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| Last updated: | April 2024 |

**JOB DESCRIPTION**

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| Post title: | **Student Workshop Supervisor** | | |
| School/Department: | Physics and Astronomy | | |
| Faculty: | FEPS | | |
| Career Pathway: | Technical and Experimental (TAE) | Level: | 4 |
| Posts responsible to: | Physics and Astronomy Workshop Technical Manager | | |
| Posts responsible for: | Student workshop uses & apprentices | | |
| Post base: | Non Office-based (see job hazard analysis) | | |

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| Job purpose |
| Supervision of students, academics and technicians ensuring the safe use of machinery during their visit to the Student Mechanical Workshop.  Create, deliver and revise practical engineering training courses in design, engineering principles and manufacture to student workshop users, graduates within the Doctoral Training Centre and workshop apprentices.  Assist in the manufacture of high-quality precision apparatus for the department of Physics & Astronomy & it’s external customers for education, research and enterprise. Ensuring items produced are compliant with regulation, University policy and engineering standards. |

| Key accountabilities/primary responsibilities | | % Time |
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|  | Supervision and training of student workshop customers in the use of student workshop equipment and manufacturing techniques, ensuring health and safety standards are complied with by student workshop users. | 30% |
|  | Delivery of training courses for academic staff, students, apprentices, postgraduate/CDT students and members of the wider University in engineering principles for use in design and manufacture. | 25% |
|  | Lead the creation and develop of practical engineering training courses for delivery, in particular to Postgraduate/CDT students as part of their programmes. Including but not limited to, use of CAD and CAM software, 3D printing, manual milling, turning and benchwork hand tools. | 10% |
|  | Advise and assist (non-engineering) student workshop users in the design, manufacture and repair of small-scale laboratory equipment. Eliciting as detailed specifications as possible through consultation, using in-depth knowledge of engineering principles and techniques to bring the designs to fruition in a satisfactory, cost effective and timely manner. | 5% |
|  | To assist the main workshop through design and manufacture of specialist, high precision, complex scientific apparatus for use by the school and others; utilising CNC, 3d printing, manual machining, welding/brazing/soldering and hand tool techniques together with services from outside contractors and other university services where appropriate, ensuring high quality is achieved in the finished product. | 10% |
|  | Maintenance of student workshop equipment through monitoring, regular servicing and documenting of machines. | 5 % |
|  | To attend internal and external meetings to ensure work issues are represented in project work and more generally within the University environment to improve. | 5 % |
|  | Use of University systems, procedures and policies to purchase materials, consumables and services from suitable suppliers ensuring state of the art end product is manufactured at good value, in good time and in line with regulations. | 5% |
|  | Any other duties as allocated by the line manager following consultation with the post holder, including contribution to academic publications as required. | 5 % |

| Internal and external relationships |
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| Other members of the department/University staff.  External customers  Relevant suppliers and external contacts |

| Special Requirements |
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**PERSON SPECIFICATION**

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| Criteria | Essential | Desirable | How to be assessed |
| Qualifications, knowledge and experience | |  | | --- | |  |   **Skill level equivalent to** Level 6 of the NQF (Degree) [**comparison chart**](https://www.gov.uk/what-different-qualification-levels-mean/compare-different-qualification-levels).)  Extensive experience in use of manual machines & precision hand tool work.  Experience in creating & delivering engineering training courses.  Experience in using 3D CAD modelling packages in complex designs.  Experience of using CAM software packages to aid CNC manufacture.  Experience in design and fabrication of sheet metal work.  Experience of design and manufacturing using non-standard materials such as machinable ceramics, their selection and suitability in variable environments.  Understanding of how the specialist technical services provided by the post holder support the strategy of the department and University.  Ability to make effective use of standard and specialist computer systems. | Experience of working in a scientific HE department or research facility.  Membership of relevant technical professional body.  Professional registration to Incorporated Engineer Standard.  Formal training in Autodesk Inventor CAD package.  Experience of ultra-high vacuum systems.  Experience of cryogenic systems/techniques.  Experience/qualification in welding of a variety of metals including stainless steel and aluminium alloys.  Extensive range of on the job and academic training achieved in similar roles.  Completion of a Lifting Equipment Engineers Association (LEEA) accredited training course in Slinging and Rigging. | CV & Interview |
| Planning and organising | Able to progress a broad range of activities within professional guidelines and in support of University policy and any departmental strategy.  Experience of successful project management.  Plan and monitor project progress, reporting regularly to customers and management, suggesting ways to mitigate problems encountered.  Ability to use knowledge of strategy and recurring work themes to adapt project design/plan to utilise engineering design re-use or design new engineering modules/assemblies for use in further projects, thus reducing project timescales and customer wait times. | Project management qualification. | CV & Interview |
| Problem solving and initiative | Ability to apply novel engineering solutions together with proven sound engineering techniques/solutions to help solve complex scientific problems presented by non-engineering persons or through analysing in depth scientific data. |  | CV & Interview |
| Management and teamwork | Able to proactively work with colleagues in other work areas to achieve outcomes.  Able to work in multidisciplinary projects to achieve a cohesive design.  Experience of successfully managing and developing staff.  Able to delegate effectively, understanding the strengths and weaknesses of team members, customers and students to build effective teamwork.  Able to formulate development plans for own staff to meet required skills. | Experience of training apprentices. | CV & Interview |
| Communicating and influencing | Able to provide accurate and timely specialist guidance on complex issues.  Able to use influencing and negotiating skills to develop understanding and gain co-operation with other technical staff, ERE staff, students, suppliers, contractors, customers and other university units. |  | CV & Interview |
| Other skills and behaviours |  |  |  |
| Special requirements | Willingness to undertake Health and Safety training specific to role.  Willingness to not only adhere to Health and safety regulation/policy but also actively help to enhance the provision and culture for oneself, other colleagues, students and customers. |  | CV & Interview |

**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) | X |  |  |
| ## 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:  Small quantities standard workshop solvents with appropriate controls.  Dust/fumes with appropriate controls (LEV).  Coolant with appropriate management. | X |  |  |
| 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) | X |  |  |
| **PHYSICAL ABILITIES** | | | |
| Load manual handling | X |  |  |
| Repetitive crouching/kneeling/stooping |  |  |  |
| Repetitive pulling/pushing |  |  |  |
| Repetitive lifting |  |  |  |
| Standing for prolonged periods | X |  |  |
| 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 |  |  |  |