

Dear Software Engineering Students:

This letter is to notify you of changes to the Software Engineering Program. In fall of 2006, the Department of Systems and Computer Engineering proposed Calendar changes to remove the previously required summer term of third year of the Software Engineering Program. We are implementing these changes over a two year timeframe in order to minimize any impact on our students. Please review this letter carefully so that you understand any required changes to your course pattern and registration. This letter provides instructions for students who are “on-pattern”, that is, those who are progressing normally through required courses. If you are “off-pattern”, you may require additional assistance to plan the remainder of your program and you should contact the Associate Chair of Undergraduate Studies for the Department by e-mail to [ugchair@sce.carleton.ca](mailto:ugchair@sce.carleton.ca)

**Changes to Co-op Work/Study Patterns:**

The new co-op pattern for Software Engineering will be as follows:

	Fall	Winter	Summer
Year 1	<b>Study</b>	<b>Study</b>	Optional
Year 2	<b>Study</b>	<b>Study</b>	Work
Year 3	<b>Study</b>	Work	Work
Year 4	Work	<b>Study</b>	Work
Year 5	<b>Study</b>	<b>Study</b>	X

Those who are not participating in co-op will be able to complete the new Software Engineering Program through normal fall/winter study terms without the requirement to be present on campus during summer of the third academic year. Note, however, that if you are currently (Winter 2007) in the first term of your third year, then you will have to complete the second term of third year this summer (2007).

**Implementation of Changes:**

In order to minimize the impact to our students, we will be phasing in the new program over two years. Some students will transition to the new program effective fall

2007, while others can follow an alternate route that contains a summer study term for the second half of the third year of the program during summer 2008 only.

SOFTWARE ENGINEERING (2007 and Beyond)							
FIRST YEAR		SECOND YEAR		THIRD YEAR		FOURTH YEAR	
FALL	WINTER	FALL	WINTER	FALL	WINTER	FALL	WINTER
<b>ECOR 1010</b> Introduction to Engineering	<b>MATH 1805</b> Discrete Structures I	<b>MATH 2004</b> Multivariable Calculus for Eng. Students	<b>CCDP 2100</b> Comm. Skills for Eng. Students	<b>ECOR 3800</b> Engineering Economics	<b>STAT 3502</b> Probability and Statistics	<b>ELEC 4705</b> Elec Mats, Devices & Tx Media	<b>SYSC 4806</b> Software Engineering Laboratory
<b>MATH 1004</b> Calculus for Engineering Students	<b>MATH 1005</b> Differential Equations and Infinity Series	<b>ELEC 2501</b> Circuits and Signals	<b>ECOR 1101</b> Mechanics I	<b>SYSC 3600</b> Systems and Simulation	<b>SYSC 4507</b> Computer Systems Architecture	<b>SYSC 4101</b> Software Validation	<b>ECOR 4995</b> Professional Practice
<b>PHYS 1003</b> Intro Mechanics & Thermodyn.	<b>PHYS 1004</b> Introductory Electromag & Wave Motion	<b>CHEM 1101</b> Chemistry for Engineering Students	<b>SYSC 2101</b> Software Development Project	<b>SYSC 3001</b> Operating Systems and Databases	<b>SYSC 3303</b> Real-Time Concurrent Systems	<b>SYSC 4800</b> Software Engineering	<b>SYSC 4005</b> Discrete Simulation/Modeling
<b>SYSC 1100</b> Intro to Object Oriented Computing	<b>SYSC 1101</b> OO Software Development	<b>SYSC 2100</b> Algorithms and Data Structures	<b>SYSC 2003</b> Introductory Real-Time Systems	<b>SYSC 3100</b> Systems Analysis and Design	<b>SYSC 4106</b> Software Product Management	<b>Elective</b> Engineering (note a)	<b>Elective</b> Engineering (note b)
<b>MATH 1104</b> Linear Algebra for Eng. Students	<b>SYSC 1102</b> C++ Programming	<b>SYSC 2001</b> Computer Systems Foundations	<b>ELEC 2607</b> Switching Circuits	<b>COMP 3005</b> Database Management Systems	<b>SYSC 3101</b> Programming Languages	<b>SYSC 4907</b> Engineering Project	
Notes: (a) 0.5 credits from ELEC 2507, SYSC 3200, SYSC 3501, SYSC 4502, SYSC 3601, SYSC 4102, SYSC 4405, SYSC 4504, SYSC 4505, SYSC 4602, ELEC 4509, ELEC 4506. (b) 0.5 credits from the list in Note (a) or SYSC 4105, SYSC 4107, COMP 2805, COMP 3002, COMP 4000, COMP 4001, COMP 4002, COMP 4003, COMP 4100, COMP 4106.						<b>Elective</b> Complementary Studies Electives	<b>Elective</b> Complementary Studies Electives

Figure 1: New Software Engineering Program, 2007 and beyond.

Figure 1 above shows the new Software Engineering Program that will be in place effective fall 2007 and beyond. Starting in fall 2007, all Software Engineering students should plan to follow either the new program shown in Figure 1, or one of the transitional programs described below. You should compare these programs with the current prerequisite tree for the Software program available from the Engineering Academic Support website off of [www.carleton.ca/engineering](http://www.carleton.ca/engineering). Those who are “off-pattern” and cannot complete the new program or one of the transitional programs should immediately contact the Associate Chair of Undergraduate Studies for Systems and Computer Engineering at [ugchair@sce.carleton.ca](mailto:ugchair@sce.carleton.ca) for assistance in planning the remainder of their program.

## **Transition Issues:**

There will be no changes to the program before fall 2007. In particular, courses offered in summer 2007 will not change from previous years. Please note specifically that the following changes are included in the transition to the new program:

1. SYSC 3101 will be offered **ONLY** in the winter term effective fall 2007 and beyond;
2. COMP 3005 will be offered **ONLY** in the fall term effective fall 2007 and beyond;
3. SYSC 4106 will be offered **ONLY** in the winter term effective fall 2007 and beyond;
4. SYSC 4005 will be offered **ONLY** in the winter term effective fall 2007 and beyond; and
5. SYSC 4800 will be offered in summer 2008, but starting fall 2008 and beyond SYSC 4800 will be offered **ONLY** in the fall term.

The following scenarios provide guidance for on-pattern students in planning your program.

1. If you are starting first year of Software Engineering in fall 2007, then you will start immediately with the new program in Figure 1.
2. If you are completing the first year of the program in April 2007, then you will have an optional work term during summer of 2007 and will start the new program in Figure 1 for fall 2007.
3. If you are completing the second year of the program in April 2007, then you have two options depending on your work term arrangements.

If you are planning only a four month work term from May 2007 – Aug 2007, then you should start the new program in Figure 1 and plan to take courses for the first term of third year in fall 2007. Those participating in co-op can select work/study patterns through consultation with the co-op office.

If, on the other hand, you are planning an eight month work term for summer 2007 and fall 2007, then you should plan your courses for winter 2008 and summer 2008 according to the third year of Transitional Program A shown in Figure 2. This means that you will register for SYSC 4507, ECOR 3800, SYSC 3001, SYSC 3101 and SYSC 3600 for winter 2008. You will then register for STAT 3502 (May-Aug), SYSC 3100 (May-June), SYSC 3303 (July-Aug), SYSC 4800 (July – Aug) and we are strongly suggesting that you register in SYSC 3601

(May-June) as one of your Engineering Electives (see Note (a) of Figure 1). If you decide against SYSC 3601 as an Engineering Elective, then you may seek an approved Complementary Studies Elective for this slot (Summer, 2008) and leave both engineering electives for your 4<sup>th</sup> year. You should then complete the third year of Transitional Program A by the end of summer 2008. Those who are not participating in co-op may start immediately into the fourth year of Transitional Program A shown in Figure 2 starting fall 2008. Those who are participating in co-op could first take a 12 month work term and start the fourth year of Transitional Program A shown in Figure 2 starting fall 2009.

SOFTWARE ENGINEERING (2007/2008 ONLY)							
FIRST YEAR		SECOND YEAR		THIRD YEAR		FOURTH YEAR	
FALL	WINTER	FALL	WINTER	WINTER	SUMMER	FALL	WINTER
ECOR 1010 Introduction to Engineering	MATH 1104 Linear Algebra for Eng. Students	MATH 2004 Multivariable Calculus for Eng. Students	CCDP 2100 Comm. Skills for Eng. Students	ECOR 3800 Engineering Economics	SYSC 3100 Systems Analysis and Design	ELEC 4705 Elec. Mats, Devices & Tx Media	SYSC 4806 Software Engineering Laboratory
MATH 1004 Calculus for Engineering Students	MATH 1005 Differential Equations and Infinity Series	ELEC 2501 Circuits & Systems	CHEM 1101 Chemistry for Engineering Students	Unchanged		Unchanged	
PHYS 1003 Intro Mechanics & Thermodyn.	PHYS 1004 Introductory Electronics & Wave Phenomena	ECOR 1101 Mechanics I	SYSC 2101 Software Development Project	SYSC 3001 Operating Systems and Databases	SYSC 3303 Real-Time Concurrent Systems	SYSC 4101 Software Validation	ECOR 4995 Professional Practice
SYSC 1100 Intro to Object Oriented Computing	SYSC 1101 OO Software Development	SYSC 2100 Algorithms and Data Structures	SYSC 2003 Introductory Real-Time Systems	SYSC 3600 Systems and Simulation	SYSC 4800 Software Engineering	SYSC 4907 Engineering Project	
MATH 1805 Discrete Structures I	SYSC 1102 C++ Programming	SYSC 2001 Computer Systems Foundations	ELEC 2607 Switching Circuits	SYSC 4507 Computer Systems Architecture	STAT 3502 Probability and Statistics	Elective Complementary Studies Elective	Elective Complementary Studies Elective
				SYSC 3101 Programming Languages	Elective SYSC 3601	Elective Engineering (see note b)	SYSC 4005 Discrete Simulation/Modeling
						COMP 3005 Database Management Systems	SYSC 4106 Software Product Management

Figure 2: Software Engineering Transitional Program A. Note that the summer term in third year of this program will only be offered during summer 2008.

- If you will complete the third year of the Software Engineering Program by August 2007, then you also have two options. If you are not participating in co-op, then you may start directly into the fourth year of Transitional Program B shown in Figure 3. If you are participating in co-op, then you may take a 12 month work term from Sept. 2007 through August 2008 and return in Sept. 2008 to begin the fourth year of Transitional Program B shown in Figure 3. Note that Transitional Program B requires that you complete two engineering electives and

two complementary studies electives in fourth year, much like the original program, but SYSC 4106 will be offered only in the winter term. You must therefore plan for either two engineering electives in the fall term and one complementary studies elective in each of the fall and winter terms, or you may plan for two complementary studies electives in the fall term and one engineering elective in each of the fall and winter terms.

SOFTWARE ENGINEERING TP B							
FIRST YEAR		SECOND YEAR		THIRD YEAR		FOURTH YEAR	
FALL	WINTER	FALL	WINTER	WINTER	SUMMER	FALL	WINTER
ECOR 1010 Introduction to Engineering	MATH 1104 Linear Algebra for Eng. Students	MATH 2004 Multivariable Calculus for Eng. Students	CCDP 2100 Comm. Skills for Eng. Students	STAT 3502 Probability and Statistics	SYSC 4005 Discrete Simulation Modeling	ELEC 4705 Elec. Mats, Devices & Tx Media	SYSC 4806 Software Engineering Laboratory
MATH 1004 Calculus for Engineering Students	MATH 1005 Differential Equations and Infinity Series	ELEC 2501 Circuits and Signals	CHEM 1101 Chemistry for Engineering Students	ECOR 3800 Engineering Economics	SYSC 3100 Systems Analysis and Design	Unchanged	
PHYS 1003 Intro Mechanics & Thermodyn.	PHYS 1004 Introductory Electromag & Wave Motion	ECOR 1101 Mechanics I	SYSC 2101 Software Development Project	SYSC 3001 Operating Systems and Databases	SYSC 4800 Software Engineering	SYSC 4907 Engineering Project	
SYSC 1100 Intro to Object Oriented Computing	SYSC 1101 OO Software Development	SYSC 2100 Algorithms and Data Structures	SYSC 2003 Introductory Real-Time Systems	COMP 3005 Database Management Systems	SYSC 3303 Real-Time Concurrent Systems	Elective Engineering (see note a)	SYSC 4507 Computer Systems Architecture
MATH 1805 Discrete Structures I	SYSC 1102 C++ Programming	SYSC 2001 Computer Systems Foundations	ELEC 2607 Switching Circuits	SYSC 3600 Systems and Simulation	SYSC 3101 Programming Languages	Elective Engineering (see note b)	SYSC 4106 Software Product Management
Notes: (a) 0.5 credits from ELEC 2507, SYSC 3200, SYSC 3501, SYSC 4502, SYSC 3601, SYSC 4102, SYSC 4405, SYSC 4504, SYSC 4505, SYSC 4602, ELEC 4509, ELEC 4506. (b) 0.5 credits from the list in Note (a) or SYSC 4105, SYSC 4107, COMP 2805, COMP 3002, COMP 4000, COMP 4001, COMP 4002, COMP 4003, COMP 4100, COMP 4106.						Elective Complementary Studies Elective	Elective Complementary Studies Elective

Figure 3: Software Engineering Transitional Program B. Note that summer term of third year shown for this program will only be available during summer 2007.

We appreciate your support during this time of change, and we remain committed to your successful completion of the Software Engineering Program. You may direct any questions to the Associate Chair, Undergraduate, by e-mail to [ugchair@sce.carleton.ca](mailto:ugchair@sce.carleton.ca).

Sincerely,

Professor V. Aitken, Chair  
 Department of Systems and Computer Engineering  
 Carleton University