



# Electronic and Ultrasonic Instrumentation MSc

This MSc is designed to provide instruction and training in the most recent developments in a broad area of technology covering Electronic, Ultrasonic and Instrumentation Engineering. The course aims to provide students with an advanced and comprehensive coverage of the specialist skills required by an engineer working in relevant areas.

Students will develop:

- a solid understanding of the scientific foundations of electronic and ultrasonic instrumentation, and appreciation of up-to-date technological achievements
- the ability to plan and undertake an individual project
- interpersonal, communication and professional skills
- the ability to communicate ideas effectively in written reports
- technical knowledge and the skills to equip them for a leading career in engineering for electronic and ultrasonic instrumentation
- an awareness of contemporary problems in the fields of electronic and ultrasonic instrumentation, and both present and futuristic approaches to their solutions



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## Course structure

This masters course is taught on a full-time basis over one year and consists of 120 credits of taught modules and a 60 credit independent research project. Please be aware modules are subject to change.

### Compulsory taught modules - 70 credits

#### Autumn semester

HDL for Programmable Logic with project	20 credits
Instrumentation and Measurement with project	20 credits
Engineering Ultrasonics with project	20 credits

#### Spring semester

Ultrasonic Measurement Techniques	10 credits
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### Optional taught modules - 20 credits

#### Autumn semester

Embedded Computing	10 credits
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#### Spring semester

RF Microelectronics	10 credits
Microwave Communications	10 credits
Advanced AC Drives with/without project	10/20 credits

#### Full year

Imaging Principles and Technology	20 credits
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An additional 30 credits of free choice modules should be selected from the module catalogue subject to approval from the Course Director.

### Individual Project

Following the successful completion of the taught modules, an individual research project is undertaken during the summer term. The project will demand the completion of a major piece of work on an advanced technical topic.

Previous research projects on this course have included:

- solutions to current limitations of pulse-echo ultrasonic testing for non-destructive evaluation
- ultrasonic measurement of the viscoelastic properties of gels
- application of guided wave techniques for advanced material characterisation

## Funding Opportunities

Find out more about funding options at:

[www.nottingham.ac.uk/graduateschool/funding](http://www.nottingham.ac.uk/graduateschool/funding)

## Employment prospects

Students of this course have entered into roles in design and development within major international companies or government agencies, obtained consultancy posts with leading contract consultant companies and moved into successful academic careers.

## Entry requirements

Applicants should have at least a 2.2 honours degree (or international equivalent) in a related subject from a recognised university.

English language requirements:

- IELTS score of at least 6.0 with a minimum score of 5.5 in individual elements

Other qualifications are accepted and exceptions are sometimes made for students who have had their education entirely in the medium of English and where English is a well-established second language.

## How to apply

Candidates are encouraged to apply online at:

<https://pgapps.nottingham.ac.uk>

## Contact us

For further information, please contact:

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t: +44 (0)115 95 15600  
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