



BSc (Hons) Computer Science (Games Development)

Year 2 & 3 of a 3 Year Degree

This course investigates the technologies behind games development and software games engines. It also covers the mathematics and physics required to create believable agents, non-player characters (NPCs) and virtual worlds inside a computer game.

Building on the popularity of the University of Wolverhampton's main Computer Science Award, this degree integrates computer language tools, techniques and methodologies that are used by leading games studios. Programming is an essential requirement for all computer scientists and games developers. Apart from developing your skills in this area students will cover subjects such as object oriented analysis, design and programming, software development and systems programming.

In addition to games development studies, important topics within computer graphics and artificial intelligence will also be covered. Additionally students will be prepared with the key skills needed to keep abreast of future developments. Within the final year, the degree will culminate in the design and development of a computer games related project.

This degree is designed to equip graduates with all the skills required to play a valuable role as part of a games development team in the games industry, and to develop ideas into a marketable product.

Apply now:
stcmalta.com/apply

Study Options
Full Time or Part Time

Duration
2 Academic Years
or 4 Academic Years (Part Time)
240 CATS (120 ECTS)

Assessment
Assessment through examinations
and coursework assignments

Entry Requirements
Level 4 Computing Award such as:
Higher National Certificate Computing
NCC Diploma in Computing
English Language Certification

Location
STC Higher Education
Block D, Giorgio Mitrovich Street,
Pembroke, Malta

UNLOCK YOUR TRUE POTENTIAL

Year 2 of Degree

Games Development

The module provides you with an introduction to computer games programming through the use of an industry standard programming language, game engine and formal development process. It includes the architecture of computer games, input, user interfaces, audio, cameras and collision detection and resolution.

Techniques for Games Development

This module builds on the principles and methodologies introduced in "Games Development". You will learn about games development theory with particular focus on game maths, physics and virtual character decision-making and movement. It includes topics such as trigonometry, vectors, gravity, movement algorithms, finite state machines and path-finding.

Object-Oriented Design and Programming

The purpose of this module is to introduce students to the field of object-oriented design and programming, and to the utilisation of industry-standard methods and techniques for development. Students will learn about fundamental object-oriented concepts such as class design, encapsulation, inheritance, composition, abstract classes and interfaces.

Human-Computer Interaction

The module will focus on the foundations of User-Centred Design and Principles of Effective Human Computer Interaction Techniques, including the conceptualisation, design, building / prototyping, testing and developing digital systems such as interfaces and emerging technological innovations.

Collaborative Development

This module aims to integrate the subject material studied in other modules and give students experience of developing an artefact in a team. Students will learn to work in teams to coordinate and manage a project.

Optional modules

Students will be asked to choose one between:

Numerical Methods and Concurrency
Databases
Web Development

Year 3 of Degree

Artificial Intelligence and Machine Learning

This module focuses students on the current and emerging area of artificial intelligence and machine learning in both domestic and commercial fields. Areas covered vary but may include Robotics, Digital Entertainment and Industries, such as Automotive and Supply chain.

Emerging Interactive Technologies

This module is designed to provide the student with an awareness of both current and upcoming trends/developments within the computer science industry. This includes recent technology developments, along with evolving technologies and those currently at a research stage.

High Performance Computing

This module will further develop your knowledge and understanding of Concurrent Systems. It will cover advanced topics such as GPUs, FPGAs and computer clusters..

Advanced Game Technologies and Programming

This module builds on the principles and methodologies introduced in "Games Development". Learn about game engines for the rapid prototyping of games, network programming for multiplayer games and mobile games technologies with the aim to create more sophisticated games.

Project and Professionalism

Learn about professional issues related to working in the Computing and IT industry. Students will consider professional conduct and the social, legal and ethical implications related to the profession. Students will be assigned a mentor who will be able to provide guidance and support throughout the final year project.