08-49

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):

College: Science, Engineering and Technology — ☒ Undergraduate

Department: Information Systems & Technology — ☐ Graduate

Program: Information Technology — CIP # _____

Type of Change Proposed: PROGRAM PROPOSALS — New Minor

Title Current:

Title Proposed: Networking and Information Security Minor

24-Char. Abbrev: Network & Info Sec Minor

Proposal # 89

Effective Date of Change:

Academic Year 07-08

(For Office Use Only)

Course Designator and Number	Number of Credits
	20

(if applicable)

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

The Network and Information Security minor provides students with the necessary knowledge in network and information security principles and practices so they are able to apply them in real world organizational challenges and opportunities. This minor focuses on telecommunication, different networks, efficient management and provides students with an understanding of how information security functions in an organization from both business and technology aspects.

Rationale or Justification for change:

Networks and Information security is critical to today's businesses and organizations. Currently 'Networking and Information Security' 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 in the application of networks and data security techniques.

For General Education or Cultural Diversity Courses Only

General Education Course:

GE Category # **GE Category Name (Maximum of 3 Categories)**

N/A

N/A

N/A

? 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.

Cultural Diversity Course:

(Please check one.)

☐ **Core** (At least 75% devoted to topics of race, gender, sexual orientation, age, class, and disabilities as they occur in United States Society.)

☐ **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.)

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:)

☐ Course is an elective.

☐ Course is required for program

☐ Pre- or Co-requisites:

☐ Other courses are being changed or eliminated. (Explain.)

Instructional Type: Lecture

Grading Format: ☐ Grade ☐ P/N

Course will be offered:

☐ Fall Semester

☐ Spring Semester

☐ Summer Session

☐ 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

X Recommended (Category/ies_____)
__Not Recommended (Category/ies_____)

Department Chair — Date: 10-18-07

Comments:

College Curriculum Committee

X Recommended (Category/ies_____)
__Not Recommended (Category/ies_____)

Committee Chair — Date: 10/30/07

Comments:

College Dean

V Recommended (Category/ies_____)
__Not Recommended (Category/ies_____)

Dean — Date: 11/2/07

Comments:

General Education Subcommittee

__Recommended (Category/ies_____)
__Not Recommended (Category/ies_____)

General Education Subcommittee Chair — Date

Comments:

Undergraduate Curriculum and Academic Policy Committee

V Recommended (Category/ies_____)
__Not Recommended (Category/ies_____)

UCAP Faculty Chair — Date: 12/10/07

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

V Recommended (Category/ies_____)
__Not Recommended (Category/ies_____)

Assistant Vice President — Date: 12/20/07

Comments:

Senior Vice President and Vice President for Academic Affairs

V Approved (Category/ies_____)
__Not Approved (Category/ies_____)

Sr. Vice President / Vice Pres. Academic Affairs — Date: 12/20/07

Comments:

Networking and Information Security 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
Networking and Information Security Minor

Networking and Information Security Minor (20 credits)

IT 210 Fundamentals of Programming (4)
IT 214 Fundamentals of Software Development (4)
IT 360 Introduction to Data Communication and Networking (4)
IT 350 Information Security (4)

Choose One of the following Courses
IT 450 Information Warfare (4)
IT 460 Network and Security Protocols (4)
IT 462 Network Administration and Programming (4)

Networking and Information Security Minor
Student Learning Outcome

The Network and Information Security minor provides students with the necessary knowledge in network and information security principles and practices so they are able to apply them in real world organizational challenges and opportunities. This minor focuses on telecommunication, different networks, efficient management and provides students with an understanding of how information security functions in an organization from both business and technology aspects.

The student learning outcomes are as follows:

Students completing the Networking and Information security minor will:

1) Understand and apply appropriate technical concepts and practices in the core areas of data communications, networking and information security.
2) Be able to identify and analyze networking and security requirements and design effective solutions that are integrated into user environments.
3) Be able to design, develop and code administration and networking software.
4) Be able to configure, secure and administer Servers and Networks
5) Understand and evaluate current and emerging networking and security technologies and assess their applicability to address the needs of individuals and organizations;
6) Be able to apply various tools and techniques to analyze and counter various network vulnerabilities, threats, infections and the propagation of malware.
7) Understand various electronic crimes and digital evidence.
8) Be able to analyze the impact of current and emerging networking and security technologies on individuals, organizations, and society in areas including ethics, law, and policy;

Networking and Information Security 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) Understand and apply appropriate technical concepts and practices in the core areas of data communications, networking and information security.	1, 2, 4	2	A1, A2, A3	Courses in the minor	semester end	>80% passing	Core areas of datacomm., network and security
2) Be able to identify and analyze networking and security requirements and design effective solutions that are integrated into user environments.	1, 2, 4	2	A1, A2, A3,	Courses in the minor	semester end	>80% passing	Networking requirements and design
3) Be able to design, develop and code for administration and networking software.	1, 2, 4	2	A1, A2, A3,	Courses in the minor	semester end	>80% passing	Network programming
4) Be able to configure, secure and administer Servers and Networks	1, 2, , 4	2	A1, A2, A3, A4	Courses in the minor	semester end	>80% passing	Network admin capabilities
5) Understand and evaluate current and emerging networking and security technologies and assess their applicability to address the needs of individuals and organizations;	1, 2, 3, 4	2	A1, A2, A3, A5	Courses in the minor	semester end	>80% passing	Knowledge of emerging technologies
6) Be able to apply various tools and techniques to analyze and counter various network vulnerabilities, threats, infections and the propagation of malware.	1, 2, 3, 4	2	A1, A2, A3, A5	Courses in the minor	semester end	>80% passing	Network vulnerabilities
7) Understand various electronic crimes and digital evidence.	1, 2, 3, 4	2	A1, A2, A3, A4	Courses in the minor	semester end	>80% passing	Network crimes
8) Be able to analyze the impact of current and emerging networking and security technologies on individuals, organizations, and society in areas including ethics, law, and policy;	1, 2, 3, 4	2	A1, A2, A3, A4	Courses in the minor	semester end	>80% passing	Ethics, laws and policies

Networking and Information Security 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 100meet 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