10-29-2012

Establish Optional Concentrations in CIS

The College at Brockport, College Senate

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Resolution # 03 2012-2013
College Senate

TO: Dr. John R. Halstead, College President
FROM: The College Senate: 10/29/2012
RE: I. Formal Resolution (Act of Determination)
II. Recommendation (Urging the Fitness of)
III. Other, For Your Information (Notice, Request, Report, etc.)

SUBJ: Establish Optional Concentrations in CIS (#10_12-13UC)

Signed: _______ Date: 11/13/12
(Mark Chadsey, 2012-13 College Senate President)

Please fill out the bottom portion and follow the distribution instructions at the end of this page.

TO: Mark Chadsey, College Senate President
FROM: John R. Halstead, College President
RE: I. Decision and Action Taken on Formal Resolution (circle choice)
   a. Accepted - Implementation Effective Date**: FALL 2013
   **Implementation of resolution requires final approval from SUNY- State Education Department.  YES
   b. Deferred for discussion with the Faculty Senate on ___/____/____
   c. Unacceptable for the reasons contained in the attached explanation

II, III. Response to Recommendation or Other/FYI
   a. Received and acknowledged ___/____/____
   b. Comment: _______

Signed: _______ Date: 11/28/12
(Dr. John R. Halstead, President, The College at Brockport)

DISTRIBUTION:
Upon approval, the College President will forward copies of resolutions to his staff who will, in turn, forward copies to their staff. The College Senate Office will post resolutions to the College Senate Web at http://www.brockport.edu/collegesenate/resolutions.
INSTRUCTIONS

- Use committee guidelines available at brockport.edu/collegesenate/proposal.html.
- Prepare ONE complete document in Word format: include this proposal cover page, proposal, attachments and support letters from your department chair and dean if applicable.
- Locate the Resolution # and date this proposal will replace at our “Approved Resolutions” page on our Web site.
- Email completed proposal to senate@brockport.edu. (General Education Proposals and questions go to dlamphron@brockport.edu in the Vice Provost’s Office first.)
- Make revisions on the paperwork emailed to you from the Senate office that shows the assigned routing number on top. Submit updated document to senate@brockport.edu.
- Questions? Call the Senate office at 395-2586 or the appropriate committee chairperson.

1. PROPOSAL TITLE: Please be somewhat descriptive, i.e. Use a course number and/or title, indicate if for GED code, etc.

   Establish Optional Concentrations in Computer Information Systems

2. BRIEF DESCRIPTION OF PROPOSAL:

   This proposal addresses the establishment of four optional concentrations (Data Analytics, Information Assurance, Requirements Elicitation, Web Design) for the Computer Information Systems major. Concentrations provide an opportunity for a student to study a specific area in the major in depth. The concentrations are recorded on the student’s transcript, and may provide graduates with enhanced employment opportunities.

3. WILL ADDITIONAL RESOURCES AFFECTING BUDGET BE NEEDED? _x__ NO ___ YES  EXPLAIN YES

4. DESCRIBE ANY DATA RELATED TO STUDENT LEARNING OUTCOMES ASSESSMENT USED AS PART OF THE RATIONALE FOR THE REQUESTED SENATE ACTION.

   During the May 2012 Computer Science Department External Advisory Board meeting the board members felt that CIS major graduates would benefit from depth of knowledge in an information systems area. Meetings of the External Advisory Board are part of the department’s assessment process.

5. HOW WILL THIS AFFECT TRANSFER STUDENTS:  

   There are no adverse effects.

6. ANTICIPATED EFFECTIVE DATE:

   Fall 2013

7. SUBMISSION & REVISION DATES: PLEASE DATE ALL REVISED DOCUMENTS TO AVOID CONFUSION.

<table>
<thead>
<tr>
<th>First Submission</th>
<th>Updated on</th>
<th>Updated on</th>
<th>Updated on</th>
</tr>
</thead>
</table>

8. SUBMITTED BY: (contact person)

<table>
<thead>
<tr>
<th>Name</th>
<th>Department</th>
<th>Phone</th>
<th>Email</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anthony Scime</td>
<td>Computer Science</td>
<td>395-2323</td>
<td><a href="mailto:ascime@brockport.edu">ascime@brockport.edu</a></td>
</tr>
</tbody>
</table>

9. COMMITTEES: (Senate office use only)

<table>
<thead>
<tr>
<th>Standing Committee</th>
<th>Forwarded To</th>
<th>Dates Forwarded</th>
</tr>
</thead>
<tbody>
<tr>
<td>_ Executive Committee</td>
<td>Standing Committee</td>
<td>10/1/12</td>
</tr>
<tr>
<td>_ Enrollment Planning &amp; Policies</td>
<td>Executive Committee</td>
<td>10/22/12</td>
</tr>
<tr>
<td>_ Faculty &amp; Professional Staff Policies</td>
<td>Senate</td>
<td>10/29/12</td>
</tr>
<tr>
<td>_ General Education &amp; Curriculum Policies</td>
<td>Passed GED's go to Vice Provost</td>
<td></td>
</tr>
<tr>
<td>_ Graduate Curriculum &amp; Policies</td>
<td>College President</td>
<td>11/19/12</td>
</tr>
<tr>
<td>_ Student Policies</td>
<td>OTHER</td>
<td></td>
</tr>
<tr>
<td>_ Undergraduate Curriculum &amp; Policies</td>
<td>REJECTED -WITHDRAWN</td>
<td></td>
</tr>
</tbody>
</table>

NOTES:
The College at Brockport, State University of New York
Department of Computer Science
Establish Optional Concentrations in Computer Information Systems

0. Intent of the Proposal

The Department of Computer Science at The College at Brockport, State University of New York currently offers no concentrations in the Computer Information Systems major. This proposal addresses the establishment of four optional concentrations for the Computer Information Systems major, to take effect in Fall 2013. The number of credits in the major remains the same. To complete a concentration, students will have to complete selected electives. No additional resources are needed to implement the establishment of the concentrations.

1. Rationale for Restructuring

On the advice of the external departmental advisory board, the department wishes to establish concentrations in order to strengthen major. Concentrations provide an opportunity for a student to study a specific area in the major in more depth. Concentrations are recorded on the student’s transcript. Concentrations may provide graduates with enhanced employment opportunities. By requiring a course outside the Computer Information Systems major requirements more depth is acquired than is possible by just taking Computer Information Systems electives.

2. Proposed Change

Current Status: There are no concentrations in the Computer Information Systems major

Proposed Change: Establish four optional concentrations for the CIS major - Data Analytics, Information Assurance, Requirements Elicitation, Web Design:

Data Analytics (13 credits)

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIS 106</td>
<td>End-User Computing</td>
<td>3</td>
</tr>
<tr>
<td>CIS 206</td>
<td>Information Technology Tools</td>
<td>1</td>
</tr>
<tr>
<td>CIS 422</td>
<td>Physical Design and Implementation with DBMS</td>
<td>3</td>
</tr>
<tr>
<td>CIS 436</td>
<td>Data Mining</td>
<td>3</td>
</tr>
<tr>
<td>ECN 304</td>
<td>Intermediate Statistics (A)</td>
<td>3</td>
</tr>
</tbody>
</table>
Information Assurance (13 credits)

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSC 209</td>
<td>UNIX Tools</td>
<td>1</td>
</tr>
<tr>
<td>CIS 303</td>
<td>Information Technology Hardware and Software</td>
<td>3</td>
</tr>
<tr>
<td>CIS 419</td>
<td>Computer Networks and Internet Applications</td>
<td>3</td>
</tr>
<tr>
<td>CIS 421</td>
<td>Computer and Network Security</td>
<td>3</td>
</tr>
<tr>
<td>CPS 301</td>
<td>Issues in Criminal and Forensic Computing (A, I)</td>
<td>3</td>
</tr>
</tbody>
</table>

Requirements Elicitation (13 credits)

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIS 317</td>
<td>Analysis and Logical Design of Information Systems</td>
<td>4</td>
</tr>
<tr>
<td>CIS 427</td>
<td>Project Management and Practice</td>
<td>3</td>
</tr>
<tr>
<td>CIS 487</td>
<td>Information Technology for Development</td>
<td>3</td>
</tr>
<tr>
<td>CMC 317</td>
<td>Interviewing (A)</td>
<td>3</td>
</tr>
</tbody>
</table>

Web Design (13 credits)

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIS 317</td>
<td>Analysis and Logical Design of Information Systems</td>
<td>4</td>
</tr>
<tr>
<td>CIS 442</td>
<td>Electronic Commerce Systems</td>
<td>3</td>
</tr>
<tr>
<td>CIS 404</td>
<td>Multimedia and Human-computer Interaction</td>
<td>3</td>
</tr>
<tr>
<td>CIS 305</td>
<td>Web Design and Publication (A)</td>
<td>3</td>
</tr>
</tbody>
</table>

2.1 These CIS concentrations are optional, not a graduation requirement. Students are not guaranteed completion of a concentration before graduation. Except for the last course listed in each concentration all of the courses are currently required or an elective in the Computer Information Systems major. The elective would be one of the two electives required for the major. The course outside the major requirements may count as a student’s upper division credit and as a free elective or general education elective. None of the courses in a concentration have a prerequisite not already in the CIS major’s requirements.

2.2 Side-by-side Comparison for the CIS Concentrations *(Changes appear in bold)*

<table>
<thead>
<tr>
<th>Existing Program Computer Information Systems</th>
<th>New Program Computer Information Systems</th>
</tr>
</thead>
<tbody>
<tr>
<td>For a major in computer information systems (CIS), a student must complete the following 65 credits of computer science, computer information systems, mathematics, and information systems environment courses with an average grade of “C” or higher in core and elective courses. In addition, the grade earned in each of CSC 203, 205, 209, CIS 202, 206 and CIS 303 must be “C” or higher. Other restrictions apply. See Notes below.</td>
<td>For a major in computer information systems (CIS), a student must complete the following 65 credits of computer science, computer information systems, mathematics, and information systems environment courses with an average grade of “C” or higher in core and elective courses. In addition, the grade earned in each of CSC 203, 205, 209, CIS 202, 206 and CIS 303 must be “C” or higher. Other restrictions apply. <strong>Completion of concentrations is not required.</strong> See Notes below.</td>
</tr>
<tr>
<td><strong>A. Core Courses (35 credits)</strong></td>
<td><strong>A. Core Courses (35 credits)</strong></td>
</tr>
<tr>
<td>CSC 203 Fundamentals of Computer Science I</td>
<td>CSC 203 Fundamentals of Computer Science I</td>
</tr>
<tr>
<td>Credits 4</td>
<td>Credits 4</td>
</tr>
<tr>
<td>CSC 205 Fundamentals of Computer Science II</td>
<td>CSC 205 Fundamentals of Computer Science II</td>
</tr>
<tr>
<td>Credits 4</td>
<td>Credits 4</td>
</tr>
<tr>
<td>CSC 209 UNIX Tools</td>
<td>CSC 209 UNIX Tools</td>
</tr>
<tr>
<td>Credits 1</td>
<td>Credits 1</td>
</tr>
<tr>
<td>CIS 486 Junior/Senior Seminar</td>
<td>CIS 486 Junior/Senior Seminar</td>
</tr>
<tr>
<td>Credits 3</td>
<td>Credits 3</td>
</tr>
<tr>
<td>CIS 202 Fundamentals of Information</td>
<td>CIS 202 Fundamentals of Information</td>
</tr>
<tr>
<td>Credits 3</td>
<td>Credits 3</td>
</tr>
</tbody>
</table>
### Systems

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIS 206</td>
<td>IT Tools</td>
<td>1</td>
</tr>
<tr>
<td>CIS 303</td>
<td>Information Technology Hardware and Software</td>
<td>3</td>
</tr>
<tr>
<td>CIS 317</td>
<td>Analysis and Logical Design of Information Systems</td>
<td>4</td>
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<td>CIS 419</td>
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<td>3</td>
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<td>CIS 422</td>
<td>Physical Design and Implementation with DBMS</td>
<td>3</td>
</tr>
<tr>
<td>CIS 427</td>
<td>Project Management and Practice</td>
<td>3</td>
</tr>
<tr>
<td>CIS 442</td>
<td>E-commerce Systems</td>
<td>3</td>
</tr>
</tbody>
</table>

#### B. Elective Courses (6 credits)

TWO CIS courses numbered 400-489, selected by advisement. Some restrictions apply; see notes below.

#### C. Mathematics Corequisites (9 credits)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MTH 243</td>
<td>Elementary Statistics</td>
<td>3</td>
</tr>
<tr>
<td>MTH 281</td>
<td>Discrete Mathematics I</td>
<td>3</td>
</tr>
<tr>
<td>ONE MTH course selected from MTH 201, 221, 441, 461</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

#### D. IS-Environment Corequisites (15 credits)

15 credits of course work under one of the two options:

- Business Administration: ACC 280 or 281 or 282; BUS 325, 335, 365, and one BUS course from BUS 345-389, 420-475.
- Healthcare Administration: ACC 280 or 281 or 282; BUS 365; HLS 410, 412 and 413.

#### E. Concentrations (OPTIONAL)

A selection of courses providing depth in an area of information systems. Four optional concentrations are available:

- Data Analytics: CIS 106, CIS 206, CIS 422, CIS 436, ECN 304
- Information Assurance: CSC 209, CIS 303, CIS 419, CIS 421, CPS 301
- Requirements Elicitation: CIS 317, CIS 427, CIS 487, CMC 317
- Web Design: CIS 317, CIS 442, CIS 404, CIS 305

**Total:** 65

**Notes:**

1. The prerequisites for CSC 203 are both CSC 120 and MTH 122. The prerequisite for both CIS 202 and CIS 206 is CIS 106.
2. At least 18 of the credits used to satisfy the core or elective requirements in the major must be earned at Brockport.
3. Credits (1-4) for, at most, one course can be earned as "departmental credit by examination."
4. Completion of a concentration is optional. The course outside the major requirements may count as a student's upper division credit and as a free elective or general education elective.
5. Completion of a concentration is dependent on the availability of courses.
2.3 Sequencing of Courses

There are no sequencing issues created by the establishment of these concentrations. All the courses in the concentrations are currently offered. There are no prerequisite requirements for these courses that are not already in the CIS major’s requirements.

4. Staffing Issues

No new courses are needed to support these concentrations. The department has enough faculty resources to support these changes. No new faculty or other resources are requested.

5. Academic Administration Commentary

The proposed changes are as a result of extensive discussion of the department’s External Advisory Board and Curriculum Committee. It has the full support of the department.

6. Resources and Facilities

No new courses are needed to support these concentrations. Existing facilities are sufficient for implementing the proposed changes. No new facilities are requested.

7. Letters of Support

Dr. Jose A. Maliekal, Dean, School of Science and Mathematics
Dr. Daniel L. Petree, Dean, School of Business
Dr. Joan M. Lucas, Chair, Department of Computer Science
Dr. Monica C. Brasted, Chair, Department of Communication
Dr Leigh J. Little, Interim Chair, Department of Computational Science
Mr. Peter N. Dowe, College Registrar
September 25, 2012

College Senate
The College at Brockport

Sub: Support for the Establishment of four Concentrations in Computer Information Systems

I am writing to support the proposal that the Department of Computer Science is submitting to the College Senate, seeking its review and ultimate approval of the revision of the department's Computer Information Systems major. This revision calls for the creation of four different concentrations: Data Analytics, Information Assurance, Requirements Elicitation, and Web Design. No additional instructional resources are needed to create these concentrations, as the department is currently offering all the required and elective courses needed for each concentration.

Sincerely,

[Signature]

Jose Maliekal
9/25/12

To: Senate Undergraduate Curriculum Committee

From: Dr. Dan Petree  
Dean, School of Business

Re: CIS Curriculum Proposal

Dear Colleagues,

Our school has been made aware of the proposal from the CIS program to introduce optional tracks into its degree programs. The proposed tracks are intended to help students focus their elective choices into vocationally relevant clusters.

One of the tracks (data analysis) includes our course ECN304, Intermediate Statistics. A number of CIS majors already take this course and inclusion of this course in the aforementioned track is not expected to have a significant impact on course enrollments. As such, we welcome the presence of CIS students in the course and support the proposal being made by the CIS program.
Dear Dr. Scime,

The Computer Science Department fully supports the establishment of optional concentrations in the Computer Information Systems major as outlined in your Senate proposal draft of Sept. 11, 2012.

We expect to continue to offer CIS 305 for the foreseeable future.

Respectfully, J. Lucas

Joan M. Lucas
Professor and Chair
Department of Computer Science
The College at Brockport
350 New Campus Drive
Brockport, NY 14420
585-395-2196
RE: Optional Concentrations in CIS
Brasted, Monica

Sent: Tuesday, September 11, 2012 11:27 AM
To: Scime, Anthony

---

Tony,

I have reviewed your proposal and I fully support the establishment of optional concentrations in the Computer Information Systems major as described in this Senate proposal.

Monica Brasted, PhD
Associate Professor & Chair
Department of Communication
The College at Brockport, SUNY
223 Holmes Hall
Brockport, NY 14420
585-395-2157
Hi Tony:

This is fine with me. I fully support the establishment of optional concentrations in the CIS major as described in the senate proposal.

Leigh
RE: Optional Concentrations in CIS

Dowe, Peter

Sent: Tuesday, September 11, 2012 3:18 PM
To: Scime, Anthony

_____________________________________________________________________________________

Tony,

Yes- I support the proposal to create optional concentrations in the Computer Information Systems major.

Peter Dowe
Registrar
Brockport, NY 14420
585-395-2531