



Explosives Ordnance Engineering MSc

www.cranfield.ac.uk/eoe



Explosives are used around the world every day, from the military and defence sector to mining and other industrial operations. This means that the requirement for expertise in explosives and their engineering is crucial.

The Explosives Ordnance Engineering MSc will teach you the necessary understanding behind explosives engineering, munitions and target response and look to the future in explosives development.

Who is it for?

This course has been designed specifically to provide an opportunity to a wide-range of attendees, including military officers, defence industry staff, government servants and civilian students, to provide knowledge and transferable skills that will enhance employment potential in this field, problem solving, self-direction and informed communication skills.

Students can learn in a flexible manner as the course offers both part-time and full-time learning with full access to an outstanding remote virtual learning environment and online literature through our extensive library facilities.

Your career

Many of the students are linked to military employment and, as such, are sponsored through this route. Therefore, the majority of students continue to work for them on completion of the course.

However, the course has the potential to take you on to enhanced career opportunities often at a more senior level across a range of roles corresponding with your experience.

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

Duration
MSc: 11 months full-time, up to three years part-time; PgDip: up to 11 months full-time, up to two years part-time; PgCert: up to 11 months full-time, up to two years part-time

Qualification
MSc, PgDip, PgCert

Study type
Full-time / Part-time

Structure
Coursework, examination, group project and individual thesis (MSc only)

Campus
Cranfield University at Shrivenham

Entry requirements
A degree in a science or engineering related subject or, exceptionally, with at least seven years' experience. If you are applying for entry to the Explosives Ordnance Engineering MSc through the experiential route, then up to three successful completions of modules as stand-alone accredited short courses can be used as part of the case to provide supporting evidence of academic ability for entry onto the MSc.

This programme is accredited as a programme of further learning for CEng registration. When presented together with a CEng-accredited bachelor's programme, the educational requirements for CEng registration will be met in full.

ATAS certificate
Students requiring a visa to study in the UK may need to apply for an ATAS certificate to study this course.

Security clearance for Shrivenham
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

Part one of the MSc course contains an introductory period followed by academic instruction, which is in modular form. Students take four core modules covering the main disciplines and choose a number of elective modules equating to 60 credits based upon their particular background, future requirements or research interests.

This course allows you to take several elective modules to suit our career path. The choice can be made to focus on the like of commercial explosives, safety or rocket propulsion. It becomes critical for those in careers in civilian and non-civilian roles which use, handle or engineer or engineer explosives or explosive materials.

The course provides the advanced academic background necessary for students to contribute effectively to technically demanding projects in the field of explosives and explosive ordnance engineering (EOE).

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.

Research Tools part 1 and 2

Introduction to Explosives Engineering

Munitions and Target Response

Future Developments: Scanning the Horizon in EOE

Elective modules

Select six from the list below

Introductory Studies

Gun Propellants

Testing and Evaluation of Explosives

Rocket Motors and Propellants

Pyrotechnics

Explosives and the Environment

Maritime Underwater Munitions

Manufacture and Material Properties of Explosives

Delivery Systems

Introduction to Explosives Engineering

Counter Improvised Explosive Devices Capability

Design for Vulnerability

Safety Assurance in EOE

Accreditation

The MSc of this course meets the educational requirements for the Engineering Council UK register of Chartered Engineers (CEng); the course is accredited by the Institution of Mechanical Engineers (IMechE).

Accredited by the Institution of Engineering and Technology (IET) on behalf of the Engineering Council as meeting the requirements for Further Learning for registration as a Chartered Engineer. Candidates must hold a CEng accredited BEng/BSc (Hons) undergraduate first degree to comply with full CEng registration requirements.

This course is CEng accredited and fulfils the educational requirements for registration as a Chartered Engineer when presented with a CEng accredited bachelor's programme.



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 84% - Female 16%

Age range:

20 - 65 years

Number of nationalities:

18

Nationality:

UK/EU: 88% - International: 12%

Class size:

135

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/oparday

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.