manage an accomplished team through every phase of the software development project. Students gain practical skills needed to meet today's demands for faster and more efficient development.

Rationale or Justification for change:

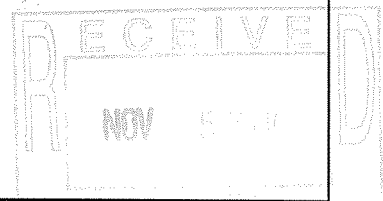
Currently 'Software Development' is one of the areas of specialization available in the Information Technology program. Courses have been selected from this specialization to create a minor that will allow students from other disciplines to obtain knowledge and skills for the successful development of software.

For General Education or Cultural Diversity Courses Only

General Education Course:		Cultural Diversity Course: (Please check one.)
GE Category #	GE Category Name (Maximum of 3 Categories)	
N/A		<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.) <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.)
N/A		
N/A		
<p>? For Writing Intensive Courses, attach a description of the kind and quantity of writing.</p> <p>? 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.</p> <p>Attach paper copies of the following:</p> <ol style="list-style-type: none"> Syllabus or course outline. Course's student learning outcomes associated with each GE competency or CD designation. 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: <input type="text" value="Lecture"/>	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="text" value=""/>	<input type="checkbox"/> Spring Semester
<input type="checkbox"/>	Pre- or Co-requisites:	<input type="text" value=""/>	<input type="checkbox"/> Summer Session
<input type="checkbox"/>	Other courses are being changed or eliminated. (Explain.) _____		
<input type="checkbox"/>	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:			
<ol style="list-style-type: none"> Syllabus or course outline. Course's student learning outcomes. A list of resources required to offer and support this course. A description of how teaching this course will affect department staffing. If 400/500 level course, an explanation of added expectations of graduate students. 			





Minnesota State University, Mankato
Curriculum Proposal

Signature Page

Department

Recommended (Category/ies _____)
 Not Recommended (Category/ies _____)

David Tietz 10-18-07
 Department Chair Date

Comments:

College Curriculum Committee

Recommended (Category/ies _____)
 Not Recommended (Category/ies _____)

Janice 10/30/07
 Committee Chair Date

Comments:

College Dean

Recommended (Category/ies _____)
 Not Recommended (Category/ies _____)

John Long 11/2/07
 Dean Date

Comments:

General Education Subcommittee

Recommended (Category/ies _____)
 Not Recommended (Category/ies _____)

 General Education Subcommittee Chair Date

Comments:

Undergraduate Curriculum and Academic Policy Committee

Recommended (Category/ies _____)
 Not Recommended (Category/ies _____)

John 12/10/07
 UCAP Faculty Chair Date

Comments:

Faculty Association Graduate Committee

Recommended
 Not Recommended

 Faculty Association Graduate Chair Date

Comments:

Graduate Dean

Recommended
 Not Recommended

 Graduate Dean Date

Comments:

Academic Affairs Council

Recommended (Category/ies _____)
 Not Recommended (Category/ies _____)

Brenda Flannery 12/20/07
 Assistant Vice President Date

Comments:

Senior Vice President and Vice President for Academic Affairs

Approved (Category/ies _____)
 Not Approved (Category/ies _____)

S. J. B. 12/20/07
 Sr. Vice President / Vice Pres. Academic Affairs Date

Comments:

Software Development Minor Resources Requirements:

Resources Required to Offer and Support the New Minor

Resources currently in place within the department are adequate to support this minor. All courses included in the minor are currently offered by the department. Sufficient seats are available in the classes because of current low enrollments.

Impact on Staffing in the Department to Support the New Minor

This minor will be able to be offered with the current staffing. All courses included in the minor are currently offered by the department and there is sufficient seating in the classes because of low enrollments. No new sections will be required.

List of Additional Library Holdings Required for this Major

Resources currently in place within University Library will support this new minor.

Proposed Curriculum

Software Development Minor

Software Development Minor (20 credits)

IT 210 Fundamentals of Programming (4)

IT 214 Fundamentals of Software Development (4)

IT 310 Data Structures and Algorithms (4)

IT 380 Systems Analysis and Design (4)

Choose One of the following Courses

IT 414 Advanced Object-Oriented Programming w/ Design Patterns (4)

IT 480 Software Quality Assurance and Testing (4)

IT 484 Software Engineering (4)

Software Development Minor Student Learning Outcome

The software development minor provides the students with an understanding of the successful delivery of software projects that support organizational goals. Students gain knowledge in the use of tools necessary to organize project objectives, create realistic plans, and build and manage an accomplished team through every phase of the software development project. Students gain practical skills needed to meet today's demands for faster and more efficient development.

The student learning outcomes are as follows.

After completion of the Software Development minor the students will:

- 1) Develop a competency with respect to a variety of object-oriented programming techniques and concepts.
- 2) Have competency with respect to some major industrial-strength integrated development environments.
- 3) Have knowledge of the software development process for successful delivery of software projects that support organizational goals.
- 4) Have knowledge of team dynamics and the ability to work effectively in a team environment.
- 5) Be able to match organizational needs to an efficient software development model that addresses real-world requirements and challenges.
- 6) Be able to plan and manage software development projects at each stage of the development process.
- 7) Have the skills for tracking and controlling software deliverables.
- 8) Understand and be able to develop a software quality assurance plan for a software project.

Software Development Minor Assessment Plan (page 1/2)

Student Learning Outcomes (performance, knowledge, attitudes)	Related College Goals	Related Univ. Goals	Method(s) of Assessment	Who Assessed (Students from what courses - population)	When Assessed (dates)	Standard of Mastery/ Criterion of Achievement	What is Hoped to Be Learned?
1) Develop a competency with respect to a variety of object-oriented programming techniques and concepts.	1, 2, 4	2	A1, A2, A3	Courses in the minor	semester end	>80% passing	Object-oriented programming
2) Have competency with respect to some major industrial-strength integrated development environment.	1, 2, 4	2	A1, A2, A3,	Courses in the minor	semester end	>80% passing	Development environments
3) Have knowledge of the software development process for successful delivery of software projects that support organizational goals.	1, 2, 3, 4	2	A1, A2, A3,	Courses in the minor	semester end	>80% passing	Development tools and methodologies
4) Have knowledge of team dynamics and the ability to work effectively in a team environment.	1, 2, , 4	2	A1, A2, A3,	Courses in the minor that require team projects	semester end	>80% passing	Work effectively in team
5) Be able to match organizational needs to an efficient software development model that addresses real-world requirements and challenges.	1, 2, 3, 4	2	A1, A2, A3, A4, A5	Courses in the minor	semester end	>80% passing	Requirements analysis
6) Be able to plan and manage software development projects at each stage of the development process.	1, 2, 3, 4	2	A1, A2, A3, A4	Courses in the minor	semester end	>80% passing	Software development project management
7) Have the skills for tracking and controlling software deliverables.	1, 2, 4	2	A1, A2, A3, A4, A5	Courses in the minor	semester end	>80% passing	Tracking and controlling tools
8) Understand and be able to develop a software quality assurance plan in a software project.	1, 2, 3, 4	2	A1, A2, A3, A5	Courses in the minor	semester end	>80% passing	Software quality assurance

Software Development Minor Assessment Plan (page 2/2)

What will the program do with results of information? The department will use the results of information to determine what changes may be needed to improve the minor, and to implement those changes.

Codes for methods of Assessment:

- A1 Evaluation of student performances in their exams, home works, quizzes
- A2 Course Evaluation
- A3 Student Survey
- A4 Research papers
- A5 Project report submission

Numbers Used for Related College Goals column:

Extracted from: <http://cset.mnsu.edu/about/mission-goals.html>

1. Provide students an in-depth knowledge of their discipline, accompanied with critical thinking skills, laboratory skills and problem solving skills,
2. Assure that all graduates of the college have strong oral and written communication skills.
3. Provide each major a thorough understanding of the ethical nature of their discipline and its application to societal needs.
4. Commit to life-long learning through a variety of technologies and research tools so each learner can adapt their knowledge base to new situations.

Numbers used for Related Univ. Goals column:

Extracted from: <http://www.mnsu.edu/supersite/about/mission.html>

2. The University will prepare students for careers and for life-long learning by providing a clearly defined general education program and focused undergraduate preprofessional, professional, and liberal arts programs.

ISYS & IT Faculty Meeting
Monday 10-15-07

In attendance: Tietz, Cornell, Schilling, G. Asher, Slack, Hart

Lee Cornell made the motion to approve the minutes from the 10-3-07 meeting. Allan Hart seconded the motion.

Motion was made by Lee Cornell to make IT 100 meet Gen Ed category 9 (Ethic & Civic Responsibility). Motion seconded by Susan Schilling. No discussion, motion passed.

Motion was made by Gregg Asher to change the name of IT 462 from Network Administration and Programming to Network Security, Administration & Programming, which will better reflect the course content. Allan Hart seconded the motion. No discussion. Motion passed.

Lee Cornell made the motion to create 3 new minors with the goal of converting these to Undergraduate certificates in the near future. Susan Schilling seconded the motion. No discussion, motion passed.

i. Database Technologies Minor (20 credits)

- 210
- 214
- 340

Plus any two of:

- 440
- 442
- 444

ii. Networking and Information Security Minor (20 credits)

- 210
- 214
- 350
- 360

Plus any one of:

- 450
- 460
- 462

iii. Software Development Minor (20 credits)

- 210
- 214
- 310
- 380

Plus any one of:

- 414
- 480
- 484