

September 2, 2009

TO: John Huntington, Chair
Senate Committee on Educational Policy

FROM: Midge Grosch
Director, Programs and Academic Assessment

I am forwarding for review and action by the Senate Committee on Educational Policy the attached *Revision of Bachelor of Science in Computer Science (includes Concentrations in Computer Systems and Software Engineering)*.

The proposal was approved by the College of Engineering Educational Policy Committee on December 9, 2008.

Attachment

Cc: M. McNallan
P. Troy

<i>Title:</i>	Revision of Bachelor of Science in Computer Science (includes Concentrations in Computer Systems and Software Engineering)
<i>Sponsor:</i>	Department of Computer Science, College of Engineering
<i>Description:</i>	<p>Addition of CS 499, Professional Development Seminar, 0 Hours, to the list of required courses for the General Computer Science Degree, the Computer System Concentration and the Software Engineering Concentration.</p> <p>Total hours required for the Bachelor of Science in Computer Science degree remains the same at 128.</p>
<i>Justification:</i>	<p>This course is to help with our ABET Assessment requirements to provide feedback from our students about their overall experience in our program.</p> <p>Currently, there are no courses in the BS programs that relay the critical information outlined below to graduating students. Further, a structured process is necessary to routinely collect program assessment information. The course will meet up to four times in the student's final semester and seeks to:</p> <ol style="list-style-type: none"> 1) Provides orientation to the privileges and responsibilities of Computer Science Alumni. <ol style="list-style-type: none"> a. Stresses the importance of promoting the Computer Science Department and the University in the work place; b. Inform the students of the career placement services associated with the University. 2) Provide graduating students with information on the engineering workplace. 3) Assessment of the students' experience in the undergraduate program. <ol style="list-style-type: none"> a. This assessment is used to gauge successes and failures within the program. The failures will be examined and necessary changes will be implemented; b. Survey results are mandatory for our ABET accreditation. <p>In addition, students will take the required Computer Science Major Field Exam, as given by ETS, as part of this course. This exam will provide the following benefits to both the students and department:</p> <ul style="list-style-type: none"> • Help ensure students have mastered their field of study • Provide practical experience in preparation for standardized graduate admissions exams.

	<ul style="list-style-type: none"> • Prepare students to succeed by using test results to improve curricula
<i>Catalog Statement:</i>	Attached
<i>Minority Impact Statement:</i>	No Negative Impact
<i>Budgetary and Staff Implications:</i>	None
<i>Library Resource Implications:</i>	None
<i>Space Implications:</i>	None
<i>Unit (e.g. department) approval date:</i>	<i>December 5, 2008</i>
<i>College (educational policy committee, faculty) approval dates:</i>	<i>December 9, 2008</i>
<i>Contact Person:</i>	Patrick Troy, Director of Undergraduate Studies, Dept. of Computer Science troy@uic.edu , Office: 919 SEO, Phone: 312-996-8521, Fax: 312-413-0024
<i>Proposed Effective Date:</i>	Spring 2010

Present	Proposed																																
<p>Degree Requirements—Computer Science</p> <p>To earn a Bachelor of Science in Computer Science degree from UIC, students need to complete University, college, and department degree requirements. The Department of Computer Science degree requirements are outlined below. Students should consult the College of Engineering section for additional degree requirements and college academic policies.</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">BS in Computer Science Degree Requirements</th> <th style="text-align: right;">Hours</th> </tr> </thead> <tbody> <tr> <td>Nonengineering and General Education Requirements</td> <td style="text-align: right;">61</td> </tr> <tr> <td>Required in the College of Engineering</td> <td style="text-align: right;">38</td> </tr> <tr> <td>Technical Electives</td> <td style="text-align: right;">15</td> </tr> <tr> <td>Required Mathematics Courses</td> <td style="text-align: right;">9</td> </tr> <tr> <td>Free Electives</td> <td style="text-align: right;">5</td> </tr> <tr> <td>Total Hours—BS in Computer Science</td> <td style="text-align: right;">128</td> </tr> </tbody> </table>	BS in Computer Science Degree Requirements	Hours	Nonengineering and General Education Requirements	61	Required in the College of Engineering	38	Technical Electives	15	Required Mathematics Courses	9	Free Electives	5	Total Hours—BS in Computer Science	128	Same.																		
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ENGR 100—Orientationa	0a	
CS 101—Introduction to Computing	3	
CS 102—Introduction to Programming	3	
CS 201—Data Structures and Discrete Mathematics I	4	
CS 202—Data Structures and Discrete Mathematics II	3	
CS 266—Computer Architecture I: Logic and Computer Structures	4	
CS 301—Languages and Automata	3	
CS 335—Computer Ethics	2	
CS 340—Software Design	4	
CS 366—Computer Architecture II: Hardware-Software Interface	4	
CS 376—Practicum in Computer Science Oral Presentations	1	
CS 385—Operating Systems Concepts and Design	4	
CS 401—Computer Algorithms I	3	
Total Hours—Required in the College of Engineering	38	CS 499 – Professional Development Seminar (0)
a ENGR 100 is a one-semester-hour course, but the hour does not count toward the total required for graduation		
Technical Electives (15)		Same
Required Mathematics Courses (9)		Same
Lab Science Sequence and Science Electives (12)		Same
Free Electives (5)		Same
Sample Course Schedule—Computer Science		Sample Course Schedule—Computer Science – same except for last semester:
Technical Elective 3		Technical Elective 3
Technical Elective 3		Technical Elective 3
Technical Elective 3		Technical Elective 3
Humanities/Social Sciences/Art Elective 3		Technical Elective 3
Humanities/Social Sciences/Art Elective 3		Humanities/Social Sciences/Art Elective 3
CS 376—Practicum in CS Oral Presentations 1		Humanities/Social Sciences/Art Elective 3
		CS 376—Practicum in CS Oral Presentations 1
Total Hours 16		CS 499 – Professional Development Seminar (0)
		Total Hours 16
BS in Computer Science, Computer Systems Concentration Degree Requirements	Hours	Same
Nonengineering and General Education Requirements	60	
Required in the College of Engineering	38	

Technical Electives	18	
Required Mathematics Courses	6	
Free Elective	6	
Total Hours—BS in Computer Science, Computer Systems Concentration	128	
Nonengineering and General Education Requirements		Same.
Courses	Hours	
ENGL 160—Academic Writing I: Writing for Academic and Public Contexts	3	
ENGL 161—Academic Writing II: Writing for Inquiry and Research	3	
Exploring World Cultures course ^a	3	
Understanding the Creative Arts course ^a	3	
Understanding the Past course ^a	3	
Understanding the Individual and Society course ^a	3	
Understanding U.S. Society Course ^a	3	
Humanities/Social Sciences/Art Electives ^b	15	
MATH 180—Calculus I ^c	5	
MATH 181—Calculus II ^c	5	
MATH 210—Calculus III ^c	3	
MATH 220—Introduction to Differential Equations	3	
PHYS 141—General Physics I (Mechanics) ^c	4	
PHYS 142—General Physics II (Electricity and Magnetism) ^c	4	
Total Hours—Nonengineering and General Education Requirements	60	
<p>a Students should consult the General Education section of the catalog for a list of approved courses in this category.</p> <p>b These electives must be selected from a list of approved courses provided by the CS department.</p> <p>c This course is approved for the Analyzing the Natural World General Education category.</p>		
Required in the College of Engineering		Same, except for addition below:
Courses	Hours	
ENGR 100—Orientation ^a	0 ^a	
CS 101—Introduction to Computing	3	
CS 102—Introduction to Programming	3	
ECE 225—Circuit Analysis	4	
CS 201—Data Structures and Discrete Mathematics I	4	
CS 202—Data Structures and Discrete Mathematics II	3	
CS 266—Computer Architecture I: Logic and Computer Structures	4	
CS 301—Languages and Automata	3	
CS 335—Computer Ethics	2	
CS 366—Computer Architecture II: Hardware-Software Interface	4	
CS 376—Practicum in Computer Science Oral Presentations	1	
CS 385—Operating Systems Concepts and Design	4	

CS 469—Computer Systems Design	3	CS 499 – Professional Development Seminar (0)
Total Hours—Required in the College of Engineering	38	
a ENGR 100 is a one-semester-hour course, but the hour does not count toward the total required for graduation.		
Technical Electives (18)		Same
Required Mathematics Courses (6)		Same
Free Electives (6)		Same
Sample Course Schedule—Computer Science		Sample Course Schedule—Computer Science – same except for last semester:
Second Semester Hours		Second Semester Hours
Technical Elective 3		Technical Elective 3
Technical Elective 3		Technical Elective 3
CS 335—Computer Ethics 2		CS 335—Computer Ethics 2
CS 469—Computer Systems Design 3		CS 469—Computer Systems Design 3
Free Elective 4		Free Elective 4
Total Hours 15		CS 499 – Professional Development Seminar (0)
		Total Hours 15
BS in Computer Science with Software Engineering Concentration Degree Requirements	Hours	Same
Nonengineering and General Education Requirements	61	
Required in the College of Engineering	47	
Technical Electives	9	
Required Mathematics Courses	6	
Free Elective	5	
Total Hours—BS in Computer Science, Software Engineering Concentration	128	
Nonengineering and General Education Requirements		Same
Courses	Hours	
ENGL 160—Academic Writing I: Writing for Academic and Public Contexts	3	
ENGL 161—Academic Writing II: Writing for Inquiry and Research	3	
Exploring World Cultures coursea	3	
Understanding the Creative Arts coursea	3	
Understanding the Past coursea	3	
Understanding the Individual and Society coursea	3	
Understanding U.S. Society Coursea	3	

Humanities/Social Sciences/Art Electives ^b	15	
MATH 180—Calculus Ic	5	
MATH 181—Calculus IIc	5	
MATH 210—Calculus IIIc	3	
Lab Science Sequence and Science Electives		
Lab Science Sequence (8–10) ^d —See below	12	
Science Electives (2–4) ^e —See below		
Total Hours—Nonengineering and General Education Requirements	61	
<p>a Students should consult the General Education section of the catalog for a list of approved courses in this category.</p> <p>b These electives must be selected from a list of approved courses provided by the CS department.</p> <p>c This course is approved for the Analyzing the Natural World General Education category.</p> <p>d All courses on the lab science sequence below are approved for the Analyzing the Natural World General Education category.</p> <p>e Science electives must be selected from a list of approved courses provided by the CS department. More explanation of the science requirement is given below.</p>		
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Courses	Hours	
ENGR 100—Orientationa	0a	
CS 101—Introduction to Computing	3	
CS 102—Introduction to Programming	3	
CS 201—Data Structures and Discrete Mathematics I	4	
CS 202—Data Structures and Discrete Mathematics II	3	
CS 266—Computer Architecture I: Logic and Computer Structures	4	
CS 301—Languages and Automata	3	
CS 335—Computer Ethics	2	
CS 340—Software Design	4	
CS 366—Computer Architecture II: Hardware-Software Interface	4	
CS 376—Practicum in Computer Science Oral Presentations	1	
CS 385—Operating Systems Concepts and Design	4	
CS 401—Computer Algorithms I	3	
CS 440—Software Engineering I	3	
CS 442—Software Engineering II	3	
IE 342—Probability and Statistics for Engineers	3	
Total Hours—Required in the College of Engineering	47	CS 499 – Professional Development Seminar (0)
a ENGR 100 is a one-semester-hour course, but the hour does not count toward the total hours required for graduation.		
Technical Electives (9)		Same
Required Mathematics Courses (6)		Same

Lab Science Sequence and Science Electives (12)	Same
<p>Sample Course Schedule—Computer Science</p> <p>Second Semester Hours</p> <p>CS 442—Software Engineering II 3</p> <p>Technical Elective 3</p> <p>Technical Elective 3</p> <p>Humanities/Social Sciences/Art Elective 3</p> <p>Humanities/Social Sciences/Art Elective 3</p> <p>CS 376—Practicum in CS Oral Presentations 1</p> <p>Total Hours 16</p>	<p>Sample Course Schedule—Computer Science – same except for last semester:</p> <p>Second Semester Hours</p> <p>CS 442—Software Engineering II 3</p> <p>Technical Elective 3</p> <p>Technical Elective 3</p> <p>Humanities/Social Sciences/Art Elective 3</p> <p>Humanities/Social Sciences/Art Elective 3</p> <p>Humanities/Social Sciences/Art Elective 3</p> <p>CS 376—Practicum in CS Oral Presentations 1</p> <p>CS 499 – Professional Development Seminar (0)</p> <p>Total Hours 16</p>