

5-2-2005

Minor Changes to Advanced Computing and Software Development Tracks

The College at Brockport, College Senate

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SUNY BROCKPORT

College Senate
State University of New York
College at Brockport
350 New Campus Drive
Brockport, NY 14420-2925
(585) 395-2586 (Fax) 395-2246

Resolution # 22 2004-2005 COLLEGE SENATE

TO: Dr. John B. Clark, Interim College President

FROM: The Faculty Senate Meeting on: **May 2, 2005**

RE: I. Formal Resolution (*Act of Determination*)
II. Recommendation (*Urging the Fitness of*)
⇒ III. Other, For Your Information (*Notice, Request, Report, etc.*)

COLLEGE SENATE
SUNY College at Brockport
MAY 26 2005
350 New Campus Drive
Brockport, NY 14420-2925

SUBJ: **Minor Changes to the Requirement for the Advanced Computing and Software Development Tracks of the Computer Science Major**
(#28 04-05 U/C)

Signed: Dawn M. Jones Date: May 6, 2005
(Dr. Dawn M. Jones, 2004-2005 College Senate President)

Please fill out the bottom portion and return document to the College Senate Office.

TO: The College Senate

FROM: Dr. John B. Clark, Interim College President

RE: I. Decision and Action Taken on Formal Resolution (circle)

a. Accepted. Effective Date: ___/___/___

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 5/23/05 JBC

b. Comment: _____

DISTRIBUTED BY PRESIDENT'S OFFICE TO: Executive Council

DISTRIBUTED BY PROVOST'S OFFICE TO: Dean's Council

DISTRIBUTED ALSO TO: Originator, Academic Advisement, Registrar (as appropriate)

Signed: John B. Clark Date: 5/23/05
(Dr. John B. Clark, Interim College President, SUNY College at Brockport)

**COLLEGE SENATE OFFICE
RESOLUTION PROPOSAL COVER PAGE**

ROUTING NUMBER*	#28 04-05 UC
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NUMBER TO BE ASSIGNED BY SENATE OFFICE

DEADLINE FOR SUBMISSIONS: FEBRUARY 23 - Proposals received after the deadline may not be reviewed until next semester.

Submit all proposals in **Word format** to the College Senate President **electronically or on a disk** with a hard copy.

Please provide cover page information requested.

facprez@brockport.edu, fsenate@brockport.edu

College Senate Office, 426 Allen Building

1. PROPOSAL TITLE:

Please be somewhat descriptive, for example, *Graduate Probation/Dismissal Proposal* rather than *Graduate Proposal*.

Minor Changes to the Requirements for the Advanced Computing (AC) and Software Development (SD) Tracks of the Computer Science Major

2. BRIEF DESCRIPTION OF PROPOSAL:

The proposed changes are: Drop the lab component of the required “Data Structures” course (CSC 406) – as a result this course drops from 4 to 3 credits, add a new required 1-credit, lab-oriented, "UNIX Tools" course (CSC 209), and restrict the possible major electives to courses numbered CSC 400 – 489. The proposed minor change does not affect the total number of credits required for either track. Comments received from our accreditation agency (CAC of ABET), the new CC’2001 curricular model, and assessment of learning outcomes were factors influencing our decision.

3. SUBMISSION & REVISION DATES: PLEASE DATE ALL UPDATED DOCUMENTS and resubmit to the Senate Office electronically prior to Senate review and vote at fsenate@brockport.edu.

First Submission	Updated on	Updated on	Updated on
February 25, 2005	March 10, 2005		

4. SUBMITTED BY: (contact person)

Name	Department	Phone	Email
Dr. Kad Lakshmanan	Computer Science	395-5181	KLakshma@brockport.edu

5. COMMITTEES TO COPY: (Senate office use only)

Standing Committee	Forwarded To	Date
<input type="checkbox"/> Enrollment Planning & Policies	Committee Chair	2/25, 3/10
<input type="checkbox"/> Faculty & Professional Staff Policies	Executive Committee	4/25/05
<input type="checkbox"/> General Education & Curriculum Policies	Senate Floor	5/2/05
<input type="checkbox"/> Graduate Curriculum & Policies	College President	5/6/05
<input type="checkbox"/> Student Policies	Other	
<input checked="" type="checkbox"/> Undergraduate Curriculum & Policies		

*(ROUTING NUMBER WILL BE A CHRONOLOGICAL NUMBER SEQUENCE FOLLOWED BY COMMITTEE INITIALS)

Department of Computer Science
SUNY College at Brockport

Proposal to the College Senate

Minor Changes
to the Requirements for the

Advanced Computing (AC) Track and
Software Development (SD) Track

of the Computer Science Major

February 15, 2005

Date of Implementation of Changes: Fall 2006

1. Executive Summary

The Department of Computer Science proposes a **minor** change in the requirements for the **Advanced Computing (AC) Track** of the Computer Science major. These changes are being made after significant deliberations within the Curriculum Committee of the Department, taking into account:

- The comments received by the Department from external experts representing the Computing Accreditation Commission (CAC) of the Accreditation Board for Engineering and Technology (ABET) during most recent program review,
- The new curricular model CC'2001 developed by ACM and IEEE, the two leading professional societies in the computing field,
- Assessment of learning outcomes and program objectives carried out by the Department on yearly basis, and
- Feedback received from alumni and current students.

The proposed changes are:

- A. Drop the lab component of the required “Data Structures” course (CSC 406) – as a result this course drops from 4 to 3 credits.
- B. Add a new required 1-credit, lab-oriented, “UNIX Tools” course (CSC 209).
- C. Restrict the possible major electives to courses numbered CSC 400 – 489.

As a result of the proposed changes to the AC Track, the **Software Development (SD) Track** will also be affected. The proposed minor change **does not** affect the total number of credits required for either track. The impact of these changes on the College’s resources will be minimal. The new lab-oriented courses to be introduced into the curriculum will use the existing computing infrastructure available on campus. The newly introduced restrictions on the major electives will utilize existing courses provided by the College, and will require no new resources. The Department had indicated its desire to make these minor revisions to the curriculum in its Periodic Program Review (PPR) Joint Action Plans. Both the Dean of Letters and Sciences and the Academic Priority Committee (APC), headed by the Provost, have approved our plans.

2. Proposed Changes to the AC and SD Tracks

The proposed changes for the AC track, and to SD track as a result are outlined below:

Proposed Change A. Drop the lab component of the required “Data Structures” course (CSC 406)

Current Situation: Currently “CSC 406: Data Structures and Algorithms” – a required 4-credit course in the AC (and SD) tracks has a supervised lab component. In addition to 3-hour/week classroom instruction, there is a faculty-supervised lab of 2 hours/week. The purpose of the lab is to enable students to solve programming problems, implement, test and analyze algorithms under instructor supervision.

Proposed Change: Drop the lab component of the CSC 406 course, and make it a 3-credit course.

Rationale for change: It is a senior-level course. By the time a student arrives in CSC 406, he/she would have completed the CSC 120-203-205 sequence. A minimum grade of C is expected in CSC 203 and CSC 205. With this background, we expect that the student would have acquired enough expertise in to deal with kind of lab problems mentioned above on their own. Removal of this lab does NOT mean that there will be no programming assignments in CSC 406. There will still be an appropriate number of such assignments – with the stipulation that the students solve them at their own time; not under faculty supervision.

Proposed Change B. Add a new required 1-credit, lab-oriented, “UNIX Tools” course (CSC 209)

UNIX is an operating system that runs many workstation-type computers. It is one of the most important operating systems used world wide and expertise in it is a definite advantage to any CS graduate. It also prepares students for advanced courses such as Operating Systems, Networks, Computer Security and Electronic Commerce.

Current Situation: Currently we are offering a course CSC 319 (Introduction to UNIX Programming, 3 credits). It is taken as an elective by all three tracks of the major.

Proposed Change: Discontinue offering CSC 319 in the current form and offer a 1-credit UNIX course (CSC 209) instead.

Rationale for change: CSC 319, as offered now, is unwieldy. While the UNIX component of it is essential for all three tracks of the major, the C component may not be required for all. This change is an attempt to redistribute the material in a way that is advantageous to students. We propose to discontinue offering the 3-credit CSC 319 elective course and instead offer a 1-credit UNIX course and require it for all three tracks. A suitable C component will be added to another course.

Proposed Change C. Restrict the possible major electives to courses numbered CSC 400 – 489

Current Situation: In the CSC curriculum, currently there are four courses in the 490-499 range that can be counted as major electives: CSC 492 (Internship), 493 (Senior Thesis), 495 (Topics in CS) and 499 (Independent Study). Presently, at most ONE of the 49X courses can be counted for the elective requirement in the AC track (same rule applies to SD).

Proposed Change: Restrict the courses that can be counted as electives in the AC and SD tracks to those numbered CSC 400 – 489, thus ELIMINATING courses CSC 492, 493, 495 and 499 as major electives.

Rationale for Change: In the most recent evaluation of our program by the CAC of ABET, the visiting team felt that only classroom courses should be counted towards the elective requirement. We are requesting this change to satisfy their requirement. This does NOT mean that these courses will be discontinued. Students are in fact encouraged to pursue internships to improve their chances of landing jobs, do senior theses and independent studies to enhance their research potential and chances of entering graduate studies.

AC Track Requirements (Current and new, Side by Side Comparison)

EXISTING PROGRAM			PROPOSED MINOR CHANGE		
Course#/Title	#Cr old	Current Req	Course#/Title	New Requirement	#Cr new
CORE (ALL CSC)			CORE (ALL CSC)		
203: Fundamentals I	4	required	203: Fundamentals I	required	4
205: Fundamentals II	4	required	205: Fundamentals II	required	4
			209: Unix Tools (new)	Required	1
303: Digital Logic	3	required	303: Digital Logic	required	3
311: Assm Lang	4	required	311: Assm Lang	required	4
401: Thy Prog Lng	3	required	401: Thy Prog Lng	required	3
406: Data Str. Algor.	4	required	406: Data Str. Algor.	# credits down by 1	3
411: Comp. Arch.	3	required	411: Comp. Arch.	required	3
412: Oper. Sys.	3	required	412: Oper. Sys.	required	3
427: Software Engg.	3	required	427: Software Engg.	required	3
483: Thy of Comp.	3	required	483: Thy of Comp.	required	3
486: Senior Seminar	3	required	486: Senior Seminar	required	3
MATH CO-REQUISITES	9	required	MATH CO-REQUISITES	required	9
SCIENCE CO-REQUISITES	12	required	SCIENCE CO-REQUISITES	required	12
CSC ELECTIVES	9	One of CSC 490-499 allowed	CSC ELECTIVES	Restricted to CSC 400-489	9
TOTALS(Not counting pre-reqs)	67		TOTALS		67

SD Track Requirements (Old and New Side by Side Comparison)

EXISTING PROGRAM			PROPOSED MINOR CHANGE		
Course#/Title	#Cr old	Current Req	Course#/Title	New Requirement	#Cr new
CORE (ALL CSC)			CORE (ALL CSC)		
203: Fundamentals I	4	required	203: Fundamentals I	required	4
205: Fundamentals II	4	required	205: Fundamentals II	required	4
			209: Unix Tools (new)	Required	1

303: Digital Logic	3	required	303: Digital Logic	required	3
311: Assm Lang	4	required	311: Assm Lang	required	4
401: Thy Prog Lng	3	required	401: Thy Prog Lng	required	3
406: Data Str. Algor.	4	required	406: Data Str. Algor.	# credits down by 1	3
411: Comp. Arch.	3	required	411: Comp. Arch.	required	3
486: Senior Seminar	3	required	486: Senior Seminar	required	3
MATH CO-REQUISITES	3	required	MATH CO-REQUISITES	required	3
CSC ELECTIVES	12	One of CSC 490-499 allowed	CSC ELECTIVES	Restricted to CSC 400-489	12
TOTALS (Not counting pre-reqs)	43		TOTALS		43

3. Impact on Resources

Laboratory resources

The impact on college resources as a result of the suggested changes above is expected to be minimal. The department is considering a change of platforms from PC to UNIX for the CSC 311 course. As a result of this the CSC 311 labs will use the Sun Lab in Dailey Hall. The CSC 209 course, for example, will be held exclusively in the Sun Lab. These changes will actually reduce the pressure on the PC labs and make a better utilization of the Sun Lab.

Faculty resources

The proposed changes can be implemented with the existing faculty. No new faculty resources are needed.