

2-21-1994

## Change in the requirements for the Computer Science Major

The College at Brockport, College Senate

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*Fac. Senate*

Resolution #12 1993-94

TO: President John E. Van de Wetering

FROM: The Faculty Senate Meeting on February 21, 1994  
(Date)

RE: I. Formal Resolution (Act of Determination)  
II. Recommendation (Urging the fitness of)  
III. Other (Notice, Request, Report, etc.)  
For your information

SUBJECT: Changes in the requirements for the Computer  
Science Major

Signed *[Signature]* Date Sent February 22, 1994  
(For the Senate)

.....

TO: The Faculty Senate

FROM: President John E. Van de Wetering

RE: I. Decision and Action Taken on Formal Resolution

a. Accepted. Effective Date *fall 94*

b. Deferred for discussion with the Faculty Senate  
on \_\_\_\_\_

c. Unacceptable for the reasons contained in the  
attached explanation

II, III.

a. Received and acknowledged

b. Comment:

DISTRIBUTION: *see attached list*  
*Call Faculty Senate for full resolution.*

COLLEGE OF STATE OF NEW YORK  
BROCKPORT

MAR 02 1994 Date *2/28/94* Signed: *[Signature]*  
(President of the College)

FACULTY SENATE  
BROCKPORT, NY 14625

# **BROCKPORT**

State University of New York  
College at Brockport  
Brockport, New York 14420

Department of Computer Science  
(716) 395-2194

Jan 27, 1994

To: Chairperson,  
Senate Undergraduate Curriculum Committee (1993-94)

Fr: T.M. Rao, Chairman  
Department of Computer Science

Re: Changes in the requirements for the Computer Science Major

## Background

The Computer Science major offers two tracks:

- (i) Computer Science and Information Systems Track  
(CSIS-Track) and
- (ii) Computer Science Track (CS-Track).

The CS-Track was recently reviewed by a team of evaluators from the Computing Sciences Accreditation Commission (CSAC). The purpose of this review was to evaluate our program for possible accreditation by the commission. During their visit in October 1993, the evaluators pointed out that some changes in the curriculum are necessary in order to meet the accreditation standards. We are seeking these changes to enhance our chances of receiving the CSAC accreditation.

A formal report from the evaluators is expected in February, to which we need to respond within one month. I would appreciate if this matter is taken up by your committee as early as possible.

## Proposed Changes

1. Make CSC 303, Digital Logic and Computer Design, a part of the core requirements for both CS- and CSIS-Tracks and make CSC 303 a prerequisite for CSC 411. Consequently, reduce the number of elective courses in CS-Track from 4 to 3 and in CSIS-Track from 5 to 4

CSC 303, Digital Logic and Computer Design, is currently an elective course. The Computer Science Handbook recommends that this course be completed prior to CSC 411, Computer Architecture. Almost all students comply with this recommendation (In Fall 1993, ALL the 7 students in CSC 411 had CSC 303 before). We are merely formalizing a requirement that is mostly being met. CSC 411 is a core course for both the tracks, and hence making CSC

303 a prerequisite for CSC 411 indirectly makes it a core course. Thus we would like to make CSC 303 a required course as well. To balance the increased core requirements, we are reducing the elective requirements in both tracks by one course (3 credits). This change allows us to claim "depth" in the area of computer architecture.

2. Merge the contents of CSC 390, History of Computing, into CSC 486, Senior Seminar, increase the number of credits for CSC 486 from 2 to 3 and eliminate CSC 390 from the curriculum

CSC 486, Senior Seminar, is currently a required course in both the tracks of the major. CSC 486 contains a detailed discussion of computer ethics, the social impact of computing, computer crime, etc. It also requires a significant amount of writing and is scheduled to be the "J" course for computer science majors. CSC 390, History of Computing, which is a 3-credit elective course, deals with the historical and social development of computing. It also has a substantial writing component. Thus, there is a significant overlap between CSC 486 and CSC 390. We wish to eliminate the overlap by merging the contents of these two courses into CSC 486, raising it to a 3-credit course and eliminating CSC 390.

3. Add the following constraint to the CS-Track requirements: "At least 30 credits in non-mathematics, non-science courses must be completed"

CSAC requires a minimum of 30 credits in subjects other than science and mathematics. Usually this requirement is met by the institution's general education requirement. According to our current college requirements a CS-major in CS-Track can take the following courses (a minimum) and satisfy the general education requirement.

Category	# of credits	Is it math or science (y/n)
APS	(1 credit)	no
Composition	(3)	no
MTH 346	(3) Quant Skills	yes
Fine Arts	(6) (F and P)	no
Social Sciences	(6) (S,S)	no
Humanities	(6) (H,H)	no
MTH 201, PHS 201	(7) (N and L)	yes
CSC 203	(4) (T)	yes
Contemporary Issues/ Perspectives on Women	(3)	no

Observe that this selection has only 25 (sum of all the credits

listed 'no' in the last column) credits in non-mathematics and non-science courses. We propose to add this additional constraint to the CS-Track requirement only in order to comply with the CSAC guidelines. Note that the remaining credits have to be made up by taking courses in other than mathematics or science subjects. These courses need not be general education (F,P, etc) courses.

Attachments

1. Comparison tables (current vs proposed requirements)
2. Sample 4-year course schedule

Cc:

Dr. Robert McLean  
Dean, School of Letters and Sciences

CS-TRACK currently		CS-TRACK proposed	
<b>REQUIRED MAJOR COURSES</b>		<b>REQ. MAJOR COURSES</b>	
CSC 203 Fundamentals I	4	CSC 203	4
CSC 205 Fundamentals II	4	CSC 205	4
CSC 311 Assembly Language	4	CSC 311	4
CSC 406 Adv. Data Structures	4	CSC 406	4
CSC 401 Thy. of Prog. Lang.	3	CSC 401	3
CSC 411 Computer Arch.	3	CSC 411	3
CSC 412 Operating Systems	3	CSC 412	3
CSC 427 Software Engineering	3	CSC 427	3
CSC 483 Theory of Computation	3	CSC 483	3
CSC 486 Senior Seminar	2	CSC 486	3
		CSC 303	3
	33		37
<b>CO-REQUISITE COURSES</b>		<b>CO-REQ. COURSES</b>	
MTH 481 Discrete Math. II	3	MTH 481	3
MTH 202 Calculus II	3	MTH 202	3
MTH 346 Prob. and Stat. I	3	MTH 346 I	3
Science co-requisites	14	Science co-req.	14
		Non-science non-math courses	30
	23		23
<b>ELECTIVE COURSES</b>		<b>ELECTIVE COURSES</b>	
CSC 303 Digital Logic	3		
CSC 304 Office Info. Systems	3	CSC 304	3
CSC 319 C and UNIX	3	CSC 319	3
CSC 390 Hist. of Computing	3		
CSC 402 Compiler Construction	3	CSC 402	3
CSC 418 Microprocessor Systems	3	CSC 418	3
CSC 419 Computer Networks	3	CSC 419	3
CSC 422 Relational Databases	3	CSC 422	3
CSC 426 File Processing	3	CSC 426	3
CSC 431 Database Systems	3	CSC 431	3
CSC 432 Simulation	3	CSC 432	3
CSC 433 Computer Graphics	3	CSC 433	3
CSC 434 Artificial Intelligence I	3	CSC 434	3
CSC 435 Artificial Intelligence II	3	CSC 435	3
CSC 485 Analysis of Algorithms	3	CSC 485	3
MTH 461 Math. Models I	3	MTH 461	3
MTH 462 Math. Models II	3	MTH 462	3
MTH 471 Numerical Analysis	3	MTH 471	3
	12		9
total credits	68		69

CSIS-TRACK currently		CSIS-TRACK proposed	
<b>REQUIRED MAJOR COURSES</b>		<b>REQ. MAJOR COURSES</b>	
CSC 203 Fundamentals I	4	CSC 203	4
CSC 205 Fundamentals II	4	CSC 205	4
CSC 311 Assembly Language	4	CSC 311	4
CSC 406 Adv. Data Structures	4	CSC 406	4
CSC 401 Thy. of Prog. Lang.	3	CSC 401	3
CSC 411 Computer Arch.	3	CSC 411	3
CSC 486 Senior Seminar	2	CSC 486	3
		CSC 303	3
	24		28
<b>CO-REQUISITE COURSES</b>		<b>CO-REQ. COURSES</b>	
MTH 481 Discrete Math. II	3	MTH 481	3
	3		3
<b>ELECTIVE COURSES</b>		<b>ELECTIVE COURSES</b>	
CSC 303 Digital Logic	3		
CSC 304 Office Info. Systems	3	CSC 304	3
CSC 319 C and UNIX	3	CSC 319	3
CSC 390 Hist. of Computing	3		
CSC 402 Compiler Construction	3	CSC 402	3
CSC 418 Microprocessor Systems	3	CSC 418	3
CSC 419 Computer Networks	3	CSC 419	3
CSC 422 Relational Databases	3	CSC 422	3
CSC 426 File Processing	3	CSC 426	3
CSC 431 Database Systems	3	CSC 431	3
CSC 432 Simulation	3	CSC 432	3
CSC 433 Computer Graphics	3	CSC 433	3
CSC 434 Artificial Intelligence I	3	CSC 434	3
CSC 435 Artificial Intelligence II	3	CSC 435	3
CSC 485 Analysis of Algorithms	3	CSC 485	3
CSC 412 Operating Systems	3	CSC 412	3
CSC 427 Software Engineering	3	CSC 427	3
CSC 483 Theory of Computation	3	CSC 483	3
MTH 461 Math. Models I	3	MTH 461	3
MTH 462 Math. Models II	3	MTH 462	3
MTH 471 Numerical Analysis	3	MTH 471	3
	15		12
<b>total credits</b>	<b>42</b>		<b>43</b>

Appendix-1

Sample 4-year Program -- Computer Science Major, CS-Track

Year	Semester 1	Semester 2
1	CSC 120 Intro CS (3)	CSC 203 Fund CS I (4)
	MTH 201 Calc I (3)	MTH 202 Calc II (3)
	GEP 100 Acad Plan Sem(1)	MTH 281 Discr Mth I (3)
	GenEd Humanities 1 (3)	GenEd Humanities 2 (3)
	GenEd Soc Sci 1 (3)	GenEd Soc Sci 2 (3)
	Composition (3)	
	Sem Total Credits 16	16
2	CSC 205 Fund CS II (4)	CSC 303 Dig Logic (3)
	MTH 481 Discr Mth II (3)	CSC 311 Assm Lang (4)
	PHS 201 Coll Phy I (4)	MTH 346 Prob Stat I (3)
	GenEd Fine Arts I (3)	PHS 202 Coll Phy II (4)
		GenEd Fine Arts II (3)
	Sem Total Credits 14	17
3	CSC 406 Adv Data Str (4)	CSC 401 Thy Prog Ln (3)
	CSC 411 Architecture (3)	CSC 412 Oper Syst (3)
	CSC Elective 1 (3)	CSC Elective 2 (3)
	GenEd Persp Women (3)	GenEd Contemp Iss (3)
	CHM 205 Coll Chem I (4)	CHM 206 Coll Chem II(4)
	Sem Total Credits 17	16
4	CSC 427 Softw Engrg (3)	CSC 486 Senior Sem (3)
	Non-sci, non-mth ele (3)	CSC Elective 3 (3)
	Free Elective (3)	Free Elective (3)
	Free Elective (3)	Free Elective (3)
	Sem Total Credits 12	12
Four Year Total: 120 Credits		



The preceding document is amended as follows:

Page 2, section 2:

The last sentence: "We wish to eliminate the overlap by merging the contents of these two courses into CSC 486, raising it to a 3-credit course and eliminating CSC 390"

should be changed to read:

"We wish to merge together the two courses CSC 390 and CSC 486. The resulting course will be CSC 486. CSC 486 will become a 3 credit course and CSC 390 will be eliminated.

Page 4: CS-track table

The math courses listed in both columns should be in increasing numeric order.

The Required course CSC 303 in the second column should appear in its correct position between CSC 205 and CSC 311.

Page 5: CSIS-track table

The Required course CSC 303 in the second column should appear in its correct position between CSC 205 and CSC 311.