



## Engineering Systems\* BSc (Hons)

UCAS Code H650 BSc/ES

This course has been created specifically for students wanting to continue their studies after obtaining an HND in Engineering Systems or a related Engineering discipline. The course builds on a traditional engineering foundation and develops knowledge in the integration of computing and smart technologies for engineering systems applications. Demand for such knowledge and skills is increasing rapidly in all manufacturing industries, the oil and gas sector and in the process industry. Companies are looking for engineers, particularly with CAD/CAM skills and a background in control and instrumentation, to

develop advanced manufacturing systems and to design innovative ways of remotely monitoring and controlling equipment.

The School of Computing and Engineering Systems is an approved CISCO local academy and there may be an opportunity to gain CISCO qualifications alongside your studies. These industry level qualifications will enhance your CV when applying for employment after graduating.

\*At the time of going to press, this course was under development and is therefore offered subject to approval.

### What you study

You will learn how the latest CAD/CAM tools can be applied in the industry to create efficient and streamlined manufacturing systems. You will develop control applications to allow devices to be controlled and monitored remotely. You will experiment with the tools and techniques used to plan and design systems. This will be coupled with the latest simulation and modelling tools to enable you to design and visualise complex engineering systems. You will explore how artificial intelligence allows systems to learn and develop their own decision-making capabilities. You will also study the latest engineering management techniques that companies use to remain competitive in today's global market. In addition, there will be an opportunity to enhance your team-working and communication skills by designing and building an application in a team environment. Personal research and development skills will be further developed in the Honours project in the final year.

### How you learn

You will spend around 12-15 hours per week in lectures, tutorials and computing-based laboratories. Lectures are used to present the key concepts, theories and techniques throughout the course. Tutorials and laboratory-based activities increase your understanding of the subject and allow you to develop your competence and confidence in technological and theoretical work.

During the course you will be required to actively participate in group project work, discussion groups, seminars, and private study. In the final year, the Honours project requires you to carry out an investigation in a specific area of interest, supervised by a member of academic staff.

### How you are assessed

A range of assessment techniques are used on this course. Practical work is assessed in laboratory-based coursework exercises, whereas exams are used to assess more theoretical-based subjects. Reflective work is an essential part of the assessment for many modules and student-led presentation is used to assess team-based activities. In the final year, the Honours project is assessed by the submission of a dissertation. In addition, all final year students on this course produce an academic paper and poster for display at the School of Computing and Engineering Systems end of year show.

### Career opportunities

There is a national and international shortage of engineers with knowledge of integrated intelligent systems, particularly relating to control and instrumentation and CAD/CAM. The course has been constructed to bridge the gap between traditional engineering qualifications and the demand for such graduates in the Oil and Gas, process and manufacturing industries.

Recent opportunities both in the UK and internationally include control engineers, integrated systems developers, remote operation design engineers and CAD/CAM specialists.

Course Length	2 years (full-time)
Places Available	Approx 20
SCQF Level	10

### Key information

#### Year 3 entry only

HND or equivalent in Engineering Systems, Industrial Engineering Systems, Mechatronics, Mechanical, Electrical and Electronic, General Engineering or significant industrial experience.

#### Want to know more?

Admissions Tutor and Programme Tutor:

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#### Related courses

BSc (Hons) Computing & Networks p38

### Key features

- Created in response to national and international industry demand
- Develops skills in areas currently at the leading edge of engineering technology
- Integrates traditional engineering with state of the art computing technologies



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