

# Proposal for changes to UTSC computer science programs

(effective Fall 2012)

# Specialist Program

Three streams:

- comprehensive (27 courses)
- software engineering (27 courses)
- information systems (30 courses, 4 MGT)

Identical structure to present program

Two courses fewer than now:

- one semester of 2<sup>nd</sup>-year calculus (instead of 2)
- one upper-level elective less

# Common core for all streams (21 courses)

Writing requirement:

one course chosen from a wide selection

A- and B-level CSC courses:

A08, A48, A67 (replaces A65)

B07, B09, B36, B58, B63

A- and B-level MAT/STA courses:

MATA31, A37 (single variable calculus)

MATA23, B24 (linear algebra)

MATB41 (multivariable calculus)

STAB52 (probability)

upper-level CSC:

C43 (databases), C69 (OS)

C37 (numerical analysis, replaces C36/C50)

C63 (computability/complexity), C73 (algorithms)

D03 (social impact of IT)

## Additional upper-level courses in Comprehensive:

- required:
  - CSCC24 (Programming Languages)
  - CSCD37 (Numerical Analysis II)
- two electives in systems & applications
- one elective in mathematics of computation
- one CSC/MAT/STA elective

## Additional upper-level courses in SE stream:

- required:
  - C24 (Programming Languages)
  - C01 (SE I, new course replaces C40)
  - D01 (SE II, new course replaced D08)
- three electives in systems & applications

## Additional upper-level courses in IS stream:

- required:
  - Four MGT courses (A03, A04, B23, B29)
  - C01 (SE I, new course replaces C40)
  - D01 (SE II, new course replaced D08)
  - D43 (Databases II)
- two electives in systems & applications

## How is this different from present specialist?

- two courses fewer required
- greater flexibility in choice of electives
- A67 (Discrete Mathematics for CS) replaces A65 (Mathematical Expression and Reasoning for CS)
- revamped NA sequence: C36 or C50 -> C51 replaced by C37 (-> D37)
- revamped SE sequence: C40 -> D08 replaced by C01 ->D01
- revamped “hardware” courses (B58, C85)
- new AI course (D84)

# Major Program

16 courses (as in current major)

A- and B-level CSC courses:

A08, A48, A67 (replaces A65)

B07, B09, B36, B58, B63

A- and B-level MAT/STA courses:

MATA31, A37 (single variable calculus)

MATA23 (linear algebra)

**one of:** MATB24 (linear algebra), STAB52 (probability)

upper-level CSC:

C37 (numerical analysis, replaces C36/C50)

**one of:** C63 (computability/complexity), C73 (algorithms)

two CSC electives

## How is this different from present major?

- B09 is now required (makes more upper-level courses accessible)
- only one of MATB24 or STAB52 is required (choice should be informed by desired electives)
- greater flexibility in choice of electives
- A67 (Discrete Mathematics for CS) replaces A65 (Mathematical Expression and Reasoning for CS)
- revamped numerical analysis requirement: C37 replaces C36

# Minor Program

Eight courses (as in current minor)

- **one of:** CSCA08, CSCA20
- CSCA48
- **one of:** CSCA65, MATA30/31/32/23, PHLB50
- three electives from B-level CSC courses
- Two electives from upper-level CSC courses

# How is this different from present minor?

- greater flexibility in choice of courses
- new course CSCB20 on databases and web programming for students not concentrating in computer science