



Computational and Software Techniques in Engineering – Option in Software Engineering for Technical Computing

MSc

This course is unique in that it combines software engineering with high performance computing, giving you the tools and techniques that employers are looking for and an advantage in the job market.

This specialist option of the MSc Computational and Software Techniques in Engineering offers a unique insight into the development of computer applications across a wide spectrum of modern computing environments, from multi-core CPUs to specialist GPUs to Cloud Computing, all of which are relevant to the IT industry today.

Course structure

The course consists of core modules, including a group design project, plus an individual research project.

Individual project

The individual research project allows you to develop specialist skills by taking the theory from the taught modules and combining it with practical application. The research project gives you the opportunity to produce a detailed piece of work either in close collaboration with industry, or on a particular topic which you are passionate about.

Group project

This aims to provide you with invaluable experience of delivering a project within a software development team. The project allows you to develop a range of skills including learning how to establish team member roles and responsibilities, project management, delivering technical presentations, and working with members who have a variety of backgrounds and experience.

Future career

There is a strong industry demand for talented individuals with expertise in engineering software development and technical programming skills in industry standard languages and tools. In this environment, where demand for the high calibre skills provided by this programme is outstripping supply, our graduates are in demand, internationally and across multiple industries and sectors. We receive many enquiries from engineering IT businesses during the programme, seeking to recruit our students on completion.

Example modules

Modules are delivered via a combination of lectures, tutorial sessions and computer-based workshops.

Compulsory:

- C++ Programming,
- Cloud Computing,
- Computational Methods,
- High Performance Technical Computing,
- Management for Technology,
- Requirements Analysis and System Design,
- Small-Scale Parallel Programming,
- Software Testing and Quality Assurance,
- Visualisation.

Duration:

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

Start date:

September.

Location:

Cranfield Campus.

Entry requirements:

A first or second class UK Honours degree (or equivalent), in aeronautical, mechanical or electrical engineering or computer science or be applying as part of a recognised double-degree programme with their home EU institution.

Entry level C Programming experience is advisable but not required. Applications from candidates with lesser qualifications but with considerable relevant work experience will be considered.

Applicants who do not fulfil the standard entry requirements can apply for the Pre-Master's in Engineering programme. Successful completion of which will qualify them for entry to this course for a second year of study.

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

www.cranfield.ac.uk/SoftwareEngTechComp