The Department of Automatic Control & Systems Engineering

The Department was established in 1968 in response to the growing importance of Automatic Control and Systems Engineering to all branches of industry world-wide. We have since grown to become the largest Control and Systems Engineering Department in Europe. Our growth has been due to both the increasing demand for education in the area and the effects of rapid changes in engineering, computing and technology.

“The industrial placement offers the opportunity for postgraduate students to apply their advanced skills in solving real-world problems, further developing their transferable skills, and leaves them well placed to deliver the aims and objectives of their advanced project on return to university.”

- Dr Robin Purshouse, Year in Industry Tutor in the Department of Automatic Control and Systems Engineering

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Don’t just learn the job, Live the job.

MSc in Advanced Control & Systems Engineering with Industry Placement

www.sheffield.ac.uk/acse
Course Structure

Our new MSc in Advanced Control and Systems Engineering comes with the opportunity of an industry placement. It still offers the same exciting mix of theory, practice and research but will also provide you with hands on knowledge and experience of a real-life engineering environment.

Control and systems lie at the heart of engineering. Whether you are developing the flight control system for the latest aircraft, controlling a chemical plant or developing automation for the latest manufacturing system, our flagship MSc in Advanced Control and Systems Engineering is the ideal start to a very exciting career in engineering.

This course is suitable for graduates from a variety of scientific and engineering disciplines. It’s structured to support students as they gain a solid grounding in systems and control engineering, whilst teaching them about the latest developments and future expansion in this field.

There is a strong focus on the generality of these concepts ensuring that you will be equally prepared for careers in a variety of disciplines that rely on control and systems engineering. An emphasis will also be placed on the development of your practical and transferrable skills, through the practice of laboratory work, working with advanced control and systems software packages and project work.

Each student on the course will work with their own ‘take-home kit’. This is a portable piece of equipment that enables you to work with meaningful hardware in a time and place of your choosing, thus removing many of the limitations of traditional lab based teaching.

As part of your final year assessment you will work on a major project, which will be comprised of a mix of theoretical, practical, and industry-related work. The project is an ideal opportunity for you to focus on an area of particular interest to you.

All students will take the following core modules:
- Foundations of Control Systems
- State-Space, Non-Linear and Optimal Control
- Signal Processing and Estimation
- Embedded Systems and Rapid Control Prototyping
- Control Systems Project and Dissertation
- Advanced Industrial Control

Students can select two of the following optional modules:
- Intelligent and Vision Systems or Nonlinear and Hybrid Systems
- Robotics and Autonomous Systems or Multisensor and Decision Systems

Careers and Further Study

ACSE graduates are well placed to pursue a career in a variety of Engineering fields, such as manufacturing, power generation, sustainable energy and science and commerce. You could go on to work for a large international organisation or company such as: British Airways, IBM, Rolls-Royce and Unilever.

Alternatively you may decide that a career within research or academia is right for you. Many of our graduates continue at the University of Sheffield to pursue a PhD. If you choose this path you could be eligible for the Harry Nicholson Postgraduate Research Scholarship which is awarded to the most promising graduate from this programme. This scholarship includes both fees and maintenance.

Placements

You are expected to find your own placement, but there is plenty of support from University staff, including specialist staff within the Department of ACSE. During your placement you will stay in regular contact with the Department, and will be visited by the Placements Tutor or Course Director. You will keep an ongoing placement journal which will form part of the assessment for your placement.

Key Facts

Duration: 24 months

Entry requirements: First or upper second class honours degree (or equivalent).

Satisfactory statement re Industrial Placement plans: Applicants will be assessed on their response to the following three questions, maximum 150 words per question:

1. Tell us about the industry you are interested in working in
2. How does control and systems engineering relate to this industry
3. How do you expect to contribute as a placement student to this industry/company.

Applicants who satisfy these entry requirements may also be asked to have a telephone or Skype interview with the Admissions Tutor.

Please note: You will need to have excellent mathematical notation and basic computer programming skills to thrive on this course.

Fees:

<table>
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<tr>
<th>Category</th>
<th>Year 1 in Sheffield</th>
<th>Placement Year</th>
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<tbody>
<tr>
<td>UK/EU</td>
<td>£10,700</td>
<td>£1,100</td>
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<tr>
<td>International</td>
<td>£19,500</td>
<td>£3,940</td>
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Language requirements: IELTS 7 (6.5 in each component)

How to Apply: See www.sheffield.ac.uk/acse/masters/apply