

## **TECHNICAL TUTOR – CAD/CAM CNC and 3D Printing**

**REQ211438**

### **Job Description**

**Job Grade: Technical Services Grade 6**

#### **Job Purpose**

Staff at this level will be experienced specialists. They will use their knowledge and experience to complement a team of highly skilled staff in supporting Foundation, Undergraduate (UG) and Postgraduate (PG) Teaching, Research and Enterprise within the school. Working from our specialist workshop facilities, the role holder will enable students to develop the understanding, skills, confidence and expertise necessary to employ the appropriate technologies.

The role holder will be expected to support this activity through the provision of technical supervision, demonstration, instruction, and taught sessions.

#### **Job Duties**

1. To engage with academic colleagues to develop an understanding of intended learning outcomes for taught Foundation, UG and PG modules and use this as a basis for the design of practical sessions to support student learning through the development of their technical skills, techniques and understanding.
2. In communication with academic colleagues and management staff, agree an appropriate timetabled schedule for the delivery of practical sessions with reference to the modules, Loughborough University systems and protocol.
3. To deliver the programme of timetabled practical sessions, including induction, demonstration, and taught specialist technical sessions.
4. To provide an excellent student learning experience during timetabled and open access workshop sessions. Provide opportunities for students to use the skills they are learning and developing in continued practical and applied activities for the production of physical outcomes for assessment, research and enterprise.
5. During timetabled and open access sessions to provide ongoing instruction and guidance to build further on existing skills and techniques.
6. To support academic colleagues engaged in funded research projects by using expertise and skills to generate novel and innovative solutions for the investigation, design and creation of solutions, the specification and sourcing of materials/equipment or the development of existing/new processes and activities.
7. To operate and maintain specialist software, equipment and facilities.

8. Where required, manage and motivate Technicians and Technical Instructors. Ensure structures and resources are sufficient to enable delivery of an appropriate service to staff and students.
9. To be fully aware of relevant current Health and Safety legislation; to ensure the work area and all processes, materials and equipment within it are compliant at all times, reporting to the Senior Technical Officer any significant matters relating to Health and Safety.
10. To be responsible for and contribute to the continuous development of relevant risk and COSHH assessments specific to the materials, equipment and activities within the area making sure these are followed at all times and that they are stored and used appropriately.
11. To be responsible for and contribute to the development and delivery of Health and Safety inductions and supervision so as to ensure the safe use of facilities at all times.
12. To be responsible for recording any inductions, demonstrations and taught sessions that are delivered to ensure records are thorough, complete, up to date and stored both locally and centrally.
13. To be responsible for workshop finances and stock levels, providing information and responding to the annual budget round as requested.
14. To work closely with the specialist academic staff in planning future development in terms of software, facilities and equipment and also regarding cover and succession planning as needed.
15. To contribute to assessment of student work as part of a wider team.
16. To support open day and outreach activities with the specific remit of providing engaging demonstrations or presentations to inspire the interest and imaginations of visitors and potential students.
17. Assist with the preparation and supervision of the display of works in the building including degree shows and other exhibitions.
18. If required, to act as a contact point for students in relation to pastoral and welfare matters.
19. To contribute to the development and support of placement and enterprise activity including short courses, taking a lead in terms of technical content.
20. Maintaining contact with suppliers, industry and other external bodies to keep abreast of relevant technical developments.
21. To oversee the work of others which can include providing work direction and supervision to Technicians and Technical Instructors, contributing to and where applicable undertaking training and engaging in Performance development Reviews as required.
22. To work in all areas of the School where the post holder's skill set can be appropriately utilised in response to changing needs.
23. To undertake any training required in response to changing needs and to facilitate the School's ongoing development.

## **General**

1. To participate in School and programme committees or meetings relevant to the role.
2. To engage in training and development programmes in the University which are consistent with the needs and aspirations of the individual and the School.
3. To respond to enquiries received in person, by telephone or email and take appropriate action. This will include dealing primarily with university staff but may also include external organisations and parents.
4. To provide cover for other colleagues at busy times and in cases of absence, by undertaking such duties and responsibilities which are commensurate with the grade and nature of the post.
5. To ensure compliance with relevant University policies and procedures.
6. To participate in any teaching, research or enterprise event as requested by the associate Deans.
7. The purpose of this job description is to indicate the general level of duties and responsibility of the post. The detailed duties may vary from time to time without changing the general character or level of responsibility entailed.

## **Points To Note**

The purpose of this job description is to indicate the general level of duties and responsibility of the post. The detailed duties may vary from time to time without changing the general character or level of responsibility entailed.

## **Special Conditions**

Working together with other Technical staff, ensure that the School's lab and workshop areas are open and appropriately staffed during the core hours in order to fully accommodate advertised, timetabled sessions and open access periods so students are able to work effectively and safely.

All staff have a statutory responsibility to take reasonable care of themselves, others and the environment and to prevent harm by their acts or omissions. All staff are therefore required to adhere to the University's Health, Safety and Environmental Policy & Procedures.

All staff should hold a duty and commitment to observing the University's Equality & Diversity policy and procedures at all times. Duties must be carried out in accordance with relevant Equality & Diversity legislation and University policies/procedures.

Successful completion of probation will be dependent on attendance at the University's mandatory courses which include Respecting Diversity and, where appropriate, Recruitment and Selection.

## **Organisational Responsibility**

Reports to the Senior Technical Officer.

## Person Specification

Your application will be reviewed against the essential and desirable criteria listed below. Applicants are strongly advised to explicitly state and evidence how they meet each of the essential (and desirable) criteria in their application. Stages of assessment are as follows:

- 1 – Application
- 2 – Test/Assessment Centre/Presentation
- 3 – Interview

### Essential Criteria

Area	Criteria	Stage
Experience	Experienced specialist with significant practical experience in CAD/CAM, CNC machining and 3D printing skills	1,2,3
	Thorough knowledge of CAD/CAM, CNC, 3D printing and Conventional Engineering Machine Shop equipment management, operation and setup gained in an industrial or teaching environment.	1,2,3
	Significant experience of effectively managing and prioritizing work in a workshop environment in response to varied demands.	1,3
	Experience of making a substantial contribution, as part of a team, to the development of teaching and or training programmes.	1,3
	Able to work independently with only overall direction from Senior Technical Officer or other senior staff.	1,3
Skills and abilities	Demonstrably high skill levels in CAM / CNC machining and 3D printing and associated equipment and facilities.	1,2,3
	The ability to produce components and parts to an excellent standard using the full range of technologies and techniques available and an ability to undertake both the preparation and maintenance of equipment and materials.	1,3
	To have an extensive knowledge of relevant materials and their properties.	1,3
	Competence in software and design CAD packages such as Solidworks, Creo, Inventor, Rhino, etc..	1,2,3
	Ability to generate novel and original solutions to problems whilst under pressure.	1,3
	To be able to complete both routine and unscheduled maintenance on all items of equipment in the workshops.	1,3
	Comprehensive understanding of H&S regulations and how to apply them to ensure compliance in managing facilities, processes, materials and those who use them.	1,3
	Able to undertake risk assessments and apply knowledge in practical terms for H&S management.	1,3

	Able to communicate clearly and confidently on a variety of technical issues to both inexperienced and experienced audiences.	1,3
	Able to independently organise and prioritise work in response to demand and as part of annual planning rounds.	1,3
	Ability to think originally and strategically.	1,3
	Able to work flexibly and collaboratively and when under pressure.	1,3
	Able to apply experience as part of a team to combine skills / techniques etc. with other technical / academic colleagues.	1,3
	Able to maintain and monitor accurate financial records.	1,3
	Able to use IT systems and office software.	1,3
Training	A willingness to undertake further training in response to the changing needs of the school and to adopt new processes procedures as and when required.	1,3
Qualifications	HNC / HND or Degree level qualification in a related subject area or equivalent qualification/experience	1,3
Other	Commitment to always observing the University's Equal Opportunities policy.	1

## Conditions of Service

The position is full time and is open-ended. Salary will be on Technical Services Grade 6, £31,406 to £40,927 per annum. Subject to an annual pay award, at a starting salary to be confirmed on offer of appointment.

The appointment will be subject to the University's normal Terms and Conditions of Employment for Grades 6 and above staff, details of which can be found [here](#).

The University is committed to enabling staff to maintain a healthy work-home balance and has a number of family-friendly policies which are available at <http://www.lboro.ac.uk/services/hr/a-z/family-leave-policy-and-procedure---page.html>.

We also offer an on-campus nursery with subsidised places, subsidised places at local holiday clubs and a childcare voucher scheme (further details are available at: <http://www.lboro.ac.uk/services/hr/a-z/childcare-information---page.html>)

In addition, the University is supportive, wherever possible, of flexible working arrangements. We also strive to create a culture that supports equality and celebrates diversity throughout the campus. The University holds a Bronze Athena SWAN award which recognises the importance of support for women at all stages of their academic career. For further information on Athena SWAN see <http://www.lboro.ac.uk/services/hr/athena-swan/>

## Application

The closing date for receipt of applications is **24 January 2022**.



## Desirable Criteria

Area	Criteria	Stage
Experience	Experience of providing technical contribution to research/enterprise in terms of practical skills, specialist knowledge and advice as part of proposals, funding applications and the development of specialist facilities.	1,3
	Experience of training and or teaching at college / university level supported by appropriate registration / accreditation.	1,3
	Experience of overseeing the work of others, providing work direction and supervision to more junior staff.	1,3
Skills and abilities	Ability to produce high quality outcomes using laser or waterjet cutters material-processing techniques in response to student requests.	1,3
	Able to safely engage in wood machining and plastic moulding techniques.	1,3
	Able to contribute to research work in terms of applied skills and methodological approach.	1,3
	To work with academic colleagues to continually develop and apply technologies and processes to provide a learning experience which is informed by current industry standards.	1,3
Qualifications	Associate Fellowship of the HEA or professional registration to associated professional body.	1,3
Training	Risk management training.	1,3
	Industry standard training where applicable.	1,3