



<p>1.0 Degree Title Please specify the two degrees for concurrent degree programs</p> <input type="text" value="B.Sc. (Hons)"/>	<p>2.0 Administering Faculty/Unit</p> <input type="text" value="Science"/>
<p>1.1 Major (Legacy= Subject)(30-char. max.)</p> <input type="text" value="Software Engineering"/>	<p>Offering Faculty/Department</p> <input type="text" value="Computer Science"/>
<p>1.2 Concentration (Legacy = Concentration/Option) If applicable to Majors only (30 char. max.)</p> <input type="text"/>	<p>3.0 Effective Term of Implementation (Ex. Sept. 2004 = 200409) Term</p> <input type="text" value="201009"/>
<p>1.3 Minor (with Concentration, if Applicable) (30 char. max.)</p> <input type="text"/>	

4.0 Rationale for new proposal

This program provides a more challenging and research-oriented version of the Computer Science Software Engineering Major program. The structure is parallel to the Computer Science Honours program.

5.0 Program Information
Please check appropriate box(es)

<p>5.1 Program Type</p> <p><input checked="" type="checkbox"/> Bachelor's Program</p> <p><input type="checkbox"/> Master's</p> <p><input type="checkbox"/> M.Sc. (Applied) Program</p> <p><input type="checkbox"/> Dual Degree/Concurrent Program</p> <p><input type="checkbox"/> Certificate</p> <p><input type="checkbox"/> Diploma</p> <p><input type="checkbox"/> Graduate Certificate</p> <p><input type="checkbox"/> Graduate Diploma</p> <p><input type="checkbox"/> Ph.D. Program</p> <p><input type="checkbox"/> Doctorate Program (Other than Ph.D.)</p> <p><input type="checkbox"/> Private Program</p> <p><input type="checkbox"/> Off-Campus Program</p> <p><input type="checkbox"/> Distance Education Program (By Correspondence)</p> <p><input type="checkbox"/> Other (Please specify)</p> <input type="text"/>	<p>5.2 Category</p> <p><input type="checkbox"/> Faculty Program (FP)</p> <p><input type="checkbox"/> Major</p> <p><input type="checkbox"/> Joint Major</p> <p><input type="checkbox"/> Major Concentration (CON)</p> <p><input type="checkbox"/> Minor</p> <p><input type="checkbox"/> Minor Concentration (CON)</p> <p><input checked="" type="checkbox"/> Honours (HON)</p> <p><input type="checkbox"/> Joint Honours Component (HC)</p> <p><input type="checkbox"/> Internship/Co-op</p> <p><input type="checkbox"/> Thesis (T)</p> <p><input type="checkbox"/> Non-Thesis (N)</p> <p><input type="checkbox"/> Other</p> <p>Please specify</p> <input type="text"/>	<p>5.3 Level</p> <p><input checked="" type="checkbox"/> Undergraduate</p> <p><input type="checkbox"/> Dentistry/Law/Medicine</p> <p><input type="checkbox"/> Continuing Ed (Non-Credit)</p> <p><input type="checkbox"/> Collegial</p> <p><input type="checkbox"/> Masters & Grad Dips & Certs</p> <p><input type="checkbox"/> Doctorate</p> <p><input type="checkbox"/> Post-Graduate Medicine/Dentistry</p> <p><input type="checkbox"/> Graduate Qualifying</p> <p><input type="checkbox"/> Postdoctoral Fellows</p>
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<p>6.0 Total Credits</p> <input type="text" value="72-75"/>	<p>7.0 Consultation with Related Units Yes <input type="checkbox"/> No <input type="checkbox"/></p> <p>Financial Consult Yes <input type="checkbox"/> No <input type="checkbox"/></p> <p>Attach list of consultations.</p>
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B.Sc. Honours in Software Engineering

HONOURS IN SOFTWARE ENGINEERING (72-75 credits)

PROPOSAL

Honours students must maintain a CGPA of 3.00 and must have at least this average upon graduation as well.

Required Courses (39-42 credits)

*COMP 202 Introduction to Computing 1 (3)
COMP 206 Introduction to Software Systems (3)
COMP 250 Introduction to Computer Science (3)
COMP 251 Data Structures and Algorithms (3)
COMP 273 Introduction to Computer Systems (3)
COMP 302 Programming Languages and Paradigms (3)
COMP 303 Software Development (3)
COMP 310 Operating Systems (3)
or ECSE 427 Operating Systems (3)
COMP 361 Systems Development Project (6)
COMP 400 Technical Project and Report (3)
ECSE 429 Software Validation (3)
MATH 223 Linear Algebra (3)
MATH 240 Discrete Structures 1 (3)

*Students who have sufficient knowledge in a programming language are not required to take COMP 202.

Complementary Courses (33 credits)

At least 9 credits selected from groups A and B, with at least 3 credits selected from each:

Group A:

*MATH 222 Calculus 3 (3)
MATH 323 Probability (3)
MATH 324 Statistics (3)

Group B:

COMP 330 Theoretical Aspects: Computer Science (3)
COMP 360 Algorithm Design Techniques (3)

*Students who have successfully completed MATH 150 and MATH 151 are not required to take MATH 222.

At least 18 credits selected from the following, with at least 6 credits selected from Software Engineering Specializations, and at least 9 credits selection from Application Specialties.

Software Engineering Specializations

COMP 409 Concurrent Programming (3)
or ECSE 420 Parallel Computing (3)
COMP 523 Language-based Security (3)
COMP 525 Formal Verification (3)
COMP 529 Software Architecture (4)
COMP 533 Object-Oriented Software Development (3)

Application Specialties

COMP 350 Numerical Computing (3)
COMP 417 Introduction to Robotics and Intelligent Systems (3)
COMP 421 Database Systems (3)
COMP 424 Topics: Artificial Intelligence 1 (3)
COMP 512 Distributed Systems (4)
COMP 520 Compiler Design (4)
COMP 521 Modern Computer Games (4)
COMP 522 Modelling and Simulation (4)
COMP 535 Computer Networks 1 (3)
COMP 557 Fundamentals of Computer Graphics (3)
COMP 558 Fundamentals of Computer Vision (3)
ECSE 424 Human-Computer Interaction (3)

At least 6 credits selected from any COMP course at 500-level and above (including Software Engineering Specializations and Application Specialties)

At least 12 credits must be at the 500-level or above.

10.0 Approvals

Routing Sequence	Name	Signature	Date
Department	<input type="text"/>	<input type="text"/>	<input type="text"/>
Curric/Acad Committee	<input type="text"/>	<input type="text"/>	<input type="text"/>
Faculty 1	<input type="text"/>	<input type="text"/>	<input type="text"/>
Faculty 2	<input type="text"/>	<input type="text"/>	<input type="text"/>
Faculty 3	<input type="text"/>	<input type="text"/>	<input type="text"/>
SCTP	<input type="text"/>	<input type="text"/>	<input type="text"/>
GS	<input type="text"/>	<input type="text"/>	<input type="text"/>
APPC	<input type="text"/>	<input type="text"/>	<input type="text"/>
Senate	<input type="text"/>	<input type="text"/>	<input type="text"/>

Submitted by

Name

Phone

Email

Submission Date

To be completed by ARR:

CIP Code