Postgraduate Study
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The University of Nottingham

UNITED KINGDOM · CHINA · MALAYSIA

MSc Renewable Energy and Architecture

This course examines the integration of renewable and sustainable technologies into the site plan and building form, fabric and services with a focus on climate and human comfort. Students will use architectural and engineering techniques and powerful computer and laboratory simulations. This multi-disciplinary course is carefully structured to accommodate the interests and skills of those who are involved in building design and technology, building energy and environmental performance.

The course addresses issues such as architectural design and construction, energy use and global warming, new and renewable energy technologies, and novel materials and their influence on buildings and occupant comfort.

It is designed to stimulate and encourage novel and imaginative solutions to the challenging task of designing environmentally responsible buildings worldwide.

By the end of the course, students will have gained essential technical knowledge and experience on this subject, and will be adept at communicating and presenting themselves and their projects to an audience.

Students will develop:

- the ability to communicate ideas effectively in written reports, verbally and by means of presentations to groups
- the ability to exercise original thought
- the ability to plan and undertake an individual project
- interpersonal communication and professional skills

Example student design project for "Building Design in Different Climates"

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Course structure

This course has a carefully planned, multi-disciplinary structure which has been developed and enhanced since it's launch in 1997. It is offered on a full-time basis over 12 months and is available as a postgraduate diploma, which follows the same taught modules but does not include a research project/dissertation.

Students are taught to use a number of powerful computer programmes such as Ansys , Revit and EnergyPlus. Laboratory work and design and simulation projects related to the course area will be undertaken.

Another unique feature of this course is that students from all academic backgrounds will be taught how to write energy modelling computer programmes, using step-by-step Visual Basic programming.

The course consists of 120 credits of taught modules and a 60 credit independent research project taken over the summer. Please be aware that modules are subject to changes as part of any course improvements.

Available modules

- Modelling Environmental Performance (Architects and Engineers)
- Renewable Energy Technology 1(Architects and Engineers)
- Ventilation in Architecture and Planning (Architects and Engineers)
- Building Design in Different Climates (Architects)
- Energy Efficient Systems (Engineers)
- Renewable Energy Technology 2 (Architects and Engineers)
- Solar Architecture for Different Regions (Architects)
- Renewable Research Project (Architects and Engineers)
- Research Methodologies (Architects and Engineers)
- Energy Systems Performance and Appraisal (Engineers)

Individual project

You will spend the summer term producing a supervised dissertation. This will be your opportunity to undertake a major piece of independent research, using knowledge and experience gained during the taught modules. Research projects could be related to the climate and buildings in your home country.

Previous research projects have included:

- Solar energy technology for building integration
- Environmental performance of vernacular architecture
- Use of porous materials for enhanced night cooling of naturally ventilated buildings
- Impact of curved roofs on buildings' energy performance in different climates

Funding opportunities

Funding options can be found at:

Home and EU: **www.nottingham.ac.uk/fundingPG**

International: **www.nottingham.ac.uk/internationalstudents/scholarships**

Employment prospects

Many graduates of this MSc programme have been rewarded for their innovative ideas and contribution to real energy projects, for example the prestigious National Energy Award for work on a large scale solar project in Mexico. Graduates have entered both academia and industry in the UK and overseas.

Entry requirements

The course is suitable for applicants with a 2.1 honours degree (or international equivalent) in architecture, engineering, (e.g. mechanical and civil/structural) or other relevant disciplines. Applicants with a 2.2 honours degree (or international equivalent) may be considered initially for the postgraduate diploma. If accepted, they may then transfer to the MSc course depending on their overall course average and results after the spring semester exams.

English language requirements:

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

Other qualifications are accepted.

How to apply

Candidates are encouraged to apply online at:
www.nottingham.ac.uk/pgstudy/apply

Contact us

For further information, please contact:
Enquiry Centre
t: +44 (0)115 951 5559
www.nottingham.ac.uk/enquiry
w: **www.nottingham.ac.uk/abe**

Course Director:
Dr Mohamed Gadi
e: mohamed.gadi@nottingham.ac.uk
www.nottingham.ac.uk/engineering/people/mohamed.gadi
t: +44(0) 115 95 13118