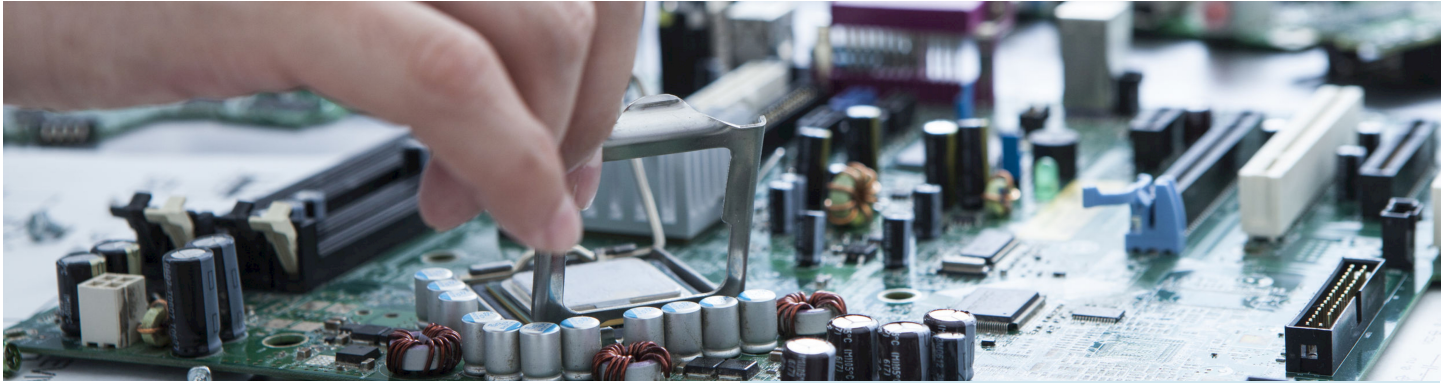# Software Engineering for Technical Computing option - MSc in Computational and Software Techniques in Engineering

www.cranfield.ac.uk/SoftwareEngTechComp

With the advent of ever more sophisticated and powerful computer environments, the techniques needed to develop and produce the software to run on these systems are themselves becoming increasingly complex.

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 Computational and Software Techniques in Engineering MSc 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.

Who is it for?

If you intend to pursue a career in software development, whether it is in the data centre, on the desktop or in the rapidly-expanding mobile application space, you need to have a strong basis in software engineering. 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.

Your career

The Software Engineering for Technical Computing master's attracts enquiries from companies all over the world who wish to recruit high-quality software development graduates. There is considerable demand for students with expertise in engineering software development and for those who have strong technical programming skills in industry-standard languages and tools.

Graduates of this course are in demand by financial software developers, mobile application developers, commercial engineering software developers, automotive, telecommunications, medical and other industries and research organisations, have been particularly successful in finding long-term employment. We have had positive feedback from companies in industries as diverse as finance to computer games studios.

Below is an example list of companies that have previously recruited our graduates:

• FACTSET,
• Ocado,
• IBM,
• HSBC.

Overview

Start date
September

Duration
One year full-time, two-three years part-time

Qualification
MSc

Study type
Full-time / part-time

Structure
Taught modules 40%, group project 20%, individual research project 40%

Campus
Cranfield campus

Entry requirements
We welcome applications from talented individuals of all backgrounds and each application is considered on its individual merit. Usually, applicants must hold:

A UK lower second-class (2:2) undergraduate degree with honours, as a minimum, or equivalent international qualification.

Ideally, applicants will have studied in aeronautical, mechanical or electrical engineering or a computer science discipline.

Find information about equivalent qualifications in your country on our International entry requirements page.

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

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.

Computational Methods

C++ Programming

Requirements Analysis and System Design

Software Testing and Quality Assurance

High Performance Technical Computing

Small-Scale Parallel Programming

Visualisation

Applications in Practical High-End Computing

Cloud Computing

"I found out about Cranfield's Software Engineering for Technical Computing course through the ESTIA partnership and thought it would suit me well for my international certification. A highlight from my time at Cranfield University has to be the quality of the teaching provided by the various lecturers and academics we had. When I finish my MSc I plan on working in the data sector as either a developer to begin my career or a project leader."

Lucas Pin-Belloc
current student, Computational and Software Techniques in Engineering MSc

For more information contact our Admissions Team:
T: +44 (0)1234 758082

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

January 2025

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.