**Job Description**

**Position**: Technician / Demonstrator – Advanced Manufacturing

**School/Service**: Centre for Advanced Manufacturing/School of Engineering

**Reference**: TBC

**Grade**: Grade 5/6 Pending HERA

**Status**: 12 Months FTC

**Hours:** Full – Time (Rota based including evenings and weekends away from the campus at events)

**Responsible to**: Head of Centre

**Main Function of the Post:**

* To act as a support for student learning, teaching and research across the portfolio of academic disciplines including support for student projects and self-directed study across where additive manufacturing/3d printing is required.
* To operate and maintain university equipment within the School of Engineering as and when required. Maintain full operational efficiency of the Centre and School of Engineering.
* To provide a demonstrator/technical support service which meets the needs of academic staff and students and enables optimal use of University resources.
* Assist the teaching team in demonstrating experiments, performing experiments and production/assembly of parts for students, staff, manufacturing companies, schools and colleges.
* Assist with research projects and special projects brought to the Centre for Advanced Manufacturing by academic staff, business partners and other external stakeholders.
* Manage and complete own research and technical projects. Write reports, maintain records and report results/findings to line manager.
* Manage 3D printing requests from colleagues and students and maintain necessary records.
* Maintain Health and Safety documentation to include Risk Assessments, Staff and Student inductions, COSHH (hazardous substance handling, storage, disposal and records). Maintain stock levels for PPE and other safety equipment, and consumables.

**Specialist Competencies:**

* Whilst all Demonstators/Technicians may be required to work across a range of disciplines their specialist practical area requires them to possess the following competencies in manufacturing to include polymer 3D printing, metal additive manufacturing, machine maintainence and repair, and practical experimental techniques for material characterisation.
* Use of software for computer aided design, computer aided manufacture, engineering simulation, and print preperation. Current software used; SolidWorks, Fusion360, NetFabb, Cura and Materialise Magics.
* Skills in product design for additive manufacturing and reverse engineering including use of 3D scanners and metrology equipment.
* Theoretical appreciation of material chemistry and characteristics including metallurgy and polymer science.

**Principal Duties and Responsibilities:**

1. To work in support of the whole range of teaching, research and commercial activities undertaken by the University including support for student projects and self-directed study.
2. To prepare workshops and rooms for staff and students in line with academic needs. Ensure these facilities and adjoining areas are in a clean and tidy condition, they conform to health and safety standards at all times and that these areas are maintained in a way which enables other functions such as cleaning and security, to carry out their duties effectively.
3. To assist students and staff with the day-to-day function of workshops and teaching areas, including the use of a range of equipment and processes.
4. Develop standard operating procedures for current and future equipment and ensure they are adhered to.
5. To take responsibility for the health, safety and welfare of those who are using the specialist areas for which the role holder has responsibility and reporting non-compliance issues to their line manager. Including ensuring appropriate safety equipment is available, including appropriate Personal Protective Equipment is maintained and in good order and used.
6. To induct and demonstrate safe working practices, the function of the equipment and processes and proper use of materials. Ensure that induction and demonstration records are documented appropriately for students, staff and commercial partners.
7. Deliver Health and Safety Inductions to student and commercial partners in the areas for which the Demonstrator/Technician is responsible; making staff, commercial partners and students aware of the professional code of conduct required when working in the area.
8. Demonstrate and communicate safe working practices as identified through the various risk assessments, the function of the equipment and processes and the proper use of materials. Explain hazards associated with equipment, processes and substances and demonstrate precautions against them including checks to be carried out prior to using equipment.
9. To supervise the designated areas, permitting access to only those students/clients who are recorded as having completed induction and ensuring that they continue with safe working practices at all times.
10. Demonstrate the use of equipment and technical procedures to staff, clients and students within the Demonstrators/Technician’s specialist area of competence.
11. Develop and prepare teaching material, demonstration aids and samples to be used during demonstrations to build a stock of handouts, diagrams and user instructions, appropriate to each demonstration as required in all relevant areas.
12. To assist with the scheduling and booking of a wide range of lab activities and equipment. To maintain accurate records of all transactions and to exercise proper stock controls including an annual stock take.
13. To assist in the preparation, set up and pack away of equipment for exhibitions/shows, both on and off the University premises.
14. If a “named” driver, to drive the University vehicle or hire vehicle for the purposes of delivery and collection of University equipment, machinery, exhibition materials etc. and other necessary transport related to the work including field trips. Be able to undertake training to drive the department forklift for vehicle loading and unloading.
15. To undertake checks to ensure that all equipment is maintained in good working order as required by health and safety practice and to ensure that inventories are up to date and accurate.
16. Undertake regular stock checks and process orders for the requisition of materials and equipment relevant to curriculum and service needs and health and safety requirements.
17. To carry out all work in accordance with the University health and safety policies and procedures, including the preparation of COSHH, manual handling and risk assessments and the implementation of mitigating actions and controls and to undertake portable appliance testing.
18. To give assistance in other practical areas when required.
19. Ensure and maintain integrity and confidentiality of data and associated data protection requirements in line with statutory and corporate requirements
20. Observe the University’s Equal Opportunities policy and Dignity at Work policy at all times.

**Note:**

This is a description of the position requirements as it is presently constituted. It is the University’s practice to periodically review job descriptions to ensure that they accurately reflect the position requirements to be performed and if necessary update to incorporate changes were appropriate. The review process will be conducted by the relevant manager in consultation with the post holder.

Please note that this is an evolving role with a requirement to travel and attend events external to the University in support of School/Faculty/University business requirements.

Please note that this appointment maybe subject to Disclosure and Barring Clearance.

**Person Specification**

|  |  |  |  |
| --- | --- | --- | --- |
| **Position:**  | Technician / Demonstrator / “CAM” Computer Aided Manufacturing – Engineering | **Reference:** | ENG-116/P |
| **School/Service:** | National Centre for Motorsport Engineering |  | **Priority** |
| **Criteria** | **(1/2)** | **Method of Assessment** |
| **1 Qualifications** |  |  |
| 1 a) Honours degree in relevant subject area or equivalent level qualification/experience | 1 | Documentation / Interview |
| 1 b) A Postgraduate qualification in relevant subject area or industrial experience | 2 | Documentation / Interview |
| 1 c) Experience operating and maintaining 3d printing and additive manufacturing equipment. | 1 | Documentation / Interview |
| **2 Skills / Knowledge** |  |  |
| 2 a) Competent in the use of equipment within specialist area (including associated software applications). | 1 | CV / Interview |
| 2 b) Able to use and demonstrate use of a wide range of equipment and processes within these areas to external visitors, colleagues and students. | 1 | CV / Interview |
| 2 c) Excellent communication skills with the ability to present information clearly, accurately and concisely to students and colleagues  | 1 | CV / Interview / Assessment |
| 2 d) Good oral communication and interpersonal skills to liaise effectively with colleagues, students and external contacts in a professional manner  | 1 | CV / Interview |
| 2 e) Able to understand and apply standard University regulations  | 1 | CV / Interview |
| 2 f) Able to organise and prioritise tasks and workload through from the initial stage to completion to achieve work schedules and deadlines  | 1 | CV / Interview |
| 2 g) Commitment to quality and compliance to standards  | 1 | CV / Interview |
| **3 Experience** |  |  |
| 3 a) Proven experience of operating within an Advanced Manufacturing facility. | 1 | CV / Interview |
| 3 b) Experience of providing technical assistance in the specialist area to staff and students | 1 | CV / Interview |
| 3 c) Relevant experience of demonstrating/instructing others (individually and in small groups) in the use of equipment and/or practical techniques/processes  | 1 | CV / Interview |
| 3 d) A record of excellent customer focused service  | 1 | CV / Interview |

|  |  |  |  |
| --- | --- | --- | --- |
| **Position:**  | Technician / Demonstrator / “CAM” Computer Aided Manufacturing – Engineering | **Reference:** | ENG-116/P |
| **School/Service:** | National Centre for Motorsport Engineering |  | **Priority** |
| **Criteria** | **(1/2)** | **Method of Assessment** |
| 3 e) Proven track record of working effectively in a team  | 1 | CV / Interview |
| 3 f) Proven track record of working effectively on own, using initiative and prioritising own workload to meet set objectives | 1 | CV / Interview |
| 3 g) Experience of undertaking risk assessments/COSHH/Manual Handling assessments | 1 | CV / Interview |
| 3 h) Experience of undertaking Portable Appliance Testing  | 2 | CV / Interview |
| **4 Personal Qualities** |  |  |
| 4 a) Able to work effectively and contribute as a member of a team, whilst using own initiative as appropriate  | 1 | Interview |
| 4 b) Display commitment to service excellence and dealing with people in a customer care environment  | 1 | Interview |
| 4 c) Able to work under pressure and work to deadlines, own objectives. | 1 | Interview |
| 4 d) Able to work within a service led environment, shaped by the demands of the users  | 1 | Interview |
| 4 e) Commitment to continuous improvement and creative ways of working | 1 | Interview |
| **5 Other** |  |  |
| 5 a) Able to work flexibly and remotely and travel as appropriate in order to meet the needs of the service including evening/weekend working | 1 | Interview |
| 5 b) Awareness of the principles of the Data Protection Act / Freedom of Information Act, Health & Safety within the work environment, Prevent and the Bribery Act  | 1 | Interview |
| 5 c) Commitment to the University’s policy on equal opportunities and diversity | 1 | Interview |
| 5 d) Willing to undertake staff development training, which may take place outside the University | 1 | Interview |
| 5 e) Hold a clean current UK driving licence including endorsement to drive a van + trailer. Be prepared to drive the University’s vehicle as required to travel between sites/student events including field trips | 1 | Interview / Documentation |

*Note:*

1. **Priority 1** indicates **essential** criterion – an applicant would be unsuccessful if unable to satisfy all Priority 1 criterion.
2. **Priority 2** indicates **desirable** criterion - applicants failing to satisfy a number of these are unlikely to be successful.
3. It is the responsibility of the employee to ensure any professional accreditation/membership remains current
4. Employees are expected to have access to suitable IT equipment and broadband internet access at home to work remotely if required