

H1KA09:Advanced Mechanical Engineering



Postgraduate TaughtMSc2021

Essentials

Please note: 2020-21 courses may be affected by Covid-19 and are therefore subject to change due to the ongoing impact of Covid-19. Summaries of course-specific changes resulting from the impact of Covid-19 will be provided to applicants during August 2020.

For the latest information on our plans for teaching in academic year 2020/21 in light of Covid-19, please see www.durham.ac.uk/coronavirus

UCAS code	
Degree	MSc
Mode of study	Full Time
Duration	1 year
Start Date	4 October
Location	Durham City (www.durham.ac.uk/study/location/durham.city)
More information	Still have questions? (www.durham.ac.uk/study/askus/)
Department(s) Website	www.durham.ac.uk/engineering

Course Summary

Description

This course will provide graduates with advanced knowledge and understanding of Mechanical Engineering in three ways. Firstly, high-quality taught modules will introduce advanced Mechanical Engineering topics such as turbomachinery design, non-linear stress analysis, fluid mechanics, contact and friction. Secondly, a substantial group design element will equip students with the ability to carry out advanced design in multinational teams using appropriate design standards and sophisticated engineering analysis tools. Finally, a major research and development project allows the student to demonstrate the ability to work independently on a complex topic and demonstrate initiative in the solution of engineering challenges.

Durham University has many researchers tackling problems relevant to industry and society. These are organised into three research challenges: sustainable infrastructure, future energy systems and next generation materials and microsystems. These are broad interdisciplinary challenges and will form the topics of many of the substantial projects that student will undertake. Durham students are uniquely placed to take advantage of a broad range of expertise in a general engineering department.

Course Structure

The course consists of five core modules to provide an advanced engineering education in Advanced Mechanical technologies alongside an optional module that allows students to increase their understanding in an area suited to their interests and needs. In addition to these taught modules you will also complete a group design project and a major, individual research and development project working closely with an academic in your chosen subject area.

Core taught content:

- Non-linear solid mechanics
- Fluid mechanics
- Turbomachinery and propulsion
- Renewable energy technologies
- Future vehicles

Examples of optional taught content:

You can select one optional module from the following topics:

- Internet of everything
- Optimisation

Admissions Process

Subject requirements, level and grade

To be admitted to the MSc course in Advanced Mechanical Engineering, you need the equivalent of a UK Honours degree to at least an upper second class standard (2:1). This should normally be in an appropriate Engineering or Engineering-related subject including modules in Applied Mechanics, Thermodynamics, Fluid Mechanics and Mathematics for Engineers and Scientists. Although in some instances we can consider industrial or other relevant experience if you have a different first degree.

If you are an international student who does not meet the requirements for direct entry to this degree, you may be eligible to take a pre-Masters pathway programme at the Durham University International Study Centre (www.durhamisc.com/?ch=uniweb&cc=signposting&cid=uniweb&utm_source=signposting&utm_medium=signposting&utm_campaign=uniweb)

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English Language requirements

Please check requirements for your subject and level of study (www.durham.ac.uk/learningandteaching.handbook/1/3/3/)

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How to apply

www.durham.ac.uk/postgraduate/apply

Fees and Funding

Full Time Fees

EU Student	£25,970.00 per year
Home Student	£11,550.00 per year
Island Student	£11,550.00 per year
International non-EU Student	£25,970.00 per year

The tuition fees shown are for one complete academic year of full time study, are set according to the academic year of entry, and remain the same throughout the duration of the programme for that cohort (**unless otherwise stated**).

Please also check costs for colleges and accommodation (www.durham.ac.uk/postgraduate/accommodation/costs/).

Scholarships and funding

www.durham.ac.uk/postgraduate/finance

Career Opportunities

Department of Engineering

For further information on career options and employability, including the results of the Destination of Leavers survey, student and employer testimonials and details of work experience and study abroad opportunities, please visit our employability web pages (www.durham.ac.uk/ecs/postgraduate/employability).

Open days and visits

Pre-application open day

www.durham.ac.uk/postgraduate/visit

Overseas Visit Schedule

www.durham.ac.uk/international/office/meetus

Postgraduate Visits

PGVI or

www.durham.ac.uk/postgraduate/visit/

Department Information

Department of Engineering

Overview

The Department of Engineering offers postgraduate courses that are challenging and technologically relevant. The Department's research covers a wide range of topics, which are divided into three challenge areas: Future Energy Systems, Next Generation Materials and Microsystems, and Sustainable Infrastructure. A broad range of specialist research clusters support our activities in these areas. Durham engineering postgraduates, both taught and research, will be making a vital contribution to these challenge areas. You will have access to extensive and diverse research facilities to support your learning. For example, airflow sensors, made using cutting-edge microfabrication techniques in the Class 1000 Cleanroom, have been tested and characterised in the Department's wind tunnel facilities.

Ranking

Ranked joint 1st in the UK for Internationally Excellent or World-Leading research impact in *REF 2014*.

Website

www.durham.ac.uk/engineering

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