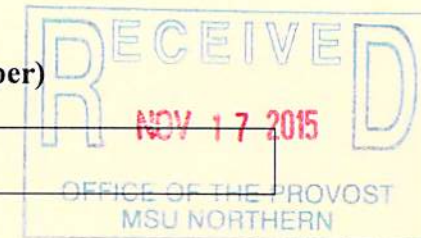


ACADEMIC SENATE PROPOSAL TRACKING SHEET
(Document To Be Originated By the Academic Senate Secretary On Canary Color Paper)



Proposal #15-3

Title: Mobile and Web Application Development

(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.
7. The Chancellor approves or disapproves the proposal.
8. 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

	Date	Action Taken	Signature	Date	Comments/Reason for Disapproval	Sent to	Date	Transmittal E-mail sent
*Abstract received by Senate Secretary		Copy to Senate President. Forward to Provost.						
*Provost		<input type="checkbox"/> Abstract Approved <input type="checkbox"/> Disapproved						
Received by Senate Secretary	09/04/15	Tracking form initiated	Lourdes Caven	09/04/15		Gen Ed	09/04/15	
General Education Committee (if applicable)		<input checked="" type="checkbox"/> Approved <input type="checkbox"/> Disapproved	With correction for writing listed under Conn.	9/21/15	Gary L. Jucan		Curriculum 9-22-15	
Curriculum Committee (if applicable)		<input checked="" type="checkbox"/> Approved <input type="checkbox"/> Disapproved	W/ Recommendations BCPS	10/8/15	Recommendations within			
Academic Senate	10-8-15	<input checked="" type="checkbox"/> Approved <input type="checkbox"/> Disapproved	James L. Bell	10/13/15				
Full Faculty (if necessary)		<input type="checkbox"/> Approved <input type="checkbox"/> Disapproved						
Provost	1-21-16	<input type="checkbox"/> Approved <input checked="" type="checkbox"/> Disapproved	Wm. J. Rugg	1-21-16	Chancellor →		1-21-16	
Chancellor	1-21-16	<input type="checkbox"/> Approved <input checked="" type="checkbox"/> Disapproved	Sherry D. Keel	1-21-2016	Not sustainable			
MSU		<input type="checkbox"/> Approved <input type="checkbox"/> Disapproved						
BOR		<input type="checkbox"/> Approved <input type="checkbox"/> Disapproved						
NWCCU		<input type="checkbox"/> Approved <input type="checkbox"/> Disapproved						
Provost		Advise originating college and Academic Senate of status. Update Web page.						
Registrar		Catalog/Policy Manual Update						

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)

Montana Board of Regents
ACADEMIC PROPOSAL REQUEST FORM

Item Number: XXX-XXXX+XXXXX Meeting Date: _____
 Institution: Montana State University--Northern CIP Code: _____
 Program Title: Computer Information Systems, B.S.

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, Research and Student 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 (CAS/AAS)-Adding, re-titling, terminating or revising a campus certificate of 29 credits or less**
- 4. BAS/AA/AS Area of Study**

 X 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.

- X 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. Merging or re-titling a department**
- X 4. Revising a program** (Curriculum Proposal Form)
- X 5. Distance or online delivery of an existing degree or certificate program**
- 6. Terminating an existing major, minor, option or certificate – Step 2** (Completed Program Termination Checklist and updated catalog)

 Temporary Certificate or AAS Degree Program

Montana Board of Regents
ACADEMIC PROPOSAL REQUEST FORM

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.

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. Adding an option within an existing major or degree** (Curriculum Proposal Form)

___ **2. 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)** (Curriculum Proposal Form)

___ **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)

___ **5. Re-titling a college, division, school department, institute, bureau, center, station, laboratory or similar unit** (Curriculum Proposal Form or Center Proposal Form)

Specify Request:

Withdraw the Computer Information Systems, BS degree from moratorium. Revisions to this degree have re-focused it to meet current industry needs. It is also our desire to offer this degree both on-campus and online.

Montana Board of Regents
CURRICULUM PROPOSAL FORM

1. Overview

Modification to the Computer Information Systems degree at Montana State University—Northern. Remove degree from moratorium.

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

The CIS program will provide graduates with the skills and knowledge necessary to become employed in the computer industry as a Web developer, App developer, Front end or Back end developer, or general programmer.

3. Need

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

Lack of developers in the state and in the country.

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

Students will be qualified to fill positions in the computer industry which currently go unfilled.

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 in moratorium for redesign.

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. There are four different courses in the revised CIS degree than what are in the CIS degree in moratorium.

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

None at MSUN as this will bring the Computer Information Systems program out of moratorium.

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 program has a yearlong series of courses in which students must find a project from the community. These projects enhance Northern's capabilities for technology transfer and enable our students to partner with external entities in a real life situation.

- 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.**

The only program which may be somewhat similar is Computer Science. However, Computer Science has a much more theoretical focus than Computer Information Systems.

Computer Information Systems is a business focused computing and application development program. Northern's CIS program has a database and web development focus.

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.**

**PROPOSAL
TITLE**

Computer Information Systems

**Current Program listed
in 14-15 Catalog**

Course Prefix	#	Course Title	Credits
Category	1	Communication	6

**Proposed Program
for 15-16 Catalog**

Course Prefix	#	Course Title	Credits
Category	1	Communication	
COMX	115	Interpersonal Communications	3
WRIT	101	College Writing I	3

Montana Board of Regents CURRICULUM PROPOSAL FORM

Category	II	Mathematics	3	Category	II	Mathematics	3
Category	III	Natural Sciences	6	Category	III	Natural Sciences	6
Category	IV	Social Sciences/History	6	Category	IV	Social Sciences/History	6
Category	V	Cultural Diversity	3	Category	V	Cultural Diversity	3
Category	VI	Humanities/Fine Arts	6	Category	VI	Humanities/Fine Arts	6
Category	VII	Technology	3	Category	VII	Technology	
				CAPP	151	MS Office	3
						General Education Credits	33
ACTG	201	Principles of Financial Accounting	3	CSCI	111	Programming with Java I	3
CAPP	151	MS Office (CAT VII)	-	CIS	112	Web Site Development	3
CAPP	158	MS Access	3	CAPP	158	MS Access	3
CAPP	266	Advanced MS Excel Applications	3				
CIS	112	Web Site Development	3	ACTG	201	Principles of Financial Accounting	3
CIS	235	Computer Hardware Support	3	CSCI	201	Java for Experienced Programmers	3
CIS	410	Enterprise Resource Planning	3	CSCI	2xx	Client Side Scripting	3
CSCI	110	Programming with Visual Basic I	3	CSCI	232	Data Structures and Algorithms	3
CSCI	111	Programming with Java I	3				
CSCI	201	Java for Experienced Programmers	3	CSCI	3XX	Mobile App Development	3
CSCI	221	Systems Analysis and Design	3	ESOF	322	Software Engineering	3
CSCI	460	Operating Systems	3	CSCI	340	Database Design	3
CSCI	499	Senior Thesis/Capstone	3	BMIS	373	Business Systems Analysis and Design	3
M	121	College Algebra or M 145 Math...		BMKT	345	Marketing Trends	3
WRIT	350	Technical Editing (CAT I)	3				
		TAKE 24 CREDITS FROM BELOW		CSCI	4xx	Server Side Scripting	3
CIS	401	Interfacing	3	CSCI	411	Advanced Web Programming *	3
CSCI	232	Data Structures and Algorithms	3	CSCI	460	Operating Systems	3
CSCI	340	Database Design	3				
CSCI	411	Advanced Web Programming	3				
ISET	355	Computer Security	3				
CSCI	498	Cooperative Education	3			Program Major Credits	45
ESOF	322	Software Engineering	3			* capstone course	
ITS	360	Bus Telecommunications and Networking	3			Upper division credits will be obtained from general education & minor/electives.	
		Advisor Approved Electives	24			Minor/Electives	42
		Total	120			Total Credits for Degree	120

Montana Board of Regents
CURRICULUM PROPOSAL FORM

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

2015-2016 – remove from moratorium, begin advertising and reestablishing articulation agreements. Offer Dual Enrollment courses from the program’s first two years. (5 students)

2016-** – Continue Dual Enrollment courses. Continue advertising and communication with articulation participants. (10 new students per year)**

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.

No

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.

PROGRAM/DEGREE REVISION FORM

NEW _____ DROPPED _____ MAJOR REVISION FOR INFORMATION ONLY _____
 College COTS _____ Program Area _____ Date _____
 Submitter pmj [Signature] _____ Dean [Signature] Date 9/22/15
Signature (Indicate "college" level approval)

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

With the CIS program put into moratorium, research completed indicated that a major program overhaul was needed. The result of this activity is to rename the CIS BS program to be Mobile And Web Application Development and to focus the curriculum to match the outcomes of the new focus for the program.

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.

PROPOSAL TITLE
Current Program listed
in 14-15 Catalog

Mobile And Web Application Development
Proposed Program
for 15-16 Catalog

Course Prefix	#	Course Title	Credits
Category I		Communication	6
Category II		Mathematics	3
Category III		Natural Sciences	6
Category IV		Social Sciences/History	6
Category V		Cultural Diversity	3
Category VI		Humanities/Fine Arts	6
Category VII		Technology	3
ACTG	201	Principles of Financial Accounting	3
CAPP	151	MS Office (CAT VII)	3
CAPP	158	MS Access	3
CAPP	266	Advanced MS Excel Applications	3
CIS	112	Web Site Development	3
CIS	235	Computer Hardware Support	3
CIS	410	Enterprise Resource Planning	3
CSCI	110	Programming with Visual Basic I	3
CSCI	111	Programming with Java I	3
CSCI	201	Java for Experienced Programmers	3
CSCI	221	Systems Analysis and Design	3
CSCI	460	Operating Systems	3
CSCI	499	Senior Thesis/Capstone	3
M	121	College Algebra or M 145 Math ...	3
WRIT	350	Technical Editing (CAT I)	3
		TAKE 24 CREDITS FROM BELOW	
CIS	401	Interfacing	3
CSCI	232	Data Structures and Algorithms	3
CSCI	340	Database Design	3
CSCI	411	Advanced Web Programming	3
ISET	355	Computer Security	3
CSCI	498	Cooperative Education	3
ESOF	322	Software Engineering	3
ITS	360	Bus Telecommunications and Networking	3
		Advisor Approved Electives	24
		Total	120

Course Prefix	#	Course Title	Credits
Category I		Communication	6
<u>comx</u>	<u>115</u>	Interpersonal Communications	3
WRIT	101	College Writing I	3
Category II		Mathematics	3
Category III		Natural Sciences	6
Category IV		Social Sciences/History	6
Category V		Cultural Diversity	3
Category VI		Humanities/Fine Arts	6
Category VII		Technology	3
CAPP	151	MS Office	3
		General Education Credits	33
CSCI	111	Programming with Java I	3
CIS	112	Web Site Development	3
CAPP	158	MS Access	3
ACTG ACTG	201	Principles of Financial Accounting	3
CSCI	201	Java for Experienced Programmers	3
CSCI	2xx	Client Side Scripting	3
CSCI	232	Data Structures and Algorithms	3
CSCI	3XX	Mobile App Development	3
ESOF	322	Software Engineering	3
CSCI	340	Database Design	3
BMIS	373	Business Systems Analysis and Design	3
BMKT	345	Marketing Trends	3
CSCI	4xx	Server Side Scripting	3
CSCI	411	Advanced Web Programming *	3
CSCI	460	Operating Systems	3
		Program Major Credits	45
		* capstone course	
		Minor/Electives	42
		Total Credits for Degree	120

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

-none-

COURSE REVISION FORM

NEW _____ DROPPED _____ MAJOR REVISION _____ FOR INFORMATION ONLY _____

College COTS Program Area CIS Date _____
Submitter [Signature] Dean [Signature] Date 9/22/15
Signature (indicates "college" level approval)

Please provide a brief explanation & rationale for the proposed revision(s):
New course in support of proposed new program: Mobile and Web Development

Please provide the following information:

College: College of Technical Sciences
Program Area: Mobile and Web Development
Date:
Course Prefix & No.: CSCI 2xx

Course Title: Client Side Scripting
Credits: 3

Required by: Mobile and Web Development, BS

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):

Proposed or New Catalog Description (include all prerequisites):

Client side scripting will be evaluated and utilized in creating a web application. Frameworks and libraries in support of this processes will be discussed and utilized. Example pages will be implemented.

Course Outcome Objectives:

Know commonly used libraries and their application in client side apps.
Implement client-server data transfer utilizing AJAX.
Process JSON data received.
Manipulate DOM components.
Monitor and evaluate FORM data being entered.
Dynamically update a displayed page.
Dynamically format pages for different display sizes.

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

COURSE REVISION FORM

NEW _____ DROPPED _____ MAJOR REVISION _____ FOR INFORMATION ONLY _____

College COTS Program Area CIS Date _____
Submitter [Signature] Dean [Signature] Date 9/22/15
Signature (indicates "college" level approval)

Please provide a brief explanation & rationale for the proposed revision(s):
New course in support of proposed new program: Mobile and Web Development

Please provide the following information:

College: College of Technical Sciences
Program Area: Mobile and Web Development
Date:
Course Prefix & No.: CSCI 3xx

Course Title: Mobile App Development
Credits: 3

Required by: Mobile and Web Development BS

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):

Proposed or New Catalog Description (include all prerequisites):

The focus of this course is development of mobile apps. Operating systems, hardware platforms, and development environments will be covered. A mobile app will be developed in the course.

Course Outcome Objectives:

Understand differences in mobile development depending on selected platforms.
Utilize a programming language/framework to develop a mobile app.
Utilize web services for data transfer to/from mobile apps.
Implement services provided in apps.

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

COURSE REVISION FORM

NEW X DROPPED _____ MAJOR REVISION _____ FOR INFORMATION ONLY _____

College COTS Program Area Business/Computers Date 4/2/2015

Submitter [Signature] Dean [Signature] Date 4/7/15
Signature (indicates "college" level approval)

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

This course is currently offered by UM and is FLOCed. The course is required by the B.S. in Mobile and Web Application Development.

Please provide the following information:

College: COTS
Program Area: Business/Computers
Date: 4/2/2015
Course Prefix & No.: BMIS 373

Course Title: Business Systems Analysis and Design

Credits: 3

Required by: Mobile and Web Application Development B.S.

Selective in: NA

Elective in: NA

General Education: NA

Lecture: 3

Lecture/Lab:

Gradable Lab:

Contact hours lecture:

Contact hours lab:

Current Catalog Description (include all prerequisites):

None

Proposed or New Catalog Description (include all prerequisites):

This is a study of the systematic analysis and design of computer software using case tools, data flow analysis, and culminating in a complete system design. Prerequisite: None

Course Outcome Objectives:

Upon completion of this course, a student will be able to:

- Apply the systems development life cycle (SDLC) in a real-world information system development project;
- Design and implement an information system prototype that meets end-user requirements;
- Gain hands-on experience working as part of an information system development team;

- ☒ Model existing business processes and identify areas for improvement;
- ☒ Assess the feasibility of various technological alternatives and recommend the most nearly optimal solution;
- ☒ Create documentation associated with an information system development project and system prototype.

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 4/2/2015

COURSE REVISION FORM

NEW _____ DROPPED _____ MAJOR REVISION _____ FOR INFORMATION ONLY _____

College COTS Program Area CIS Date _____

Submitter  Dean  Date 9/22/15
Signature (indicates college level approval)

Please provide a brief explanation & rationale for the proposed revision(s):
New course in support of proposed new program: Mobile and Web Development

Please provide the following information:

College: College of Technical Sciences

Program Area: Mobile and Web Development

Date:

Course Prefix & No.: CSCI 4xx

Course Title: Server Side Scripting

Credits: 3

Required by: Mobile and Web Development, BS

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):

Proposed or New Catalog Description (include all prerequisites):

This course covers scripting on servers for support of web processing and database maintenance. Scripting languages will be explored and used to implement solutions to scripting problems. Web services will be developed.

Course Outcome Objectives:

Write scripts to process web requests.

Write scripts to implement database processes.

Write scripts to implement maintenance procedures.

Configure server settings for script utilization.

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

COURSE REVISION FORM

NEW _____ DROPPED _____ MAJOR REVISION _____ FOR INFORMATION ONLY X

College COTS Program Area CIS Date 1/4/15

Submitter  Dean  Date 4/1/15
Signature (indicates "college" level approval)

Please provide a brief explanation & rationale for the proposed revision(s):
Designate as "Capstone Course" for Computer Information Systems BS and CIS minor programs.

Please provide the following information:

College: College of Technical Sciences
Program Area: Computer Information Systems
Date: 12/1/14
Course Prefix & No.: CSCI 411

Course Title: Advanced Web Programming
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 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

Proposed or New Catalog Description (include all 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. This is the capstone course for Web and Mobile Application Development and CIS Minor programs.

Course Outcome 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 and web applications.