Module Code	CSU22E03
Module Name	Computer Engineering
ECTS Weighting[1]	5 ECTS
Semester taught	Semester 1
Module Coordinator/s	Dr Mike Brady
Module Learning Outcomes	On successful completion of this module, students will be able to: LO1. Apply object oriented programming principles to solve real problems. LO2. Write and debug C++ object-oriented programs . LO3. Identify and apply standard data structures and algorithms. LO4. Design and embed testing methods in program development. LO5. Describe how C++ programs are represented at runtime.
Module Content	The module is intended to build on the learning outcomes of an introductory course in C programming such as the Year 1 Computer Engineering I module to give students the ability to understand and apply object oriented programming principles to solve real problems. Students will develop and debug programs using an advanced integrated development environment. Students are introduced to some standard data structures and algorithms and are shown how and when they can best be applied.
Teaching and Learning Methods	The teaching strategy is a mixture of traditional lecturing and hands-on practical work which is supervised and evaluated at weekly practical sessions. Practical work focuses on the development of complete working programs.

Assessment Details[2]

Assessment Component	Brief Description	Learning Outcomes Addressed	% of total	Week set	Week due
Examination	2 hour written examination	All	80%	n/a	n/a
Labs	Practicals in programming, including advice-giving and assessment.	All	20%	Weekly from Week 2	Weekly from Week 2

Reassessment Details	Examination (2 hours, 100%)

Contact Hours and Indicative Student Workload	Contact Hours (scheduled hours per student over full module), broken down by:	44 hours
	Lecture/tutorial	33 hours
	laboratory	11 hours
	Independent study (outside scheduled contact hours), broken down by:	**72 hours**
	preparation for classes and review of material (including preparation for examination, if applicable)	36 hours
	completion of assessments (including examination, if applicable)	36 hours
	Total Hours	**116 hours**

Recommended Reading List	
Module Pre-requisites	**Prerequisite modules:** CSU11E03. **Other/alternative non-module prerequisites:** a working knowledge and ability to program in C.
Module Co-requisites	None
Module Website	TBA – please visit the Engineering website at https://www.tcd.ie/Engineering/undergraduate/baiyear2.
Last Update	01/08/2019 by Mike Brady