



University of Wollongong, Australia

Bachelor of Computer Science (Multimedia and Game Development)

YEAR 1

CSCI102 Systems

This subject establishes the position of Computer Science and Information Technology in a non-programming context. Areas introduced include Human-Computer Interface, Information Modelling, Intelligent Systems, Networks, Operating Systems, Software Design and Development and Professional ethics, rights and responsibilities.



CSCI124 Applied Programming

Pre-Requisites: CSCI103 & CSCI114

This subject develops a thorough understanding of programme design using data structures. It extends CSCI114 and presents pointers, dynamic memory management and exception handling. Other topics include implementation of Sorting and Searching Algorithms including the use of typedefs, void pointers and indexes to generalise algorithms; Implementation of data structures: queues, stacks, linked lists, dequeues, trees; Use of arrays as an implementation structure – hashing, radix sort, heaps and Heapsort; Random Access files and internal I/O; Testing of programmes: black and white box testing, and the use of debuggers; Use of multi-file organisation in encapsulation and data hiding, with make files; These concepts will be treated through formal lectures, tutorials, assignments and laboratory sessions employing an object oriented language.

YEAR 2

CSCI203 Algorithms and Data Structures

Pre-requisites: CSCI124

Approaches to analysing algorithm complexity. The use of abstract data types as a design technique, and their implementation in solutions to problems, will form a large part of the subject. The concept of efficient code and ways to measure efficiency (both empirically, by timings, and





CSCI346: Game Development

This subject introduces the game development and production lifecycle. Students are exposed to the different game genre and how they affect game play. The design and development of different game plays are introduced. The subject allows students to explore the appreciation and critical review of modern games. There is a hands-on aspect of the subject where students design and develop games of different genres using appropriate game development framework.

CSCI336 Interactive Computer Graphics

Pre-requisites: CSCI204

Introduction to computer representation of lines and points; mathematical models; transformations in 2 and 3 dimensions; homogenous coordinate systems; fill algorithms; solid modelling; hidden line and surface algorithms; lighting models; and current trends.

CSCI322 Systems Administration

Pre-requisites: CSCI204 + 6 credit points @ 200 level

This subject will cover the practical and theoretical aspects of system administration. The various resource areas which have to be managed will be discussed and examined. And the possible methods of monitoring and controlling them in various systems will be investigated. The features unique to both single processor and networked systems will be investigated.

CSCI321 Project

Pre-requisites: CSCI222

Working in groups, students design, implement, and document a software system. Involves: project planning and scheduling, seminars and individual presentations, group co-ordination, research of proposed application domain, use of design methodologies, design documentation, coding, module and system integration, testing verification, and implementation.