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| Last updated: | 3 March 2025 |

**JOB DESCRIPTION**

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| Post title: | **Professor of Mathematical Sciences**  **(Mathematical Modelling for Data Science)** | | |
| Standard Occupation Code: (UKVI SOC CODE) | 2311 – Higher education teaching professional | | |
| School/Department: | School of Mathematical Sciences | | |
| Faculty: | Faculty of Social Sciences | | |
| Career Pathway: | Education, Research and Enterprise (ERE) | Level: | 7 |
| \*ERE category: | Balanced Portfolio | | |
| Posts responsible to: | Head of Group/Head of School | | |
| Posts responsible for: |  | | |
| Post base: | Office-based | | |

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| Job purpose |
| To provide research leadership in line with the School and University research strategy. To enhance the reputation and standing of the School through excellent publication track record, invited talks at key international conferences, engagement with research councils and academies. To provide effective academic leadership within the School and University, undertaking management, research, and educational activities, including leadership of research groups and the supervision of PhD students. To contribute to the formulation of the research and education strategies, and to contribute to the development of the School’s and University’s external profile in the UK and internationally. |

| Key accountabilities/primary responsibilities | | % Time |
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|  | Develop and lead on a broad, ambitious research programme. Lead on the development of major research grant funding bids, develop and manage original research objectives; develop and manage a research group in the relevant area, supported by appropriate grant funding. Develop and implement ambitious innovative research strategy supported by novel methodologies and results that shape the state of the art of research in a relevant area of Mathematical Modelling. | 20% |
|  | Sustain and enhance a strong international reputation and leadership through regular dissemination of excellent peer-reviewed publications, invited and keynote talks at major conferences, organising and managing international events. To lead on the School’s engagement with international academic activities and to shape and enhance the School and University strategy in this area. | 20 % |
|  | Manage appropriate administrative tasks associated with research funding and research group leadership, including appropriate financial control and reporting of grant funding. | 5% |
|  | Provide significant contribution and leadership in the development of the School’s research and grant capture strategy, including preparations for REF2029 | 5% |
|  | Lead on the development of teaching and learning activities in the School. Manage programme portfolios and deliver high quality teaching as required. | 15 % |
|  | Provide leadership in the development and delivery of education strategies in the School, the Faculty, and the University. | 15 % |
|  | Make a significant contribution to academic leadership of the School, take on leadership roles within the School as requested | 10 % |
|  | Lead on initiatives to expand and enhance the enterprise activities within the School and University. | 5% |
|  | Any other duties as allocated by the line manager following consultation with the post holder. | 5% |

| Internal and external relationships |
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| Member of the School/Department Board, Examination Board and of such School/Department committees relevant to their administrative duties.  The post holder will take a leading role in the setting of strategic objectives for the research theme of which they are a member.  Teaching and administrative duties will be allocated by the Head of School/Department, within the context of the teaching programmes agreed by the School/Department Learning and Teaching Committee. |

| Special Requirements |
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**PERSON SPECIFICATION**

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| Criteria | Essential | Desirable | How to be assessed |
| Qualifications, knowledge and experience | PhD or equivalent professional qualifications and experience in Mathematical Sciences, Statistics, or Mathematical Physics, or relevant cognate area  A significant national and international reputation of research achievement  Teaching qualification (PCAP, HEA, or equivalent)  A sustained record of excellence in teaching and learning activities.  A sustained record of excellence in research activities, including papers in leading journals and significant track record of grant capture | Membership of Higher Education Academy  Membership of national or international advisory bodies, research councils, national academies  Leadership involvement in national and international events  Detailed knowledge of mathematical and/or statistical modelling relevant for Data Science and AI, or Sustainability | CV, interview, references |
| Planning and organising | Proven ability to champion and oversee key contributions to faculty and/or University research, education and enterprise strategies.  Proven ability to lead research activities, grants and/or contracts of national and international importance.  Proven ability to lead the development of education strategies in the faculty through ongoing leadership in the dissemination of knowledge and/or curriculum development. |  | CV, interview, references |
| Problem solving and initiative | Proven ability to implement successful change management initiatives and formulate strategic plans that reflect and support the priority needs of the faculty and University. |  | CV, interview, references |
| Management and teamwork | Proven ability to oversee people and resource management processes in order to deliver key education, research and enterprise activities.  Proven ability to make a sustained contribution to academic leadership at discipline, School/Department and faculty level.  Proven ability to demonstrate leadership abilities in Higher Education and to raise performance standards through own work areas.  Proven ability to recognise and deal with obstacles and difficulties so that the team can deliver. |  | CV, interview, references |
| Communicating and influencing | Proven ability to establish and build major relationships with stakeholders.  Proven ability to act as the main figurehead for key activities, developing important national and international contacts.  Able to contribute to the development of the University’s profile in the UK and internationally.  Proven ability to use influence to develop positions or strategies. |  |  |
| Other skills and behaviours | Compliance with relevant Health & Safety issues  Positive attitude to colleagues and students |  | CV, interview, references |
| Special requirements | Able to attend national and international conferences as required. |  | CV, interview, references |

**JOB HAZARD ANALYSIS**

**Is this an office-based post?**

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| Yes | If this post is an office-based job with routine office hazards (eg: use of VDU), no further information needs to be supplied. Do not complete the section below. |
| No | If this post is not office-based or has some hazards other than routine office (eg: more than use of VDU) please complete the analysis below.  Hiring managers are asked to complete this section as accurately as possible to ensure the safety of the post-holder. |

## - HR will send a full PEHQ to all applicants for this position. Please note, if full health clearance is required for a role, this will apply to all individuals, including existing members of staff.

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| **ENVIRONMENTAL EXPOSURES** | **Occasionally**  (<30% of time) | **Frequently**  (30-60% of time) | **Constantly**  (> 60% of time) |
| Outside work |  |  |  |
| Extremes of temperature (eg: fridge/ furnace) |  |  |  |
| ## Potential for exposure to body fluids |  |  |  |
| ## Noise (greater than 80 dba - 8 hrs twa) |  |  |  |
| ## Exposure to hazardous substances (eg: solvents, liquids, dust, fumes, biohazards). Specify below: |  |  |  |
| Frequent hand washing |  |  |  |
| Ionising radiation |  |  |  |
| **EQUIPMENT/TOOLS/MACHINES USED** | | | |
| ## Food handling |  |  |  |
| ## Driving university vehicles(eg: car/van/LGV/PCV) |  |  |  |
| ## Use of latex gloves (prohibited unless specific clinical necessity) |  |  |  |
| ## Vibrating tools (eg: strimmers, hammer drill, lawnmowers) |  |  |  |
| **PHYSICAL ABILITIES** | | | |
| Load manual handling |  |  |  |
| Repetitive crouching/kneeling/stooping |  |  |  |
| Repetitive pulling/pushing |  |  |  |
| Repetitive lifting |  |  |  |
| Standing for prolonged periods |  |  |  |
| Repetitive climbing (ie: steps, stools, ladders, stairs) |  |  |  |
| Fine motor grips (eg: pipetting) |  |  |  |
| Gross motor grips |  |  |  |
| Repetitive reaching below shoulder height |  |  |  |
| Repetitive reaching at shoulder height |  |  |  |
| Repetitive reaching above shoulder height |  |  |  |
| **PSYCHOSOCIAL ISSUES** | | | |
| Face to face contact with public |  |  |  |
| Lone working |  |  |  |
| ## Shift work/night work/on call duties |  |  |  |