Overview

This sheet summarizes information for the course CSC 263 H1 S (Data Structures and Analysis) during the Winter term of 2015 (January–April) on the St. George campus. **Please consult the course website for full details.**

http://www.cdf.toronto.edu/~csc263h/winter

You are responsible for reading all announcements on the Piazza forum linked from the course website. Make a habit of checking it at least weekly.

- See the course website for additional references, lecture outlines and a free online edition of the textbook (provided by the U of T Libraries).

Website

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Textbook

- See the course website for additional references, lecture outlines and a free online edition of the textbook (provided by the U of T Libraries).

Contact

Section  Instructor  Email  Office  Office Hours
L0101, L0201  Michelle Craig  mcraig@cs.toronto.edu  BA 4258  MW 10:30–noon
L0301  Larry Zhang  ylzhang@cs.toronto.edu  BA 5206  RF 2–4
L5101  François Pitt  fpitt@cs.toronto.edu  BA 4264  MTWRF 1:30–2:30

Section  Lectures  Room  Tutorials
L0101  MW 2  BA 1170  F 2
L0201  MW 3  BA 1170  F 3
L0301  TR 10  SF 3202  F 12
L5101  R 6–8  BA 1160  R 8

Schedule

<table>
<thead>
<tr>
<th>Week</th>
<th>Dates</th>
<th>Due</th>
<th>Worth</th>
<th>Lecture Topics [Text Chapters]</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Jan 05–Jan 09</td>
<td>Complexity Review; ADTs [1–4]</td>
<td>2%</td>
<td>Problem Set 1</td>
<td>add date (Jan 18)</td>
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<td>2</td>
<td>Jan 12–Jan 16</td>
<td>Priority Queues; Heaps [6]</td>
<td>2%</td>
<td>Problem Set 2</td>
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<td>3</td>
<td>Jan 19–Jan 23</td>
<td>Dictionaries; BSTs [12.1–12.3]</td>
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<td>Jan 26–Jan 30</td>
<td>Balanced Trees; Augmenting [14]</td>
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<td>5</td>
<td>Feb 02–Feb 06</td>
<td>Hashing [11]</td>
<td>2%</td>
<td>Assignment 1</td>
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<tr>
<td>6</td>
<td>Feb 09–Feb 13</td>
<td>Randomization; Quicksort [5, 7]</td>
<td>12%</td>
<td>Midterm</td>
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<tr>
<td>7</td>
<td>Feb 23–Feb 27</td>
<td>Amortization; Dynamic Arrays [17]</td>
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<td>Problem Set 5</td>
<td>drop date (Mar 08)</td>
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<td>8</td>
<td>Mar 02–Mar 06</td>
<td>Graphs; Breadth-First Search [22]</td>
<td>2%</td>
<td>Problem Set 6</td>
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<td>9</td>
<td>Mar 09–Mar 13</td>
<td>Depth-First Search [22]</td>
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<td>Assignment 2</td>
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<td>10</td>
<td>Mar 16–Mar 20</td>
<td>Minimum Spanning Trees [23]</td>
<td>2%</td>
<td>Problem Set 7</td>
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<tr>
<td>11</td>
<td>Mar 23–Mar 27</td>
<td>Disjoint Sets [21]</td>
<td>2%</td>
<td>Problem Set 8</td>
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<tr>
<td>12</td>
<td>Mar 30–Apr 02</td>
<td>Lower Bounds [8.1, 9.1]</td>
<td>12%</td>
<td>Assignment 2</td>
<td></td>
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<td></td>
<td>Apr 08–Apr 30</td>
<td>Final Exam</td>
<td>36%</td>
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Learning Goals

By the end of this course, students will be familiar with a variety of standard, complex data structures and abstract data types (graphs, dictionaries, balanced search trees, hash tables, heaps, disjoint sets), and with standard complexity measures (worst-case, average-case, amortized). More specifically, students will be able to:

- recognize algorithms that employ each data structure,
- write algorithms that employ each data structure,
- recognize when each complexity measure is most appropriate,
- analyze the efficiency of algorithms using each complexity measure,
- choose and/or modify data structures appropriately to solve various problems.
Grading Scheme

• Each problem set must be completed individually (to help you cement your own understanding) and is due by 5:59pm on Tuesday.
• Each assignment should be completed in groups of up to four students (to help you learn better) and is due by 5:59pm on Tuesday—see details on the course website.
• Late homework submissions are penalized by 2% for every hour of lateness (rounded up, to a maximum of 20 hours), except for documented unusual circumstances—see the policy on special consideration (“petitions”) below.
• The midterm test is scheduled at 4–6pm on Feb. 26, with alternate sitting at 5–7pm on Feb. 26. Further details (including the rooms) will be posted on the course website, including what to do if you are unavailable at either time.
• For the midterm test, you will be allowed one 8.5” × 11” aid sheet, handwritten on one side.
• For the final exam, you will be allowed one 8.5” × 11” aid sheet, handwritten on both sides.
• If you earn less than 40% on the final exam, your final course grade will be reduced below 50.

If you cannot answer a question (or part of a question) on a test or on the final exam, you will receive 20% of the marks for that question (or part) if you leave your answer completely blank. This does NOT apply on homework, where you have the time (and the responsibility) to ask questions and learn how to solve each problem.

If you are unable to complete homework or if you miss a test due to major illness or other circumstances completely outside of your control, please contact your instructor immediately. Special consideration will be considered on an individual basis and will not be given automatically. In other words, you risk getting a mark of zero for missed work unless you contact your instructor promptly.

In the case of illness, medical documentation must be supplied on the official University of Toronto Verification of Illness or Injury Form (see the course website for a link to this document). If you have any concerns or questions regarding your situation, please contact your instructor or your College Registrar—they are well-equipped to help you with anything you may be going through.

All remarking requests must be received within two weeks of the date when the work was returned. It is your responsibility to check course announcements regularly (for work returned electronically) and to pick up your work in lecture, tutorial, or during office hours (for work returned on paper).

It is to your advantage to be specific when you write up your request: either clearly demonstrate that the marking scheme was not followed correctly, or ask questions about specific elements in the marking scheme. Note that marks are awarded based on merit, not on need—that is the only fair way to award marks—so statements like “I worked really hard” or “I really need those marks” are not valid reasons to request remarking.

Everything that you submit for marks (problem sets, assignments, test and exam) must not contain anyone else’s work or ideas without proper attribution. In particular, the writeup of your homework must be done in isolation from other students (or other groups) and without copying from notes or other sources. This ensures that your solution is truly your own, and that your grade reflects your own understanding of the course material. To be safe, do not let others look at your solutions, even in draft form and even after the due date. Please read the Guidelines for Avoiding Plagiarism on the course website.

Please use email for personal matters only; post all other questions/comments on the course forum. Please use a descriptive subject line for all your electronic correspondence—for email, always include the course number. To help prevent your messages being incorrectly tagged as spam, please email only from your CDF or UTORmail account (see www.utorid.utoronto.ca). We will generally answer queries within two business days (not counting weekends), although we may take longer during particularly busy times (e.g., around assignment due dates). For your own sake, please do not rely on getting same-day answers (which we cannot guarantee, unfortunately).