



Defence Simulation and Modelling MSc

www.cranfield.ac.uk/dsm



This course addresses the design, development, procurement, use and management of models and simulations for applications in experimentation, training, testing, analysis and assessment of military forces, systems and equipment.

The application of modelling and simulation continues to enhance and transform both systems development and training. It allows representation of increasingly complex equipment, systems and scenarios for the purposes of decision support and helps to reduce wear on live equipment and on test and training areas.

Who is it for?

The course is suitable for both military and civilian personnel, including those from defence industry and government departments. Ten places are normally available for the full-time cohort.

On successful completion of the course, you will be familiar with the technologies, methodologies, principles and terminology of modelling and simulation as used across defence, including the challenges and issues as well as the benefits.

Through use of facilities such as the Simulation and Synthetic Environment Laboratory (SSEL), with its wide range of specialist applications, students will gain a broad understanding of modelling and simulation in areas such as training, acquisition, decision-support, analysis and experimentation.

Your career

This qualification will equip you for simulation-specific appointments within the armed forces or government, or in the defence related activities of commercial organisations.

Cranfield Careers and Employability Service

Cranfield's Career Service is dedicated to helping you meet your career aspirations. You will have access to career coaching and advice, CV development, interview practice, access to hundreds of available jobs via our Symplicity platform and opportunities to meet recruiting employers at our careers fairs.

Our strong reputation and links with potential employers provide you with outstanding opportunities to secure interesting jobs and develop successful careers.

Support continues after graduation and as a Cranfield alumnus, you have free life-long access to a range of career resources to help you continue your education and enhance your career.

Overview

Start date

September (Full and part-time) / January (Part-time only)

Duration

MSc: one year full-time, up to three years part-time; PgDip: up to one year full-time, up to two years part-time; PgCert: up to one year full-time, up to two years part-time

Qualification

MSc, PgDip, PgCert

Study type

Full-time / Part-time

Structure

Assessment is 60% by coursework and 40% dissertation

Campus

Cranfield University at Shrivenham

Entry requirements

Normally a first or second class honours degree or equivalent in science, engineering or mathematics. Alternatively, a lesser qualification together with appropriate work experience may be acceptable.

Security clearance for Shrivenham

Some Cranfield University courses are delivered at the Defence Academy of the United Kingdom, Shrivenham which is a Ministry of Defence (MoD) site.

All applicants to courses that are wholly or partially delivered at Shrivenham must complete the BPSS (HMG Baseline Personnel Security Standard V4 April 2014) prior to registration on the course or must already hold a security clearance to this level or higher.

Please visit our security clearance page for further information.

Fees

Please see www.cranfield.ac.uk/fees for detailed information about fee status, full-time and part-time fees as well as deposit requirements and bursary and scholarship information.

Course details

MSc students must complete a taught phase consisting of eight standard modules, followed by an individual thesis in a relevant topic.

Standard modules normally comprise a week of teaching (or equivalent for the limited distance learning options available), followed by a further week of directed study/coursework (or equivalent for part-time and distance learning).

Advanced modules, which enable students to explore some areas in greater depth, are two-week (or equivalent for part time) individual mini-projects on an agreed topic in that subject which includes a written report and oral presentation.

Modules

Keeping our courses up-to-date and current requires constant innovation and change. The modules we offer reflect the needs of business and industry and the research interests of our staff. As a result, they may change or be withdrawn due to research developments, legislation changes or for a variety of other reasons. Changes may also be designed to improve the student learning experience or to respond to feedback from students, external examiners, accreditation bodies and industrial advisory panels.

To give you a taster, we have listed below the compulsory and elective (where applicable) modules which are currently affiliated with this course. All modules are indicative only, and may be subject to change for your year of entry

Compulsory modules

All the modules in the following list need to be taken as part of this course.

Introductory Studies

Foundations of Modelling and Simulation

Modelling and Simulation Acquisition and Techniques

Real Time Graphics

War Gaming and Combat Modelling

Synthetic Environments and Virtual Simulation

Experimentation Analysis and Trials for Simulation

Weapon System Performance Assessment

Networked and Distributed Simulation

Advanced Module 1

Advanced Module 2

Advanced Module 3

Networked and Distributed Simulation Exercise

Term dates

Orientation Week:

September 2024 – October 2024

Term One:

October 2024 – December 2024

Term Two:

January 2025 – March 2025

Term Three:

April 2025 – July 2025

Term Four:

July 2025 – September 2025

Class profile 2023/24

Gender:

Male 86% - Female 14%

Age range:

20 - 55 years

Number of nationalities:

2

Nationality:

UK: 96% - International: 4%

Class size:

28

For more information contact our Admissions Team:
T: +44 (0)1793 785220

Visit campus for yourself and meet current students and our academics at our next Open Day:
www.cranfield.ac.uk/openday

February 2024

Every effort is made to ensure that the information provided here is correct at the time it is published. Please check our website for the latest information.