Course Description

Major topics in the development of modern programming languages. Syntax specification, type systems, type inference, exception handling, information hiding, structural recursion, run-time storage management, and programming paradigms. Two non-procedural programming paradigms: functional programming (illustrated by languages such as Lisp, Scheme, ML or Haskell) and logic programming (illustrated by languages such as Prolog, XSB or Coral). [24L, 12P]

Prerequisite: CSC207H5, CSC236H5, CSC290H5
Exclusion: CSC324H1,CSCC24H3 (SCI)
Distribution Requirement: SCI

Students who lack a pre/co-requisite can be removed at any time unless they have received an explicit waiver from the department. The waiver form can be downloaded from here.

Textbooks and Other Materials

We will be using the CSC324 Coursepack written by Prof. David Liu, available for free on the course website. We will follow the notes closely for the majority of the course, but our treatment of logic programming will differ. Additional notes will be posted online. Prof. David Liu's Coursepack also contains various exercises that are great practice for the course.

Assessment and Deadlines

<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
<th>Due Date</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assignment</td>
<td>Weekly Exercises (9 total)</td>
<td>On-going</td>
<td>18%</td>
</tr>
<tr>
<td>Assignment</td>
<td>Assignment 1</td>
<td>2019-10-15</td>
<td>11%</td>
</tr>
<tr>
<td>Term Test</td>
<td>Midterm</td>
<td>2019-10-23</td>
<td>15%</td>
</tr>
<tr>
<td>Assignment</td>
<td>Assignment 2</td>
<td>2019-12-03</td>
<td>11%</td>
</tr>
<tr>
<td>Final Exam</td>
<td>TBA</td>
<td>TBA</td>
<td>40%</td>
</tr>
<tr>
<td>Other</td>
<td>Floating (added to midterm or exam)</td>
<td>On-going</td>
<td>5%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td><strong>Total</strong></td>
<td></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

More Details for Assessment and Deadlines

There are two options for the weighting of the midterm and final exam; we choose the one that gives you the highest grade:

1. the midterm is worth 20% and the final exam is worth 40%;
2. the midterm is worth 15% and the final exam is worth 45%.

(This explains the 5% 'floating' grades; it is assigned to whichever of the midterm or final exam is the higher grade.)

You must earn 40% or above on the exam to pass the course; otherwise, your final course mark will be set no higher than 47%.
Penalties for Lateness
Exercises are small, regular checkups to help you keep up with the course. Each exercise is graded as the number of test cases passed and is to be completed individually. No late exercises are accepted.

Assignments are more complex programming projects, and may be completed individually or in a team of two. In addition to correctness, you are graded on design, code quality, and documentation.

For the assignments, we recognize that unexpected problems sometimes make it difficult to submit them on time. For this reason, we will be using grace tokens to give you flexibility with assignment deadlines.

Exercises and assignments are due by 22:00.

Procedures and Rules

Missed Term Work
To request special consideration, bring supporting documentation to the instructor in person during office hours at least one week in advance.

In case of illness, bring a U of T medical certificate to the instructor within one week of the missed work. The certificate must specify the exact period during which you were unable to carry out your academic work.

Missed Final Exam
Students who cannot write a final examination due to illness or other serious causes must file an online petition within 72 hours of the missed examination. Original supporting documentation must also be submitted to the Office of the Registrar within 72 hours of the missed exam. Late petitions will NOT be considered. If illness is cited as the reason for a deferred exam request, a U of T Verification of Student Illness or Injury Form must show that you were examined and diagnosed at the time of illness and on the date of the exam, or by the day after at the latest. Students must also record their absence on ACORN on the day of the missed exam or by the day after at the latest. Upon approval of a deferred exam request, a non-refundable fee of $70 is required for each examination approved.

Academic Integrity
Honesty and fairness are fundamental to the University of Toronto’s mission. Plagiarism is a form of academic fraud and is treated very seriously. The work that you submit must be your own and cannot contain anyone else’s work or ideas without proper attribution. You are expected to read the handout How not to plagiarize (http://www.writing.utoronto.ca/advice/using-sources/how-not-to-plagiarize) and to be familiar with the Code of behaviour on academic matters, which is linked from the UTM calendar under the link Codes and policies.

Final Exam Information
Duration: 2 hours
Aids Permitted: None

Additional Information
Each student will receive six grace tokens; each grace token can be used for a two-hour extension for an assignment. For example, you may choose to use all six grace tokens on the first assignment, extending its deadline by twelve hours. Or, you may wish to use three tokens for each assignment, extending each deadline by six hours.

MarkUs automatically deducts grace tokens when you submit an assignment late---you do not need to explicitly say you are using a grace token, just submit your work within the grace token two-hour periods. If you work with a partner on an assignment, grace tokens are deducted from every team member, not just one of you. For example, if Alice and Bob are working together, and wish to submit an assignment 3 hours late, they must both have at least two grace tokens remaining.

Last Date to drop course from Academic Record and GPA is November 7, 2019.