



Vacancy for

Lecturer (Teaching & Research): Structural Engineering

1.0 FTE

Grade 7

Salary Scale £40,521-£44,263

www.dundee.ac.uk/science-engineering/



Further Particulars

1. Background

Civil Engineering at the University of Dundee has a mission to deliver net carbon zero and sustainable solutions to the major issues facing the built environment, infrastructure and society, through cutting edge research and research-led teaching. Our Engineering research was ranked 1st for Impact in Scotland in the 2021 Research Excellence framework exercise and receives strong support from industry.

Civil Engineering is home to three distinct research groups:

- Structural Engineering and Concrete Technology
- Fluid Mechanics
- Geotechnical Engineering

These groups contribute to wider Research Clusters within the School of Science and Engineering and form the backbone of the Future Infrastructure and Environment cluster (FIE). The FIE cluster conducts world-leading research aligned to the thematic areas of Energy, Global Uncertainties, Living with Environmental Change, and working towards "Net Zero" within a sustainability framework. We have outstanding physical experimental facilities including recently refurbished fluid mechanics and heavy structures laboratories, extensive facilities for cement science and concrete technology and a geotechnical centrifuge centre that has been extensively used for soil-structure interaction studies. The Scottish Marine and Renewables Testing (SMART) Centre provides high resolution materials characterisation capabilities and supports work at fluid-structure-soil interfaces and particularly focusses on innovative renewable energy devices, structures and foundation performance both on and offshore. We also undertake award winning research into mitigating the effects of the climate emergency on civil infrastructure. Our undergraduate teaching programme, currently ranked 12th in the UK, offers a range of undergraduate and postgraduate degrees, is research-led and utilises a range of delivery methods with a strong commitment to the student experience and digital design. We aim to produce graduates who are innovative and creative problem solvers and sought by industry to join professional teams.

School of Science and Engineering

The School of Science and Engineering delivers research and teaching across Anatomy & Human Identification, Computing, Engineering (Biomedical, Civil and Mechanical), Forensic Sciences, Mathematics and Physics.

The School benefits from superb research infrastructure and substantial opportunities for interdisciplinary collaboration through which we deliver impactful knowledge-transfer and translational activities with industries (local and global) and with social ecosystems, including the judiciary and, through assistive technology, people with disabilities and the elderly population.

We also deliver on a number of strategic initiatives – including Graduate Apprenticeship programmes, the Leverhulme Research Centre for Forensic Science, the Joint Education Partnership with Northeastern University (China) and the Dundee International Institute with Central South University (China) – which attest to our commitment to civic engagement, our capacity to positively disrupt, and our proven ability to operate on the world stage.

The School has approximately 2,300 students spread across research, taught-postgraduate, and undergraduate levels. To mirror the diverse range of offerings for students, the School has approximately

300 members of staff (including academics, researchers, technicians and support staff). We host members of the public, visiting academics and professors, guest lecturers and external examiners.

University of Dundee

The University of Dundee has a clear mission – to transform lives, locally and globally, by the creation, sharing and application of knowledge. We do this with world-class teaching, pioneering research, and work that has social, cultural and economic impact.

We are a Scottish institution operating on a global stage. Our impact is felt from the centre of Dundee, where we are central to the city's future plans and prosperity, to the countries of the developing world where we are helping cure devastating diseases like malaria and giving people life-changing opportunities for education.

The high quality of teaching and research at the University, together with the satisfaction ratings of our students, has contributed to repeated high rankings. We are: Gold-rated in the Teaching Excellence Framework; top in the UK and 5th in the world for Climate Action in the Times Higher Education University Impact Rankings 2021; one of the world's top 250 universities in the Times Higher Education World University Rankings 2022; rated amongst the world's best universities in terms of impact of scientific research, being placed 33rd in the world in the 2021 CWTS Leiden Rankings.

The University is a diverse community and is committed to equality of opportunity for all by providing a supportive, flexible and inclusive working environment. We have family-friendly policies (including flexible working and childcare vouchers), staff groups for LGBT+ and BME, and prayer room facilities. The University and the School of Science and Engineering hold Athena Swan Bronze Awards, which recognise the promotion of gender equality, and have made further commitments to advancing an inclusive culture that supports and encourages all under-represented groups.

City of Dundee

Dundee is a post-industrial city that has worked hard to reinvent itself. With a population of 150,000, it is small enough to walk round but has all the cultural and leisure activities you would expect in a much larger city. Excellent shopping sits side-by-side with a vibrant cultural quarter, home to Scotland's award-winning Dundee Rep Theatre and the highly acclaimed Dundee Contemporary Arts, which has become a lively social hub and film house as well as a champion of leading-edge arts.

Dundee is the UK's only UNESCO City of Design and, with the opening of the new V&A Museum of Design – an iconic building designed by renowned architect Kengo Kuma, it has a growing reputation as a creative centre. Dundee was placed by the Wall Street Journal among their top ten places to visit in 2018, and 1st in Scotland in the Sunday Times 2019 Best Place to Live Guide.

Salaries in Dundee currently go further on the property ladder than almost any other city in the UK. The range of properties within commuting distance of the University covers the widest spectrum – from country houses and seaside cottages to handsome town villas and sleek city-quay apartments.

2. Role Information

Role Title: Lecturer (Teaching & Research): Structural Engineering

School: Science & Engineering

Discipline: Civil Engineering

Grade/Salary: 7/ £40,521-£44,263

Terms: Full time

Duration of employment:

Location: The post holder will be based within Civil Engineering, School of Science & Engineering in the Fulton Building on the main City Campus.

We are seeking an exceptional candidate to contribute to our research led teaching in structural engineering and design. The focus of research should be in structural engineering which could include operating at the interfaces between one or all of materials and concrete technology and geotechnics and earthquake engineering to compliment strong existing research in these areas. This will align and contribute to the strategy and focus of the Future Infrastructure and Environment Research Cluster and the REF unit of assessment of Engineering. The current focus of the cluster includes the thematic areas of Energy, Global Uncertainties, Living with Environmental Change, and working towards "Net Zero" within a sustainability framework.

We are interested in candidates who are professionally qualified, and candidates who are not qualified to this level will be expected to work towards achieving this.

All new appointees are expected to contribute to enhancing the student experience through the delivery of undergraduate and postgraduate teaching relevant to their discipline, supporting cross-disciplinary learning and teaching initiatives, as well as knowledge-transfer, outreach and public-engagement activities.

Staff appointed as a Grade 7 Lecturer join as probationary lecturers, moving to a permanent role after successfully completing a three-year probation period. Mentors are allocated to support them throughout this time.

We welcome applications from everyone irrespective of gender or ethnic group. We particularly encourage applications from women and members of ethnic minorities as they are currently under-represented in posts at this level. As a global university, we are interested in attracting candidates from all parts of the world and can offer relocation support.

3. Key responsibilities

Research

- Support the full economic cost of research by generating grant income and/or industrial funding
- Contribute to the research activities at the highest level (REF 3*–4* quality)
- Publish in high-quality research journals and present work at major international conferences
- Develop appropriate opportunities to participate in interdisciplinary research and knowledge exchange with other academic or industrial partners
- Attract and supervise research students

Learning and Teaching

- Carry out teaching and supervision at undergraduate or postgraduate level, including contributing to curriculum design, enhancement of the student learning experience, and scholarship
- Contribute to the School's academic and pastoral support for undergraduate and postgraduate students
- Carry out the quality and academic standards processes and administration for the programmes to enhance the student experience
- Contribute to the School's general teaching and administrative duties
- Participate in the outreach and recruitment activities of the School, including academic visits to international partner universities and delivery of specialised classes
- Contribute to academic administration

Additional Responsibilities

- Accept shared responsibility for the health and safety of all personnel in the School environment
- Carry out responsibilities with due regard to the University and School Equal Opportunities policies
- Respect the confidentiality of all data in line with the Data Protection Act

Note: The duties of the post outlined above are not exhaustive and the role holder will be expected to be co-operative and flexible, undertaking such other duties as may reasonably be required as a member of the academic staff in a University. These duties will be subject to review in line with the changing requirements of the School and University, and with the development needs of the role holder as identified through regular review/appraisal processes.

4. Person specification

The candidate should have vision and some experience of teaching structural engineering and design and the ability to supervise research projects at all levels. The candidate will be expected to contribute to the further development of teaching of structural engineering and design at all undergraduate and postgraduate levels. The candidate will need to have the skills to contributing to multi-disciplinary design and the degree of Structural Engineering with Architecture (MEng). In terms of research, the candidate should have a track record of high-quality research outputs and be working in areas that align with the FIE research cluster focus and have the potential to contribute to future impact case studies. Research can be in classical structural engineering or at the interface with other research groupings. In Civil Engineering this includes. materials and concrete engineering, geotechnical engineering, earthquake engineering and fluid mechanics. The School also undertakes research in bio-medical and bio-mechanical engineering and maintains close working relationships with the other School divisions such as Energy, Environment, and Society and Architecture and Urban Planning.

Essential knowledge and skills

All Grades:

- PhD in Civil and/or Structural Engineering (or close to submission) or a closely related subject area
- Evidence of Ability to produce research outputs of internationally excellent quality
- Potential or ability to generate external funding for research projects
- Ambitious research plans that will be competitive for RCUK, EU or equivalent funding streams and/or for industrial funding mechanisms
- Some experience of teaching at university (or equivalent) level
- Excellent communication and interpersonal skills
- Evidence of ability and willingness to work collaboratively with others
- Evidence of effective team membership
- Ability to prioritise and balance competing demands
- Willingness to engage with UK and overseas student recruitment

Desirable knowledge and skills

- Experience of curriculum development
- Clear evidence of learning and teaching competence
- Clear evidence of administering, or assisting in administering, and examining modules
- Evidence of use of innovative teaching methods
- Evidence of successful PhD supervision
- Experience of successful international recruitment
- Experience of public engagement with science
- Membership of, or working towards membership of, a relevant professional institution (eg ICE or IStructE) at Chartered Engineer level.

5. Application Requirements

In addition to the online form, applicants must include with their application:

- Cover letter outlining the candidate's suitability for the role
- CV with publication list
- Research plan (1-2 pages) covering proposed research over the first three years of the appointment
- Teaching plan (1-2 pages) outlining previous experience and teaching approach, as well as potential contributions to current teaching at Dundee
- Names and contact details of at least three referees

We ask that you do not include in your CV or application documentation any of your sensitive personal data – racial or ethnic origin, political opinions, religious or philosophical beliefs, health, sexual orientation, or biometric data.

6. Contacts

To further discuss the details of this post, informal inquiries may be made to Prof Michael Brown (m.j.z.brown@dundee.ac.uk) & Prof Jonathan Knappett (j.a.knappett@dundee.ac.uk)