1.0 Degree Title
Specify the two degrees for concurrent degree programs
Bachelor of Science

1.1 Major (Legacy = Subject) (30-char. max.)
Joint Honours in Mathematics and Computer Science

1.2 Concentration (Legacy = Concentration/Option)
If applicable (30 char. max.)

1.3 Minor (with Concentration, if applicable)
(30 char. max.)

1.4 Category

☐ Faculty Program (FP)
☐ Honours (HON)
☐ Major
☐ Joint Honours
☐ Component (HC)
☐ Joint Major
☐ Internship/Co-op
☐ Thesis (T)
☐ Major Concentration (CON)
☐ Non-Thesis (N)
☐ Minor
☐ Other
☐ Minor Concentration (CON)
☐ Please specify

1.5 Complete Program Title
B.Sc Joint Honours in Mathematics and Computer Science

2.0 Administering Faculty/Unit
Science/Mathematics and Statistics

3.0 Effective Term of revision or retirement
Please give reasons in 5.0 “Rationale” in the case of retirement
(Ex. Sept. 2004 = 200409) ☐ Retirement

Term: 200809

4.0 Existing Credit Weight
72

5.0 Rationale for revised program
The School of Computer Science has recently revised all their programs with the goal of making the treatment of COMP 202 more uniform. The Department of Mathematics and Statistics is administering the joint programs with Computer Science. By request from the School of Computer Science we modified the treatment of COMP 202 in these programs to make them consistent with the programs administered by the School of Computer Science.

6.0 Revised Program Description (Maximum 150 words)
Students entering the Joint Honours Program in Mathematics and Computer Science are normally expected to have completed MATH 133, MATH 140, and MATH 141 or their equivalents. Otherwise they will be required to make up any deficiencies in these courses over and above the 72-75 credits of courses in the program specification.
### EXISTING as of Calendar 2007/08 (ONLINE)

#### JOINT HONOURS IN MATHEMATICS AND COMPUTER SCIENCE (72 credits)

**Required Courses (42 credits)**
- COMP 206 (3) Introduction to Software Systems
- COMP 250* (3) Introduction to Computer Science
- COMP 252 (3) Algorithms and Data Structures
- COMP 273 (3) Introduction to Computer Systems
- COMP 302 (3) Programming Languages and Paradigms
- COMP 310 (3) Operating Systems
- COMP 330 (3) Theoretical Aspects: Computer Science
- COMP 362 (3) Honours Algorithm Design
- MATH 235 (3) Algebra 1
- MATH 242 (3) Analysis 1
- MATH 248 (3) Honours Advanced Calculus
- MATH 251 (3) Honours Algebra 2
- MATH 255 (3) Honours Analysis 2
- MATH 350 (3) Graph Theory and Combinatorics

*Students with no basic knowledge of any high level programming language (e.g., Fortran, Basic, Pascal, C, C++, Java) are advised to take COMP 202 before COMP 250. In this case COMP 202 counts as elective.*

### PROPOSED (for Calendar 2008/09)

#### JOINT HONOURS IN MATHEMATICS AND COMPUTER SCIENCE (72-75 credits)

**Required Courses (42-45 credits)**
- COMP 202* (3) Introduction to Computing 1
- COMP 206 (3) Introduction to Software Systems
- COMP 250 (3) Introduction to Computer Science
- COMP 252 (3) Algorithms and Data Structures
- COMP 273 (3) Introduction to Computer Systems
- COMP 302 (3) Programming Languages and Paradigms
- COMP 310 (3) Operating Systems
- COMP 330 (3) Theoretical Aspects: Computer Science
- COMP 362 (3) Honours Algorithm Design
- MATH 235 (3) Algebra 1
- MATH 242 (3) Analysis 1
- MATH 248 (3) Honours Advanced Calculus
- MATH 251 (3) Honours Algebra 2
- MATH 255 (3) Honours Analysis 2
- MATH 350 (3) Graph Theory and Combinatorics

*Students who have sufficient knowledge in a programming language are not required to take COMP 202.*
7.0 List of existing program and proposed program

Existing program (list courses as follows: Subj Code/Crse Num, Title, Credit weight, under the headings of: Required Courses, Complementary Courses, Elective Courses)

JOINT HONOURS IN MATHEMATICS AND COMPUTER SCIENCE (Cont’d)

Complementary Courses (30 credits)
18 credits in Mathematics, at least 12 credits selected from
MATH 354 (3) Honours Analysis 3
MATH 355 (3) Honours Analysis 4
MATH 356* (3) Honours Probability
MATH 370 (3) Honours Algebra 3
MATH 371 (3) Honours Algebra 4
MATH 387 (3) Honours Numerical Analysis
The remaining credits selected from honours courses given by the Department of Mathematics and Statistics.
*Students with appropriate background in probability may substitute MATH 587 for MATH 356 and must then also register for MATH 355.

12 credits in Computer Science, selected from
COMP 303 (3) Software Development
COMP 304 (3) Object-oriented Design
COMP 335 (3) Software Engineering Methods
400-level and 500-level Computer Science courses with the exception of COMP 431.

Proposed program (list courses as follows: Subj Code/Crse Num, Title, Credit weight, under the headings of: Required Courses, Complementary Courses, Elective Courses)

JOINT HONOURS IN MATHEMATICS AND COMPUTER SCIENCE (Cont’d)

Complementary Courses (30 credits)
18 credits in Mathematics, at least 12 credits selected from
MATH 354 (3) Honours Analysis 3
MATH 355 (3) Honours Analysis 4
MATH 356* (3) Honours Probability
MATH 370 (3) Honours Algebra 3
MATH 371 (3) Honours Algebra 4
MATH 387 (3) Honours Numerical Analysis
The remaining credits selected from honours courses given by the Department of Mathematics and Statistics.
*Students with appropriate background in probability may substitute MATH 587 for MATH 356 and must then also register for MATH 355.

12 credits in Computer Science, selected from Computer Science courses at the 300-level or above (except COMP 364, COMP 396, COMP 431) and ECSE 508.
8.0 Consultation with Related Units: [ ] Yes [ ] No

Financial Consult: [ ] Yes [ ] No

Attach list of consultations

### 9. Approvals

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Submitted by
Name: ____________________
Phone: ____________________
Email: ____________________
Submission Date: __________

To be completed by ARR:
CIP Code: __________

Program/Major or Minor/ Concentration Revision Form P2-4