

COMP 3007 FALL 2015

Course objectives

The course is about functional programming, types and abstraction. It is intended to give you the following abilities.

- To solve computational problems using a functional way of thinking.
- To more quickly learn programming languages of the future by understanding some of the newer ideas in the programming language world that will eventually become mainstream.
- To draw on a wider range of abstractions for designing and reasoning about software.
- To employ advanced type systems to write more reliable, understandable and maintainable software.

Course method

The course is based on the Haskell language. Haskell is a pure functional language with lazy evaluation and an advanced type system. All assignments will be done in Haskell.

The lectures will be a mix of principles and practice. Much of the learning will come from the assignments, which will be weekly except for weeks with tests.

The workload is not intended to be higher than other courses. The usual assignment workload is merely being broken up into to a larger set of smaller assignments.

Resources

The software we will be using is all contained in the [Haskell Platform](#). You should be able to install this with just a few clicks. It's also installed on the SCS labs' machines.

You will not need an IDE, though you're welcome to use one. See the [Haskell wiki](#) for a listing. Your instructor uses Emacs.

The Haskell Platform comes with "ghci", which is an interactive read-eval-print loop you can run from a shell or Windows command prompt. Our programs will be small and will easily fit in a single file that can be loaded from ghci. Using your favorite text editor to write code and doing everything else within ghci is probably the easiest way to do the assignments for this course.

There are many web resources for learning Haskell. Here are two good books.

- [Learn You a Haskell for Great Good](#)
- [Real World Haskell](#)

This course is under development. Additional resources will be recommended/provided as it proceeds.

Evaluation

Grading formula. Assignments 50%, two tests worth 10% each, and a final exam worth 30%. You must pass the final exam in order to pass the course.

Missed assignments. You should do all the assignments. Documented (medical certification required) illnesses will be considered on a case by case basis. To account for other circumstances, such as undocumented illness, your lowest assignment score will simply be dropped when computing the final grade. No other accommodations for missed assignments will be made unless you have medical certification.

Copied assignments. If your assignment is found to be wholly, or even in part, a copy of another student's assignment, it will receive a grade of -20%, regardless of who was the copier. In other words, the score will be zero for that assignment, and in addition, assuming each assignment is graded out of 100, 20 points will be deducted from another assignment.

Collaboration Policy

Collaborating on assignments is **strictly disallowed**. You must complete the work by yourself. If you need help, please see a TA or your instructor. Posting assignment solutions on discussion boards before the due date and time is also prohibited.

Important dates

Assignment due dates. September 9, 16, 23, 30; October 14, 28; November 4, 11, 25; December 2.

In-class tests. October 7 and November 18.

Final exam. To be scheduled during the University's exam period.

University Policies

Student Academic Integrity Policy

Every student should be familiar with the Carleton University student academic integrity policy.

A student found in violation of academic integrity standards may be awarded penalties which range from a reprimand to receiving a grade of F in the course or even being expelled from the program or University. Some examples of offences are: plagiarism and unauthorized co-operation or collaboration. Information on this policy may be found in the Undergraduate Calendar.

Plagiarism

As defined by Senate, "plagiarism is presenting, whether intentional or not, the ideas, expression of ideas or work of others as one's own". Such reported offences will be reviewed by the office of the Dean of Science.

Unauthorized Co-operation or Collaboration

Senate policy states that "to ensure fairness and equity in assessment of term work, students shall not co-operate or collaborate in the completion of an academic assignment, in whole or in part, when the instructor has indicated that the assignment is to be completed on an individual basis". Please refer to the course outline statement or the instructor concerning this issue.

Academic Accommodations for Students with Disabilities

The Paul Menton Centre for Students with Disabilities (PMC) provides services to students with Learning Disabilities (LD), psychiatric/mental health disabilities, Attention Deficit Hyperactivity Disorder (ADHD), Autism Spectrum Disorders (ASD), chronic medical conditions, and impairments in mobility, hearing, and vision. If you have a disability requiring academic accommodations in this course, please contact PMC at 613-520-6608 or pmc@carleton.ca for a formal evaluation. If you are already registered with the PMC, contact your PMC coordinator to send the instructor your Letter of Accommodation at the beginning of the term, and no later than two weeks before the first in-class scheduled test or exam requiring accommodation (if applicable). After requesting accommodation from PMC, meet with the instructor to ensure accommodation arrangements are made. Please consult the PMC website for the deadline to request accommodations for the formally-scheduled exam (if applicable) at <http://www2.carleton.ca/pmc/new-and-current-students/dates-and-deadlines>

Religious Obligation

Write to the instructor with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. For more details visit the Equity Services website: <http://www2.carleton.ca/equity/>

Pregnancy Obligation

Write to the instructor with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. For more details visit the Equity Services website: <http://www2.carleton.ca/equity/>

Medical Certificate

The following is a link to the official medical certificate accepted by Carleton University for the deferral of final examinations or assignments in undergraduate courses. To access the form, please go to <http://www.carleton.ca/registrar/forms>