Job Description

<table>
<thead>
<tr>
<th>Position</th>
<th>Lecturer</th>
<th>Position No.</th>
<th>13732</th>
</tr>
</thead>
<tbody>
<tr>
<td>Directorate/College/Institute</td>
<td>College of Engineering, Design and Physical Sciences</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Department of Mechanical and Aerospace Engineering</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grade</td>
<td>H3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contract type</td>
<td>Full-time, fixed term for 12 months</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Accountable to</td>
<td>Head of Department</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reports</td>
<td>N/A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Internal stakeholders</td>
<td>Acting Vice Provost &amp; Dean of College – CEDPS</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Head of Department for Mechanical and Aerospace Engineering</td>
<td></td>
<td></td>
</tr>
<tr>
<td>External stakeholders</td>
<td>Industrial collaborators</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Date reviewed</td>
<td>November 2020</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Key duties and responsibilities:

- To participate in all aspects of teaching and examining as designated by the Head of Department/Dean of College including such duties as lecturing, supervising students, tutorials, practicals.
- Course module initiation, design and organisation to ensure courses are run in an effective and efficient manner. In particular, the delivery of Engines and Powertrain modules in Level 6 (BEng) and Level 7 (MSc/MEng), and the Laser based optical techniques for flow measurements in the Advanced Thermofluid module in Level 7 (MSc/MEng).
- Keep up-to-date in the subject area and provide innovative teaching methods in order to encourage participation and promote self-development and education.
- To seek new areas of research and carry out high quality research in the areas of engines and their fuels to enhance the research assessment rating of the department/institute/college.
- To assist the Interim Dean in the supervision of doctoral researchers and managing the current research projects.
- To develop collaborative research programmes internally and externally.
- Publication of research in refereed publications and presentations at conferences.
- Marketing of research output as appropriate.
- Application and attracting of external funding/grants.
- To contribute to a balanced research profile for the Centre for Advanced Powertrain and Fuels by providing particular skills or measurement techniques.
- Participation in Department, College and University committee work as designated by, or on behalf of, the Head.
- Course administration and timetabling.
- Invigilation of examinations.
- Other administrative duties which may include organisation of conferences and seminars, acting as admission tutor etc.
- Co-ordination, supervision and evaluation of courses at department/college level Supervision of research support staff.
Effective Behaviours

- Timeliness
- Meeting Deadlines
- Communication and Networking
- Networking group across colleges
- Ability to negotiate and influence
- Ability to plan and organise own workload
- Ability to adapt to a flexible approach to the demands of a busy college/department in order to accommodate changes in priorities when required

University Employment Policy:

1. Undertake any other reasonable duties as required and commensurate with the grade of post.

2. Adhere to and comply with the provisions of the Data Protection Act and the Health and Safety at Work Act in accordance with University policies.

3. Undertake all duties and responsibilities in compliance with the rules and regulations encompassing equal opportunities to help foster a diverse workforce.

4. Adhere, comply and work in accordance with University and Departmental policies, procedures and codes of conduct.

5. Promote the University’s Environmental Policy and demonstrate commitment to it through actions and decision making.

6. Actively participate in on-going professional development activities as requested

Organisational Chart

The organisational chart comprises the role, the manager of the role and any direct reports to the role.

![Organisational Chart Diagram]

- Acting Vice Provost & Dean of College
- Head of Department
- Post holder
**Person Specification / Competencies**

Disabled applicants meeting the Essential criteria will be guaranteed an interview as part of the University’s commitment to the Disability Confident Scheme.

### Person Specification

<table>
<thead>
<tr>
<th>Attributes</th>
<th>Criteria</th>
<th>Essential /Desirable</th>
<th>How measured</th>
</tr>
</thead>
<tbody>
<tr>
<td>Education, qualifications &amp; training</td>
<td>Completion of PhD</td>
<td>E</td>
<td>Certificates checked at pre-employment stage</td>
</tr>
<tr>
<td>Experience</td>
<td>Evidence of experience in all aspects of teaching and examining. Supervising research students, tutorials, practicals.</td>
<td>D</td>
<td>Application form and interview</td>
</tr>
<tr>
<td></td>
<td>Evidence of research attainments including examples of written contributions in academic publications/journals.</td>
<td>E</td>
<td>Application form and interview</td>
</tr>
<tr>
<td></td>
<td>Experience of planning research, preparing research proposals and negotiating contracts with little supervision.</td>
<td>D</td>
<td>Application form and interview</td>
</tr>
<tr>
<td>Knowledge, skills and abilities</td>
<td>Evidence of personal development and current knowledge in the subject area.</td>
<td>E</td>
<td>Interview and references</td>
</tr>
<tr>
<td></td>
<td>Comprehensive knowledge of student learning needs and the ability to plan structured, challenging and innovative learning activities and fair assessment methods, knowledge/experience of computer based learning and the design of open learning materials.</td>
<td>D</td>
<td>Interview</td>
</tr>
<tr>
<td></td>
<td>Course and module initiation, design and organisation to ensure courses are run in an effective and efficient manner.</td>
<td>D</td>
<td>Interview</td>
</tr>
<tr>
<td></td>
<td>Evidence of innovation in teaching.</td>
<td>D</td>
<td>Interview and references</td>
</tr>
<tr>
<td></td>
<td>Co-ordination, supervision and evaluation of courses at school/department level.</td>
<td>D</td>
<td>Interview</td>
</tr>
<tr>
<td></td>
<td>Well-developed communication, Interpersonal and organisational skills. Ability to juggle priorities in the face of competing demands and tight deadlines.</td>
<td>E</td>
<td>Interview</td>
</tr>
<tr>
<td></td>
<td>Demonstrate an ability to communicate clearly in English, conveying ideas and concepts both verbally and in writing to a diverse audience.</td>
<td>E</td>
<td>Application form and Interview</td>
</tr>
<tr>
<td></td>
<td>Demonstrate good inter-personal, presentation &amp; communication skills that allow clear and coherent talks to be delivered as well as, persuasive written documents to be prepared for teaching and representational duties.</td>
<td>E</td>
<td>Interview</td>
</tr>
</tbody>
</table>

**Additional Attributes Required (not included above)**
**Job Hazard Assessment**

Any identified hazards have undergone appropriate Risk Assessments.

Please tick all relevant workplace hazards identified with this post.

Currently the University, as a minimum runs Health Surveillance programmes for staff working with skin and respiratory sensitisers, Biological Agents Class 2 and above and GMOs.

<table>
<thead>
<tr>
<th>Display screen equipment</th>
<th>Manual handling</th>
<th>Prolonged standing e.g. 1 hour plus</th>
<th>Prolonged sitting e.g. 1 hour plus</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biological agents: Class 2 and above and GMO Class 1</td>
<td>Human blood, tissue or fluids</td>
<td>Respiratory sensitisers or laboratory allergens e.g. animals</td>
<td>Skin Irritants/Chemicals</td>
</tr>
<tr>
<td>Work in confined Places</td>
<td>Ionising radiation</td>
<td>Noise (more than 80 dba-8 hrs. taw)</td>
<td>Lone working</td>
</tr>
<tr>
<td>Use of dangerous machinery</td>
<td>Electrical hazards</td>
<td>Shift work/night work</td>
<td>Work outdoors</td>
</tr>
<tr>
<td>Neck &amp; arm vibrating equipment</td>
<td>Fork lift truck driving</td>
<td>Work at heights</td>
<td>Lasers</td>
</tr>
</tbody>
</table>

Any other hazards (e.g. food handling) please specify and ensure that appropriate guidance has been received from the Health & Safety office:

<table>
<thead>
<tr>
<th>Physical demands of the job</th>
<th>Lifting</th>
<th>Carrying</th>
<th>Bending</th>
<th>Pushing</th>
</tr>
</thead>
</table>

If lifting/carrying duties expected, please give details of heights/weight load(s) the individual is expected to lift/carry and frequency:

<table>
<thead>
<tr>
<th>Travel/Off-site working:</th>
<th>% of time</th>
<th>UK</th>
<th>Overseas</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Driving for work:</th>
<th>None</th>
<th>Occasionally</th>
<th>Weekly</th>
<th>Daily</th>
</tr>
</thead>
</table>

Management responsibility: Supervisor | Non-supervisory

<table>
<thead>
<tr>
<th>Hours of work:</th>
<th>Full time</th>
<th>Part time</th>
<th>hours</th>
</tr>
</thead>
</table>

Non-standard contractual hours? (evenings/weekends) Night work
Frequency, number of hours, type of work outside standard hours:

Other – including occasional or possible work hazards (please specify nature and frequency):
1. Senior Leadership and Management

The Vice-Chancellor (Professor Julie Buckingham) is the senior academic officer and, as Chief Executive, is responsible to the University Council for management of the University. She is supported by an executive group, which includes:

- Vice-Chancellor and President: Professor Julia Buckingham CBE
- Provost: Professor Rebecca Lingwood
- Vice-Provost (Students, Staff & Civic Engagement): Professor William Leahy
- Vice-Provost (Research): Professor Geoff Rodgers
- Vice-Provost (Education): Professor Mariann Rand-Weaver
- Vice Provost (International and Academic Partnerships): Professor Trevor Hoey

2. The College of Engineering, Design and Physical Sciences (CEDPS)

The College of Engineering, Design and Physical Sciences is one of the largest colleges of its type in the UK, with close to 5,000 undergraduate and postgraduate students. The College consists of seven departments:

- Department of Chemical Engineering
- Department of Civil and Environmental Engineering
- Department of Computer Science
- Department of Design Engineering
- Department of Electronic and Computer Engineering
- Department of Mathematics
- Department of Mechanical and Aerospace Engineering

We strive to put creativity and innovation at the heart of everything we do, offering exciting, courses across a range of integrated disciplines. Our graduates are known for their ability to solve challenging problems, for the good of society, and their entrepreneurial spirit, following in the footsteps of one of Britain’s most admired engineers, Isambard Kingdom Brunel.

Our mission is to deliver a transformative education experience that nurtures talent, encourages creativity and scholarship and fosters lifelong learning through enquiry. Our vision is to be a leading and distinctive STEM education and knowledge provider that has creativity at its heart. Our distinctive courses will help Brunel University London meet its strategic aims of providing an environment that promotes excellence. As a result, our graduates will be flexible, innovative, imaginative and highly skilled in the design and development of the products, systems and technologies essential to tackling societal challenges and supporting national economic and infrastructural growth.

3. Department of Mechanical and Aerospace Engineering

Introduction

Engineering at Brunel is highly ranked and enjoys an international reputation for world leading research and strong student performance. Its student and staff profile is diverse and broad, bringing an array of backgrounds and viewpoints to tackling some of the country’s most pressing Engineering issues.

The Department of Mechanical and Aerospace Engineering is Brunel’s most established discipline, providing broad engineering education in mechanical, aerospace, energy, automotive/motorsport manufacturing and building services engineering for undergraduates, postgraduates and research students.
The Department is based at the main Brunel Campus in Uxbridge and at The National Structural Integrity Research Centre (NSIRC), Granta Park, Great Abington, Cambridge, the later established as a result of a long collaboration between Brunel and TWI.

The Department has approximately 1,670 undergraduate and postgraduate full- and part-time students. 150 are PhD students. Professional engineering bodies accredit all of our undergraduate courses and postgraduate courses. Students obtain a thorough understanding of engineering principles coupled with excellent practical and personal transferable skills. The laboratory facilities are extensive, modern and well-equipped, including the dedicated aerospace/aviation laboratory, flight simulator, professionally designed Brunel motorsport workshop, modern material/structure testing laboratory, and state-of-the-art engine laboratories.

Research

The Department’s academic staff are amongst some of the very best in the UK and internationally, and their research ranked amongst London’s biggest and best. 69% ranked as world leading or internationally excellent in REF2014.

The Department enjoys a prominent position in the University’s research activities with two of the Research Institutes, namely the Institute for Materials and Manufacturing and the Institute for Energy Futures, being led by Mechanical Engineering academics.

We are committed to the development of strategic partnerships with businesses, industry and the not-for-profit sector that will enhance impactful research and high quality funded research. Many of our research initiatives involve successful collaborations with industry, the public sector, business and government, both in the UK and overseas.

Our partners currently include Aeromet, AWE Plc, BP, Caterpillar Inc., Delphi Diesel Systems, Ford Motor Company, Intel Corporation USA, JLR, Johnson Matthey, Power OLEDs Ltd, Renault, Ricardo, Thames Water, TWI and QinetiQ.

Courses

At undergraduate and postgraduate level the Department offers a range of courses, currently including:

Undergraduate:
- MEng/BEng Aerospace Engineering
- MEng/BEng Automotive Engineering
- MEng/BEng Mechanical Engineering

Postgraduate:
- MSc Advanced Engineering Design
- MSc Advanced Manufacturing Systems
- MSc Advanced Mechanical Engineering
- MSc Aerospace Engineering
- MSc Automotive and Motorsport Engineering
- MSc Biomedical, Biomechanics and Bioelectronics Engineering
- MSc Biomedical Genetics and Tissue Engineering
- MSc Building Services Engineering
- MSc Building Services Engineering Management
- MSc Building Services Engineering with Sustainable Energy
- MSc Engineering Management
- MSc Lightweight Structures and Impact Engineering
- MSc Oil and Gas Engineering
- MSc Renewable Energy Engineering
- MSc Structural Integrity (Asset Reliability Management)
- MSc Sustainable Energy – Technologies and Management