MSc Earthquake Engineering and Infrastructure Resilience

Postgraduate study
This MSc gives you the opportunity to study in the UK’s leading earthquake laboratory, to visit an earthquake site and to be taught by world-class industry experts.

**Why choose Bristol?**

Our aim is to produce the next generation of leaders in earthquake engineering and natural disaster risk management. Our engineers want to make an impact on the design of the built environment, the mitigation of seismic loss and the protection of human life.

Our specialist one-year MSc combines the training of earthquake, structural and geotechnical engineering with design, assessment and management of infrastructure.

You will study in the UK’s leading centre for earthquake engineering. You will have access to our state-of-the-art earthquake laboratory, including one of the most advanced earthquake shaking tables in Europe. You will have use of a range of modern tools for non-destructive material testing and remote imaging. Working together with expert staff and international partners, you will encounter the real challenges engineers face in seismic regions and in UK design firms operating overseas. Industry links are integral to our programme and Bristol graduates are highly sought after by major UK and international employers.

**Four-day field mission**

You’ll have the opportunity to spend four days visiting an earthquake-affected area (typically in South-East Europe). The field mission involves damage inspection and seismic pathology of structures, use of state-of-the-art equipment for structural health assessment, briefing by the local civil protection and recovery management bodies and daily debriefing with oral presentations.
**What will you study?**

Based on your chosen specialism, the units align with two strands – structural/geotechnical earthquake engineering or disaster risk reduction for infrastructure resilience.

Each strand covers a strong set of themes:

- structural dynamics
- earthquake engineering
- reliability for engineers
- soil-structure interaction
- engineering seismology

Depending on your chosen strand, we offer 10-credit specialist units, such as:

**Structural/geotechnical earthquake engineering**

Analysis and design to Eurocode 8, laboratory testing of structures and soils, foundation engineering and soil dynamics.

**Disaster risk reduction**

Engineering for international development, disaster risk reduction, hazards and infrastructure and environmental modelling.

All students will attend a field trip to an earthquake-affected region. You may visit recently damaged areas and/or major engineering projects designed to resist earthquake forces. Having successfully completed these units, you will prepare a 60-credit thesis during the summer term, to submit at the end of the academic year. You will also attend units to improve your research and presentation skills.

“The life-changing experiences and the profound and distinguished knowledge I gained throughout this MSc, prepared me for work as a qualified Civil Engineer and allowed me to expand my horizons both academically and personally.”

Alexis Frangeskou (MSc)
Career prospects

You will be equipped in the core disciplines of seismic hazard, infrastructure vulnerability, system risk and resilience in major technical projects.

Our tutors have professional qualifications and are very experienced in designing challenging structures in earthquake regions. The MSc programme is also accredited by JBM, hence, the qualifications are recognised by ICE, IStructE, IHE and CHIT as meeting the requirements for Further Learning for a Chartered Engineer.

Bristol graduates are the second most targeted by Britain’s top 100 employers (High Fliers Research 2019). You could find yourself working for engineering design and construction firms, in the UK or worldwide, that operate in earthquake-prone regions such as Southern Europe, USA, Asia, the Middle East, New Zealand and Latin America.

Alternatively, you could go on to work for a government body responsible for civil protection, finance and decision-making. Graduates may also decide to pursue academia and further study of this exciting field. Whatever you choose, you will develop a range of transferable skills, such as problem solving, critical thinking and teamworking, as well as having a number of professional contacts to draw on.

Find out more

For the most recent information on how to apply, fees and entry criteria, visit: bristol.ac.uk/msc-earthquake

Entry requirements

A UK 2:1 honours degree (or international equivalent) in an engineering discipline or closely related field. A 2:2 honours degree (or international equivalent) will also be considered from applicants who can demonstrate three years of work experience in a related field.

English Language Profile E

For details of English language profiles, visit bristol.ac.uk/pg-language-requirements.

Contact us

If you have any questions relating to the programme or the application process, please contact our Enquiries Team:

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You may also contact the Programme Director Professor Anastasios Sextos:

Email a.sextos@bristol.ac.uk

If you need all or part of this publication in an alternative format, please email choosebristol-pg@bristol.ac.uk

We have made every effort to ensure all details are correct at the time of going to press (October 2019). However, since this information is subject to change, you are advised to check the University’s website, bristol.ac.uk/pg-study, for the latest updates.