

<div class="printBefore">
<h1 class="pageTitle">COMP2003J Data Struc and Algorithms 2</h1>
<h2>Academic Year 2019/2020</h2>

This module extends the set of standard algorithms addressed in Data Structures and Algorithms I. It covers tree structures, linked structures (graphs), text processing and representation, as well as the core algorithms that complement each structure. A range of implementation techniques are examined, with emphasis being given to the complexity of the various solutions and their applicability to different problem domains.

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<div style="text-align:center;"><p>Curricular information is subject to change</p></div>

What will I learn?

Learning Outcomes:
<p>On completion of this module, students will be able to:
- Implement tree data structures and use them in programs.
- Explain how tree balance affects the efficiency of various binary search tree operations.
- Show how different approaches to tree balancing affect the tree structure.
- Describe the heap property and the use of heaps as an implementation of priority queues.
- Solve problems using graph algorithms, including depth-first and breadth-first search, shortest paths, and minimum spanning trees.
- Discuss and contrast how the runtime and memory efficiency an abstract data type is affected by the choice of implementation strategy.
- Implement simple search algorithms and explain the differences in their time complexities.
- Explain how multiple data structures can be used in concert to solve problems.</p>

How will I learn?

Student Effort Hours:

Student Effort Type	Hours
Lectures	30
Laboratories	24
Autonomous Student Learning	71
Total	125

Am I eligible to take this module?

<div class="subHeadCB">Requirements, Exclusions and Recommendations</div>

<p>Not applicable to this module.</p>

<div class="subHeadCB">Module Requisites and Incompatibles</div>

Incompatibles:

COMP2014J - Data Structs & Algs II (S/E)

How will I be assessed?

Assessment Strategy

Description	Timing	Open Book Exam	Component Scale	Must Pass Component	% of Final Grade
Continuous Assessment: Quizzes, Programming Assignment, Written Assignments	Throughout the Trimester	n/a	Graded	No	100

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<div class="col-sm-6">Carry forward of passed components

No</div>

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What happens if I fail?

Resit In	Terminal Exam
Summer	Yes - 2 Hour

Assessment feedback

<div class="subHeadCB">Feedback Strategy/Strategies</div>

<p>* Feedback individually to students, on an activity or draft prior to summative assessment

* Feedback individually to students, post-assessment

* Self-assessment activities

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<div class="subHeadCB">How will my Feedback be Delivered?</div>

<p>Not yet recorded.</p>

Reading List

Data Structures and Algorithms in Java (by Goodrich and Tamassia)

Associated Staff

Name	Role
Mr John O'Connor	Lecturer / Co-Lecturer

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<h1 class="printOnly"> UCD Course Search

Data Struc and Algorithms 2 (COMP2003J) </h1><h3 class="printOnly">Academic Year 2019/2020</h3><p class="printOnly">The information contained in this document is, to the best of our knowledge, true and accurate at the time of publication, and is solely for informational purposes.

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<h4 class="noPrint">Data Struc and Algorithms 2 (COMP2003J)</h4>

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<dt>Subject:</dt>

<dd>Computer Science</dd>

<dt>College:</dt>

<dd>Science</dd>

<dt>School:</dt>

<dd>Computer Science</dd>

<dt>Level:</dt>

<dd>2 (Intermediate)</dd>

<dt>Credits:</dt>

<dd>5.0</dd>

<dt>Trimester:</dt>

<dd>Spring</dd>

<dt>Module Coordinator:</dt>

<dd>Dr Takfarinas Saber</dd>
<dt>Mode of Delivery:</dt>
<dd>Face-to-Face</dd>
<dt>Internship Module:</dt><dd>No</dd>

<dt>How will I be graded?</dt>
<dd>Letter grades </dd>

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