ACADEMIC SENATE PROPOSAL TRACKING SHEET
(Document To Be Originated By the Academic Senate Secretary On Canary Color Paper)

Proposal # 14-6
Title: Computer Information Systems Minor Revision
(Proposal explanation, submitter and college dean signatures on attached program/degree or course revision form.)

All proposals MUST have their originating college faculty body (Ex. Arts & Sciences, Education and Nursing; Technical Sciences) approval and must be signed by the submitter and the college dean before being submitted to the Academic Senate Secretary.

1. Submit all proposals (using the appropriate Academic Senate program/degree and/or course revision forms or General Education Inclusion form) to the Academic Senate Secretary. NOTE: Level 1 or Level 2 forms must be submitted concurrent with this proposal where applicable. For Education proposals, PEU approval must be received prior to forwarding the proposal to the Senate.

2. The Academic Senate Secretary logs and numbers items and forwards them to the appropriate Academic Senate subcommittee(s): General Education (if applicable), or Curriculum. A transmittal e-mail will be sent to the Recording Secretary of the receiving committee, cc Provost’s Administrative Assistant, by the Academic Senate Secretary. A digital copy of the proposal will be linked on the Academic Senate Proposal page by the Academic Senate Secretary.

3. The Academic Senate subcommittee(s) consider(s) the proposal. If approved, the proposal is returned to the Academic Senate Secretary for forwarding to the next committee. If a committee disapproves the proposal, the originator may request that the item be forwarded to the next body for consideration. The committee will provide written rationale to the originator, via the Academic Senate, when a proposal is disapproved and the proposal is returned to the originator. Upon completion of committee action, the proposal will be returned to the Academic Senate Secretary, and a transmittal e-mail sent by the Committee Recorder to the Senate Secretary, cc Provost’s Administrative Assistant.

4. The Academic Senate considers the proposal and recommends approval or disapproval. If approved, the proposal is forwarded to the Provost for consideration. If the Academic Senate disapproves the proposal, the originator may request that the item be forwarded to the Full Faculty for consideration, utilizing the procedures set forth in the Senate Bylaws. The Academic Senate will provide written rationale to the originator when proposals are disapproved and the proposal is returned to the originator.

5. Approved proposals will be forwarded to the Provost. The Provost approves or disapproves the proposal. If approved, the proposal is then forwarded to the Chancellor. From this point forward, the Provost’s Administrative Assistant will update the Proposal page on the website.

6. The Chancellor approves or disapproves the proposal.

7. The proposal will then either be implemented or referred to MSU for further action. The tracking page on the Provost site will be updated as required.

 Subcommittee and Academic Senate college representatives will notify their respective colleges' of the progress of submitted proposals or the proposal may be tracked via the web page -- http://www.msun.edu/admin/provost/senate/proposals.htm

Documentation and forms for the curriculum process is also available on the web page:
http://www.msun.edu/admin/provost/forms.htm

*****(If a proposal is disapproved at any level, it is returned through the Academic Senate secretary and the Senate President, to the Dean of the submitting college who then notifies the originator.

See back for tracking form
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**Note:** The secretary of the Academic Senate will update the Academic Senate Proposal web page from initial receipt until the proposal reaches the Provost. The Provost's Administrative Assistant will ensure that the current status of each proposal is maintained on the Academic Senate Proposal web page from that point forward.

*Abstract and pre-approval required for new programs ONLY.*

Academic Senate Form 1 (Revised 3/21/2012)
Please provide a brief explanation & rationale for the proposed revision(s).
Clean up the CIS minor by removing courses not offered. Also remove some of the programming to appeal to a better cross section of students.

Please provide in the space below a “before and after” picture of the program with the changes in the program noted. Attach appropriate Course Revision Forms. Please indicate changes by shading the appropriate cells.

### Current Program listed in 14-15 Catalog

<table>
<thead>
<tr>
<th>Course Prefix</th>
<th>#</th>
<th>Course Title</th>
<th>Credits</th>
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<td>CAPP</td>
<td>158</td>
<td>MS Access</td>
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<tr>
<td>CAPP</td>
<td>266</td>
<td>Advanced MS Excel Applications</td>
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<tr>
<td>CIS</td>
<td>235</td>
<td>Computer Hardware Support</td>
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<td>CIS</td>
<td>410</td>
<td>Enterprise Resource Planning</td>
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<tr>
<td>CSCI</td>
<td>110</td>
<td>Programming w/Visual Basic I</td>
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<td>CSCI</td>
<td>111</td>
<td>Programming with Java I</td>
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<tr>
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<td>Java/Experienced Programmers</td>
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<td>ITS</td>
<td>360</td>
<td>Business Telecom and Networking</td>
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<tr>
<td>CSCI</td>
<td>232</td>
<td>Data Structures and Algorithms</td>
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<td>CSCI</td>
<td>340</td>
<td>Database Design</td>
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<td>ITS</td>
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Total: 30

### Proposed Program for 15-16 Catalog

<table>
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<th>Course Prefix</th>
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<td>CIS</td>
<td>112</td>
<td>Web Site Development</td>
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<tr>
<td>CSCI</td>
<td>476</td>
<td>Computer Security</td>
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Total: 30

Additional instructional resources needed (including library materials, special equipment, and facilities). Please note: approval does not indicate support for new faculty or additional resources.

Updated 09/29/05
Please provide a brief explanation & rationale for the proposed revision(s):
No changes to course. Requiring in CIS Minor.

Please provide the following information:

**College:** College of Technical Sciences

**Program Area:** Computer Information Systems

**Date:** 12/1/14

**Course Prefix & No.:** CSCI 340

**Course Title:** Database Design

**Credits:** 3

**Required by:** Computer Information Systems BS

Computer Information Systems Minor

**Selective in:**

**Elective in:**

**General Education:**

**Lecture:** X

**Lecture/Lab:**

**Gradable Lab:**

**Contact hours lecture:** 3

**Contact hours lab:**

**Current Catalog Description (include all prerequisites):**

In this course, the Oracle database server will be used for application creation including analysis, design, implementation, and testing of large scale, enterprise database oriented projects. It covers advanced database concepts including relational databases, client-server applications and Oracle Database Administration. Prerequisites: CSCI 111 and CAPP 158.

**Proposed or New Catalog Description (include all prerequisites):**

In this course, the Oracle database server will be used for application creation including analysis, design, implementation, and testing of large scale, enterprise database oriented projects. It covers advanced database concepts including relational databases, client-server applications and Oracle Database Administration.

**Course Outcome Objectives:**

- Know the steps of database normalization
- Normalize a given database problem
- Design a database structure for a given problem
- Write SQL statements to update a database
Additional instructional resources needed (including library materials, special equipment, and facilities). Please note: approval does not indicate support for new faculty or additional resources.

Updated 09/29/05
COURSE REVISION FORM

NEW ____ Dropped ____ Major Revision ____ For Information Only X ____

College: COTS  Program Area: Computer Information Systems  Date: Dec 1, 14
Submitter: [Signature]  Dean: [Signature]  Date: 2/13/15

Please provide a brief explanation & rationale for the proposed revision(s):
Remove some prerequisites. No course changes.

Please provide the following information:
College: COTS
Program Area: Computer Information Systems
Date: 12/1/14
Course Prefix & No.: CSCI 460

Course Title: Operating Systems
Credits: 3

Required by: Computer Information Systems BS
Computer Information Systems Minor

Selective in: -none-
Elective in:
General Education: no

Lecture: X
Lecture/Lab:
Gradable Lab:
Contact hours lecture: 3
Contact hours lab: 0

Current Catalog Description (include all prerequisites):

Introduction to the basic principles of how operating systems function. Concepts cover single user operating systems and multi-user operating systems including the programming requirements and considerations under each. Prerequisites: CAPP 120 or equivalent competencies, CSCI 110, CSCI 111 and CSCI 201.

Proposed or New Catalog Description (include all prerequisites):

Introduction to the basic principles of how operating systems function. Concepts cover single user operating systems and multi-user operating systems including the programming requirements and considerations under each. CSCI 111

Course Outcome Objectives:

The successful student will know basics of:
Process description and control
Concurrency: mutual exclusion and synchronization - deadlock and starvation
I/O management and disk scheduling
file management
networking and distributed processing

Additional instructional resources needed (including library materials, special equipment, and facilities). Please note: approval does not indicate support for new faculty or additional resources.

Updated 09/29/03
COURSE REVISION FORM

NEW ___ DROPPED ___ MAJOR REVISION ____ FOR INFORMATION ONLY __X__

College: College of Technical Sciences Program Area: CIS Date: 10-08
Submitter: ___________________________________________________________________________
Signature: ___________________________________________________________________________
Chair/Dean: __________________________________________________________________________
Signature (indicates "college" level approval): __________________________________________________________________________
Date: __________________________________________________________________________

Please provide a brief explanation & rationale for the proposed revision(s):

No revision to course.

Please provide the following information:

College: College of Technical Sciences
Program Area: Computer Information Systems
Date: Dec 2014
Course pref and no.: CSCI 411
Course title: Advanced Web Programming
Credits: 3
Lecture: X
Lecture/Lab: 
Gradeable Lab: 
Contact hours lecture: 3
Contact hours lab: 
Required in: Computer Information Systems Minor
Computer Information Systems B.S

Catalog Course Description (include prerequisites):
This course applies WWW and internet presentation and programming techniques for providing quality information content on internet and in house networks, including dynamic information generation and dissemination through the use of interactive database links, client-server connections, and distributed software architectures. Prerequisites: CSCI 111 CAPP 158

Course Objectives:
Create a web based application simulating an E-commerce site utilizing a database backend and dynamic web programming front end.
Install and operate a web server including setup required to operate the dynamic capabilities needed to execute a web program.
Understand security concerns with e-commerce.

New and/or Additional Equipment Required:
New and/or Additional Library Resources Required:
Special Facility Needs Required: (laboratory space, specialized labs, rooms to facilitate large groups, computer labs):
Please provide a brief explanation & rationale for the proposed revision(s):
No course changes. **Adding to CIS Minor.**

Please provide the following information:
College: College of Technical Sciences
Program Area: Computer Information Systems
Date: 12/1/14
Course Prefix & No.: CIS 112
Course Title: Web Site Development
Credits: 3
Required by: Computer Information Systems BS
Computer Information Systems Minor
Selective in:
Elective in:
General Education:
Lecture: X
Lecture/Lab:
Gradable Lab:
Contact hours lecture: 3
Contact hours lab:

Current Catalog Description (include all prerequisites):
This class covers essential Internet Web Site skills for students. Topics covered include: web page construction, Photo editing, and file transfer protocol (FTP). Students will create a working Web site. Prerequisite: Basic computer skills

Proposed or New Catalog Description (include all prerequisites):
-NO CHANGE-

Course Outcome Objectives:
The student will be able to create web sites using HTML, CSS, and some JavaScript.

Additional instructional resources needed (including library materials, special equipment, and facilities). Please note: approval does not indicate support for new faculty or additional resources.

Updated 09/29/05
Please provide a brief explanation & rationale for the proposed revision(s):
No revision to course. Adding as a requirement to CIS Minor.

Please provide the following information:
College: College of Technical Sciences
Program Area: Computer Information Systems
Date: 12/1/14
Course Prefix & No.: CSCI 476
Course Title: Computer Security
Credits: 3
Required by: Computer Information Systems BS
Computer Information Systems Minor

Selective in: 
Elective in: 
General Education:

Lecture: X
Lecture/Lab: 
Gradable Lab: 
Contact hours lecture: 3
Contact hours lab:

Current Catalog Description (include all prerequisites):
The computer security course provides a basic overview of security policy, common threats and attacks and the technologies that can address network security issues. It also covers installation, configuration and basic troubleshooting of security solutions. Students will be required to successfully install and configure equipment in a pre-determined lab environment.

Proposed or New Catalog Description (include all prerequisites):

-NO CHANGE-

Course Outcome Objectives:

General Knowledge
Why we need security
Review security basics
Identify the features and benefits of security products
Install an embedded firewall (EFW)
Configure and manage a EFW
Design and troubleshoot a EFW network
List steps to install, configure and manage a hardware firewall, software firewall and a VPN firewall
List steps to install, configure and manage a VPC review security basics
Identify the features and benefits of security products
List steps to install, configure and manage a VPN
Locking down services for more effective security
Operating system add-ons
Disabling and removing unnecessary services
Controlled specific services, including FTP, Telnet, and HTTP
Scanning and protecting shares

Encryption Techniques
Encryption and internetworking
Encryption in enterprise networks
Understanding trust relationships
Symmetric key encryption
Public key encryption
One-way encryption
Data encryption standard
Working with digital certificates
SSL encryption and web servers
Use pretty good privacy (PGP) to sign a document
Deploying S/MIME
Public Key Infrastructure (PKI) vs certificate authority (CA)
Encryption protocols and system performance

Intrusions and Attacks
Intrusion Threats
Scanning Attacks
Detecting a NIC in "Promiscuous Mode"
Sniffing Attacks, Including Sniffing E-Mail, Telnet, NFS, NIS, And Web Traffic
E-Mail Bombing
Scanning and Cracking a Share
System Bug-Based Attacks
Causes and Results of a Denial of Service (DOS) Attacks
Defining and Conducting Buffer Overflow Attacks
How to Protect Your Operating Systems, Routers, and Equipment against Physical Attacks
Brute Force Attack
Dictionary Attack
Social Engineering
Understanding Key Logging
Identifying Trojans
Describe the Effects of a Worm
Three Virus Types (Boot Sector, Macro, File Attaching)
IP Spoofing
Security Components
Identifying and Implementing Security Policies

Additional instructional resources needed (including library materials, special equipment, and facilities). Please note: approval does not indicate support for new faculty or additional resources.

Updated 09/29/05
Notice of Intent to Modify the Computer Information Systems Minor

THAT
Montana State University Northern seeks to notify the Montana Board of Regents of their intent to revise the Computer Information Systems Minor.

EXPLANATION
Montana State University Northern requests approval to revise the Minor in Computer Information Systems. Through the program prioritization process, it was determined this minor should be updated by removing some courses, requiring/or removing pre-requisites for other courses and by adding courses to the CIS Minor. By updating the CIS Minor program, it is hoped the program will appeal to a wider cross section of students.

ATTACHMENTS
Academic Proposal Request Form
Curriculum Proposal Form
Program/Degree Revision Form
Course Revision Forms
Montana Board of Regents
ACADEMIC PROPOSAL REQUEST FORM

Item Number: 168-2800+R09157  Meeting Date: September 16-17, 2015
Institution: Montana State University Northern  CIP Code: 11.0401
Program Title: Computer Information Systems Minor

Please mark the appropriate type of request and submit with an Item Template and any additional materials, including those listed in parentheses following the type of request. For more information pertaining to the types of requests listed below, how to complete an item request, or additional forms please visit the Academic Affairs Handbook.

A. Notifications:

Notifications are announcements conveyed to the Board of Regents at the next regular meeting.

1a. Placing a program into moratorium (Document steps taken to notify students, faculty, and other constituents and include this information on checklist at time of termination if not reinstated)

1b. Withdrawing a program from moratorium

2. Intent to terminate an existing major, minor, option or certificate – Step 1 (Phase I Program Termination Checklist)

3. Campus Certificates- Adding, re-titling, terminating or revising a campus certificate of 29 credits or less

4. BAS/AA/AS Area of Study

B. Level I:

Level I proposals are those that may be approved by the Commissioner of Higher Education. The approval of such proposals will be conveyed to the Board of Regents at the next regular meeting of the Board.

1. Re-titling an existing major, minor, option or certificate

2. Adding a new minor or certificate where there is a major or an option in a major (Curriculum Proposal Form)

3. Revising a program (Curriculum Proposal Form)

4. Distance or online delivery of an existing degree or certificate program

5. Terminating an existing major, minor, option or certificate – Step 2 (Completed Program Termination Checklist)

Temporary Certificate or AAS Degree Program

Approval for programs under this provision will be limited to two years. Continuation of a program beyond the two years will require the proposal to go through the normal Level II Proposal approval process.
Montana Board of Regents
ACADEMIC PROPOSAL REQUEST FORM

C. Level I with Level II Documentation:

This type of proposal may go to the Board as a Level I item if all Chief Academic Officers are in agreement. If consensus among the Chief Academic Officers is not reached, however, the item will go to the Board as a Level II request.

1. Consolidating existing programs and/or degrees (Curriculum Proposal Form)

D. Level II:

Level II proposals require approval of the Board of Regents. These requests will go to the Board in a two-meeting format, the first being as informational and the second as action.

1. Re-titling a degree (ex. From B.A. to B.F.A)

2. Adding a new minor or certificate where there is no major or option in a major (Curriculum Proposal Form)

3. Establishing a new degree or adding a major or option to an existing degree (Curriculum Proposal Form)

4. Forming, eliminating or consolidating a college, division, school, department, institute, bureau, center, station, laboratory or similar unit (Curriculum Proposal Form or Center Proposal Form, except when eliminating or consolidating)

5. Re-titling a college, division, school, department, institute, bureau, center, station, laboratory or similar unit

Specify Request:
1. Overview

Modification to the Computer Information Systems minor at Montana State University—Northern. Update course requirements.

2. Provide a one paragraph description of the proposed program. Be specific about what degree, major, minor or option is sought.

Update the CIS Minor to streamline course requirements. Removal of not-used courses and removal of options in the degree will clarify requirements for students.

3. Need

A. To what specific need is the institution responding in developing the proposed program?

   Modify of existing... update courses.

B. How will students and any other affected constituencies be served by the proposed program?

C. What is the anticipated demand for the program? How was this determined?

4. Institutional and System Fit

A. What is the connection between the proposed program and existing programs at the institution?

   This program is currently offered.

B. Will approval of the proposed program require changes to any existing programs at the institution? If so, please describe.

   The degree courses are modified slightly to meet new industry needs and to revise curriculum offered at Northern.

C. Describe what differentiates this program from other, closely related programs at the institution (if appropriate).

   Minor provided for any major.

D. How does the proposed program serve to advance the strategic goals of the institution?

   MSU-Northern’s Core Themes:

   1. Provide liberal arts, professional and technical programs that serve a diverse student population.

      The CIS Program is a technical program studying Computer Technology and programming. We accept students of all ages and backgrounds. The program has articulation agreements with
Montana Board of Regents
CURRICULUM PROPOSAL FORM

some of the Tribal Colleges in the state which allows those students to transfer seamlessly into the program.

2. Promote student centered and culturally enriched environment which fosters student success.

The CIS program includes group projects in which students are placed into teams. This team work provides students abundant opportunity to discuss topics in which the background of the participants plays a major role in how the world is viewed.

3. Partner with external entities to enhance and expand learning experiences.

The CIS minor focuses on applied courses needed in local businesses.

E. Describe the relationship between the proposed program and any similar programs within the Montana University System. In cases of substantial duplication, explain the need for the proposed program at an additional institution. Describe any efforts that were made to collaborate with these similar programs; and if no efforts were made, explain why. If articulation or transfer agreements have been developed for the substantially duplicated programs, please include the agreement(s) ad apart of the documentation.

MIS Minors are somewhat similar to the CIS Minor.

5. Program Details

A. Provide a detailed description of the proposed curriculum. Where possible, present the information in the form intended to appear in the catalog or other publications. NOTE: In the case of two-year degree programs and certificates of applied science, the curriculum should include enough detail to determine if the characteristics set out in Regents’ Policy 301.12 have been met.

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B. Describe the planned implementation of the proposed program, including estimates of numbers of students at each stage.

6. Resources

A. Will additional faculty resources be required to implement this program? If yes, please describe the need and indicate the plan for meeting this need.

   No

B. Are other, additional resources required to ensure the success of the proposed program? If yes, please describe the need and indicate the plan for meeting this need.
7. Assessment
   How will the success of the program be measured?
   - Retention rates
   - Graduation rates
   - Graduate surveys
   - Assessment of capstone course to assess program outcomes

8. Process Leading to Submission
   Describe the process of developing and approving the proposed program. Indicate, where appropriate, involvement by faculty, students, community members, potential employers, accrediting agencies, etc.

   Discussions with Advisory Board in general and individual board members to gain focus for the program. Discussions with graduates to identify needs they have/had when applying for positions in Montana. Discussions with prospective employers and review of some job advertisements to identify the industry direction. Review of industry literature for job employment prospects.

   Proposed to the Business Department and passed.

   Proposed to the College of Technical Sciences and passed.

   Submitted to the Senate proposal process.
Lourdes Caven

From: Lourdes Caven  
Sent: Thursday, December 04, 2014 2:05 PM  
To: Andrew Johnson; Barbara Zuck; Byron Ophus; Carissa Brown; Eleazer Resurreccion; Gail Shatkus; Gregory Clouse; Heather Thompson; James Kirkpatrick; Jay Howland; Jeremy Hofman; Jeremy Siemens; Joshua Meyer; Kevin Carlson; Kevin Johnson; Kevin Ruby; Lanny Wilke; Lorren Schlotfeldt; Mary Verploegen; Rodney Ridenour; Steven Don; Thomas Welch; Trygve "Spike" Magelssen; Wane Boysun; William Danley; William Taylor  
Subject: proposal request  
Attachments: CIS Minor Change Request.pdf  
Importance: High  
Tracking:  
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I have attached a copy of the change request for the CIS Minor. Please take a look at the attached document and use
the voting buttons to approve/reject this proposal. Feel free to contact me if you have any questions or concerns.

Thank you,

Lourdes Caven

Lourdes N. Caven  
Administrative Associate III  
College of Technical Sciences  
Montana State University - Northern  
P.O. Box 7751  
300 13th Street West  
Havre, MT 59501  
(406) 265-3736 Phone  
(406) 265-3741 Fax