CSC165 Mathematical expression and reasoning for computer scientists —Winter 2013

Short version: Welcome to CSC165, "Mathematical expression and reasoning for computer science." We'll have 35 lecture hours, nine tutorials (with quizzes), three assignments, two tests, a course LOG (SLOG), and a three-hour final exam. You'll find more details on the course web page. Please read your U of T email regularly, since I use it to announce course events.

Lectures: Lectures are Monday at 11 in SS2102 (Sid Smith 2102), and Wednesdays and Fridays in MP103 (MacLennan Physics 103).

There will be nine 90-minute tutorials for you to work through published exercises with your teaching assistant, and then take a brief quiz based closely on the exercises.

Contact information:

instructor: Danny Heap

email: heap@cs.toronto.edu

office: BA4270 (four floor of the Bahen, behind the elevators)

office hour(s): TBD (to be discussed in class), or by appointment.

phone: 416-978-5899

Prerequisites: Check the prerequisites for this course in the Arts & Science Calendar If you don't satisfy these, you need to talk to me the first week of classes to see whether you may remain in the course. If I don't issue a waiver, the registrar may remove you from the course.

Textbook and computing: There is no required textbook for this course. Instead, we offer you course notes authored by several instructors of this course. Each student enrolled in the course has an account on CDF (Computing Discipline Facility) to tinker with programs, and to electronically submit assignments and exercises. Questions about the management of your CDF account should be addressed to `admin@cdf.toronto.edu`.

Syllabus: We'll discuss the following topics:

- logic and expression
- proof techniques
- complexity, program running time
- halting problem and computability

Course work: You'll be responsible for seven (!) pieces of term work, spread through the twelve weeks: nine quizzes (counting as one "piece"), three assignments, two tests, and a course LOG (SLOG).

Nuances: Each of us has better or worse days, and (through the magic of computers) I will weight your grades to reflect this. The three assignments and SLOG are worth, collectively, 32%, so I will weight your best piece 10%, your worst piece 6%, and your two middling pieces 9% and 7%, respectively.

Your best term test will have weight 10% and your worst 6%. No modification of the exam weight is possible: it will be 40% of your final grade, and you must achieve at least 40% of the possible marks on the exam in order to pass this course.

Item	Due	Weight
Assignment #1 Assignment #2 Assignment #3 SLOG (courSe LOG)	Wednesday January 30th, 11:59 p.m. Wednesday March 6th, 11:59 p.m. Wednesday April 3rd, 11:59 p.m. January 16 – April 5th, 11:59 p.m.	32% (in total)
Quizzes	January 15th, 22nd and 29th February 12th and 26th March 5th, 19th and 26th April 2nd Quizzes are brief, and take place during tutorial	12% (in total)
Term test #1 Term test #2	Friday February 8th, 11:10–12:00 noon Friday March 15th, 11:10–12:00 noon pm	16% (in total)
Final exam	Some time in April	40%

Late work, re-marks: I can't accept late or missed work. However, if you have a valid, documented reason for missing a deadline, you won't be penalized for events that are beyond your control. If you feel a piece of your work has been graded unfairly, please submit a written re-mark form within a week of receiving the work back.

Academic integrity: Our university, including you, is a community of scholars. That means we share ideas here, and we have to do so in a responsible manner. A key ingredient is to always give generous, detailed, credit to others whose work you use, and never attempt to pass off somebody else's work as your own. Assignments and tests are meant to be the work of their authors, either individually (in the case of tests and quizzes), or in teams of up to three persons (in the case of assignments). Here are tips to avoid passing off others work as your own, or (just as bad) having your work passed off as somebody else's.

- Don't use other teams' partial or complete solutions. You may discuss **general** approaches, take no notes (paper or electronic), and leave an hour of mindless activity between discussions with others and authoring your own work.
- Don't show your work to another team.
- Don't interfere with university computers, other person's files, accounts, or programs.

Lecture notes, email: I will occasionally have draft versions of my lecture slides posted ahead, so that you can print and annotate them with your own observations. Email is, by design, asynchronous. That means that at the particular time of day or night that you send email, I may be eating, sleeping, listening to music, or attending to other responsibilities. It could take me 24 hours, or longer, to respond. Here are tips to make email correspondence about this course more effective:

- Use your utoronto.ca or cdf.toronto.edu email address.
- Put "CSC165" somewhere in the subject line.
- Compose a short message on a single topic. An open-ended question such as "what's wrong with this proof" is unlikely to receive a useful response.