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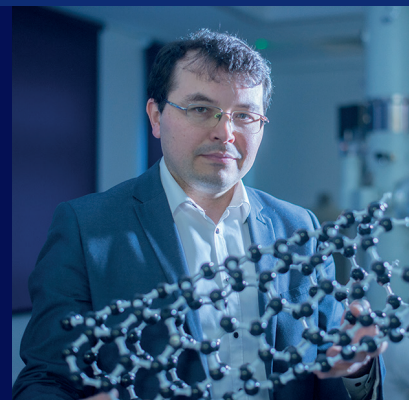
# MSc in Scientific Computation

Study a multidisciplinary subject encompassing mathematics, science and engineering

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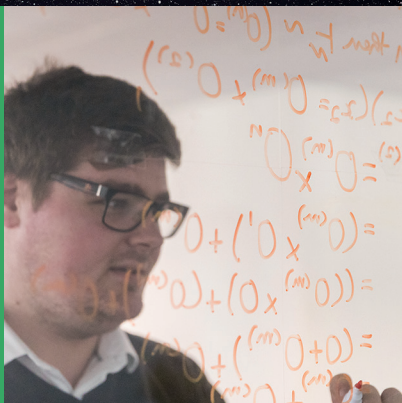
Study a  
multidisciplinary  
subject



Undertake an  
independent  
research project



Benefit from  
expert teaching  
at a research-led  
university



Careers in  
engineering,  
computing and  
financial industries





# Harness the power of computers for diverse careers in mathematics, science and engineering

## Overview

Scientific Computation is an increasingly important discipline concerned with harnessing the power of modern computers to carry out calculations relevant to mathematics, science and engineering. The various application areas give rise to mathematical models of the phenomena being studied.

Examples range in scale from the behaviour of cells in biology, to flow and combustion processes in a jet engine, to the formation and development of galaxies. Mathematics is used to formulate and analyse numerical methods for solving the equations that come from these applications.

## Content

The course consists of a common core, plus one of three optional strands, covering Computer Science, Mathematical Medicine and Biology, or Industrial Mathematics.

Core modules provide the theoretical foundations which underpin the design and mathematical analysis of numerical algorithms and the practical skills required to implement them as efficient and robust computer programs. The programme provides excellent preparation either for research in an area where computational techniques play a significant role, or for a career in business or industry.

## Modules

The course is taught jointly by the Schools of Mathematical Sciences and Computer Science. Modules are mainly delivered via lectures and/or problem classes and take place on University Park and Jubilee Campuses during the autumn and spring semesters of the academic year.

## Compulsory

- Scientific Computing and C++ (20 credits)
- Introduction to Finite Element Methods (20 credits)
- Computational Applied Mathematics (20 credits)

## Optional

- Advanced Techniques for Differential Equations (20 credits)
- Advanced Algorithms and Data Structures (10 credits)
- Linear and Discrete Optimisation (20 credits)
- Applied Nonlinear Dynamics (20 credits)
- Mathematical Medicine and Biology (20 credits)
- Topics in Biomedical Mathematics (20 credits)
- Advanced Fluid Mechanics (20 credits)
- Advanced Techniques for Differential Equations (20 credits)

## Dissertation

The dissertation is worth 60 credits and is carried out during the summer.

## Entry requirements

At least a lower second class honours (2:2) BSc degree (or international equivalent) in mathematics, physics, computer science or engineering. A strong mathematics background is essential and some computer programming experience would be useful.

University of Nottingham has made every effort to ensure that the information in this leaflet was accurate when published. Please note, however, that the nature of the content means that it is subject to change from time to time, and you should therefore consider the information to be guiding rather than definitive.

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