



# Gun Systems Design

MSc/PgDip/PgCert

This unique MSc course covers the essential technology required for the participants to take a lead role within their organisation on the specification, design and development of gun systems. The course is intended for officers of the armed forces and for scientists and technical officers in government defence establishments and the defence industry. It is particularly suitable for those who, in their subsequent careers, will be involved with the specification, analysis, development, technical management or operation of weapons systems. The Gun System Design MSc is part of the Weapon and Vehicle Systems Engineering Programme. This course offers the underpinning knowledge and education to enhance the student's suitability for senior positions within their organisation. This course provides education and training in selected weapons systems and provides students with the depth of knowledge to undertake engineering analysis or the evaluation of relevant sub systems.

## Who is it for?

This programme is intended for the following range of students:

Engineers, managers and military officers/non-commissioned officers working in:

- Weapon systems design, development and procurement,
- Military vehicle design, development and procurement,
- Weapons and vehicle systems engineering and integration.

## Course structure

This MSc course is made up of two essential components: the equivalent of 12 taught modules (including some double modules, typically of a two-week duration), and an individual project. MSc and PGDip students take 11 compulsory modules and one Elective module. PGCert students take four compulsory modules and two Elective modules.

## Individual project

In addition to the taught part of the course, students can opt either to undertake an individual project or participate in a group design project. The aim of the project phase is to enable students to develop expertise in engineering research, design or development. The project phase requires a thesis to be submitted and is worth 80 credit points.

## Group project

Armoured Fighting Vehicle and Weapon Systems Study to develop the technical requirements and characteristics of armoured fighting vehicles and weapon systems, and to examine the interactions between the various sub-systems and consequential compromises and trade-offs.

## Future career

Many previous students have returned to their sponsor organisations to take up senior programme appointments and equivalent research and development roles in this technical area.

## Example modules

Modules form only part of the course, with the project(s) and these making up the balance. Please see the course structure for details.

The list below shows the modules offered in the 2019-20 academic year, to give you an idea of course content. To keep our courses relevant and up-to-date, modules are subject to change – please see the webpage for the latest information.

### Compulsory:

- Armoured Fighting Vehicle and Weapon Systems,
- Element Design,
- Finite Element Methods in Engineering,
- Fundamentals of Ballistics,
- Military Vehicle Propulsion and Dynamics,
- Modelling, Simulation and Control,
- Ordnance Design,
- Solid Modelling CAD,
- Survivability,
- Vehicle Systems Integration,
- Weapon Systems Technology - Introduction.

### Elective (choose one):

- Guided Weapons,
- Light Weapon Design,
- Reliability and System Effectiveness,
- Rocket Motors and Propellants,
- Uninhabited Military Vehicle Systems.

### Duration:

MSc: Full-time - one year, part-time - up to three years,  
PgDip: Full-time - up to one year, part-time - two years,  
PGCert: Full-time - up to one year, part-time - two years.

### Start date:

September.

### Location:

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.

### ATAS Certificate:

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

## Contact details

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For further information please visit  
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