MSc in Social Media and Interactive Technologies
This course is organised and taught jointly with the Department of Sociology, and is fully described on page 155.

MSc in Software Engineering
Software engineering is a crucial discipline in the modern world. Information systems, communications, transport, manufacturing and services all require well-engineered, dependable software. The Software Engineering course focuses on the challenges of developing software for large-scale, complex systems. It aims to provide you with:
- a thorough grounding and practical experience in the use of state-of-the-art techniques for software systems development
- an understanding of the principles behind these techniques, to enable you to make sound judgements during the design and deployment of systems.

Your background
Typically, you will have achieved at least a 2:1 honours degree (or international equivalent) in Software Engineering or Computer Science, and some experience of software engineering. We will also consider applicants with appropriate work experience.

Funding for taught Masters courses
We offer a number of taught Masters scholarships, each worth £5,000. Visit www.cs.york.ac.uk/postgraduate/taught-courses/scholarship for more details.

MSc/PhD research degrees
You will undertake a research project working closely with your selected supervisor. You will also be attached to one of our established research groups.

Your background
If you attend part-time.

Available funding
For more information.

MSc/Diploma in Safety Critical Systems Engineering
Postgraduate Certificate in System Safety Engineering
These full- or part-time courses are built on industrial and academic collaboration in the railway, nuclear, defence, civil aerospace, maritime and automotive domains.

Your background
These courses are specifically directed at those with several years of industrial experience. An appropriate degree is desirable, but many applicants will have reached degree-level knowledge through their work experience.

Available funding
For more information.

Staff list
Professor and Head of Department

Jim Woodcock, FREng, PhD (Liverpool), FBCS, CITP, CEng
Formal methods and tools; semantics; concurrency; software engineering

Professors
Neil Audsley, DPhil (York)
Embedded real-time systems: architectures, memory; analysis programming; high performance

James Austin, PhD (Brunel)
Neural networks; e-science and grids; parallel computation; neuro-inspired computation
Samuel Braunstein, PhD (Caltech), CPhys, FInstP, Quantum information and computation; black holes
Alan Burns, DPhil (York), FInstP, FIEE, FBCS, FIET, Real-time systems; resource scheduling; real-time programming languages; mixed criticality; cyber physical systems
Ana Cavalcanti, DPhil (Oxford), Software verification; formal methods; real-time; concurrency; object-orientation
John Clark, DPhil (York), Security; cryptography; non-standard computation; software engineering
Peter Cowling, DPhil (Oxford), Artificial intelligence; operational research; graph search; heuristics; games
Edwin Hancock, PhD, DSc (Durham), Computer vision; pattern recognition; machine learning; complex networks
Flint, FIEE, FBCS
Tim Kelly, DPhil (York), Development, modelling, analysis and certification of high-integrity systems
John McDermid, OBE, FInstP, PhD (Birmingham), Safety engineering; security; safety-critical software; large-scale software engineering
Richard Paige, PhD (Toronto), Model-driven engineering; software engineering; enterprise systems; optimisation; security
Helen Petrie, PhD (London), Human-computer interaction; disabled and older users; psychological aspects of technology use
Colin Runciman, PhD (York), Programming languages and systems; functional programming
Susan Stepney, PhD (Cambridge), CEng, FBCS, Bio-inspired algorithms; unconventional computation; emergent properties; artificial life
Andy Wellings, DPhil (York), Real-time programming languages and operating systems
Richard Wilson, DPhil (York), Inexact graph matching; structural pattern recognition; stereo and shape-from-shading

Readers
Paul Cairns, DPhil (Oxford), Digital gaming experience; modelling user interactions; human–computer interaction
Dan Franks, PhD (Leeds), Complex networks; agent-based modelling; bio-inspired computing; swarm robotics
Alan Frisch, PhD (Rochester), Artificial intelligence; constraint programming; automated generation of constraint programs
Suresh Manandhar, PhD (Edinburgh), Natural language processing; minimally supervised learning of syntax and semantics
Stefano Pirandola, PhD (Camerino, Italy), Information theory; quantum computation; quantum cryptography

Senior Lecturers
Iain Bate, DPhil (York), Real-time and critical systems design and analysis; wireless sensor networks
Radu Calinescu, DPhil (Oxford), Self-adaptive software systems; formal modelling and verification at run time
Howard Chivers, PhD (York), Security; risk management; computer forensics; malware; intrusion detection
James Cussens, PhD (London), Machine learning; probabilistic graphical models; discrete optimisation
Alistair Edwards, PhD (Open), Novel forms of multi-modal human–computer interaction
Jeremy Jacob, DPhil (Oxford), Mathematical modelling and design of systems and languages with a focus on security
Dimitar Kazakov, PhD (Prague), Artificial intelligence; machine learning; computational linguistics; language origins
Steve King, DPhil (Oxford), Formal software development; provably-correct software; safety-critical software
Nick Pears, PhD (Durham), Computer vision and pattern recognition; machine learning; 3D shape analysis/modelling
Detlef Plump, Dr.-Ing, Habilitation (Bremen), Graph-based programming models; theoretical computer science
Fiona Polack, PhD (Cambridge), Software engineering; complex simulation; model-driven engineering
William Smith, PhD (York), Face recognition; shape-from-shading; reflectance/appearance modelling
Leandro Soares Indrusiak, Dr.-Ing (TU Darmstadt), Real-time and low-power multiprocessor systems
Alan Wood, PhD (London), Distributed computing; co-ordination systems and languages

Lecturers
Rob Alexander, PhD (York), Safety of autonomous robots; search-based testing; empirical safety engineering
Chris Bailey, PhD (Teesside), Novel processors and arrays; code optimisation and translation; VLSI design
Adrian Bors, PhD (Thessaloniki), Image processing; computational intelligence; motion estimation; digital watermarking
Mike Dodds, PhD (York), Concurrency; verification; relaxed memory; automated reasoning
Dimitrios Kolovos, PhD (York), Model-driven engineering; object-oriented design; software architecture; programming languages
Daniel Kudenko, PhD (Rutgers), Artificial intelligence for games; machine learning; user modelling
Simon O’Keefe, DPhil (York), Neural networks; binary correlation matrix memory; non-standard computation
Christopher Power, PhD (Western Ontario), Human–computer interaction; accessibility; user requirements; evaluation methodologies
Louis Rose, PhD (York), Software maintenance and evolution; model-driven engineering; software testing

Senior Research and Teaching Fellows
Rob Davis, DPhil (York), Real-time systems; scheduling analysis; industrial applications
Mark Nicholson, DPhil (York), System safety engineering; data safety; systems engineering; statistical analysis

Research and Teaching Fellows
Lilian Blot, PhD (UEA), Volumetric data; medical and biological image analysis and 3D representation
Anna Bramwell-Dicks, MSc (York), Human–computer interaction; auditory interaction; evaluation methodologies
Mike Freeman, PhD (York), Hardware architecture for high speed text and vector processing
Ibrahim Habli, PhD (York), Software architectures; product-line development; software safety; safety cases
Oleg Lisagor, PhD (York), Safety engineering; analysis of software-intensive systems; model-based safety assessment
David Pumfrey, DPhil (York), Hazard identification; risk assessment; system and software safety analysis
Tommy Yuan, PhD (Leeds Met), Argumentation; dialogue systems; dependability arguments; autism software