<div class="printBefore">
<h1 class="pageTitle">COMP2014J Data Structs & Algs II (S/E)</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 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	26
Autonomous Student Learning	69
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:

COMP2003J - Data Struc and Algorithms 2

How will I be assessed?

Assessment Strategy

Description	Timing	Open Book Exam	Component Scale	Must Pass Component	% of Final Grade
Continuous Assessment: MCQs & Programming assignments & Learning Journal	Varies over the Trimester	n/a	Graded	No	100

<div class="row">
<div class="col-sm-6">Carry forward of passed components
No</div>
</div>

What happens if I fail?

Resit In	Terminal Exam
Summer	Yes - 2 Hour

Assessment feedback

<div class="subHeadCB">Feedback Strategy/Strategies</div>
<p>* Group/class feedback, post-assessment
* Self-assessment activities
</p>
<div class="subHeadCB">How will my Feedback be Delivered?</div>
<p>Not yet recorded.</p>

Reading List

Associated Staff

Name	Role
Mr Congcong Wang	Tutor

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<h1 class="printOnly"><img src="https://www.ucd.ie/t4cms/ucdcollegesandschools_logo.png"> UCD Course Search
Data Structs & Algs II (S/E) (COMP2014J) </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. University College Dublin accepts no liability for any loss or damage howsoever arising as a result of use or reliance on this information.</p>
  <h4 class="noPrint">Data Structs & Algs II (S/E) (COMP2014J)</h4>
 <dl>
  <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 David Lillis</dd>
  <dt>Mode of Delivery:</dt>
  <dd>Face-to-Face</dd>
<dt>Internship Module:</dt><dd>No</dd>

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


  </dl>
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