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| **Post Details** | **Last Updated:** 7/7/22 |
| **Faculty/Administrative/Service Department** | Faculty of Engineering and Physical Sciences/ Civil Engineering |
| **Job Title** | Laboratory Technician (Civil Engineering Materials and Structures) |
| **Job Family**  | Technical and Experimental | **Job Level**  | 3 |
| **Responsible to** | Manager of the Civil Engineering Materials and Structures Laboratory. |
| **Responsible for (Staff)** | N/A |
| **Job Purpose Statement**The post holder will be responsible for the safe and efficient operation of the Civil Engineering Materials and Structures Laboratory, and may be required to support other experimental projects at all academic levels, as circumstances dictate and as requested by the manager. They will prepare test samples using conventional and rapid prototyping techniques, undertake testing using advanced testing protocols, as well as install arrangements specific for different testing configurations. They will be responsible for maintaining the testing equipment in excellent working conditions and for the professional upkeep of the laboratory spaces. They will be responsible for preparation and contribute to laboratory classes on construction materials and structural design. Knowledge of cement-based materials such as concrete and mortar would be an advantage.They will apply knowledge of mechanical testing on a day-to-day basis, providing technical support to grants and contracts and other types of experimental research work of academic and research staff, post graduate researchers, and students. The post holder will work closely with other technical staff to ensure the safe and efficient running of laboratories, and to showcase experimental activities to external sponsors/clients. |
| **Key Responsibilities** This document is not designed to be a list of all tasks undertaken but an outline record of the main responsibilities (5 to 8 maximum)  |
| 1. To undertake testing using hydraulic, mechanical and electro-mechanical-based testing systems.
2. To carry out duties in respect of specimen and apparatus preparation and assembly, and ensure that materials/equipment/apparatus in the laboratories are maintained, serviced and repaired as required, and raise lab-related purchase orders.
3. To use testing, monitoring and manufacturing software to run lab facilities and install associated systems.
4. To demonstrate equipment and techniques to students, research staff, academics and other technicians.
5. To monitor and maintain a safe working environment in accordance with the latest health and safety legislation, including undertaking work for the professional upkeep of the laboratories.
6. To apply appropriate skills and knowledge in order to make recommendations for improvements to the efficiency and effectiveness of the service offered.
7. To exercise creativity where appropriate to innovative solutions to requirements arising from research; for example, when working with staff on the design and manufacture of components and facilities.
8. To undertake the above activities with limited guidance from line management, more complex problems should be referred to the appropriate member of staff.

**N.B. The above list is not exhaustive** |
| All staff are expected to:* Positively support equality of opportunity and equity of treatment to colleagues and students in accordance with the University of Surrey Equal Opportunities Policy.
* Work to achieve the aims of our Environmental Policy and promote awareness to colleagues and students.
* Follow University/departmental policies and working practices in ensuring that no breaches of information security result from their actions.
* Ensure they are aware of and abide by all relevant University Regulations and Policies relevant to the role.
* Undertake such other duties within the scope of the post as may be requested by the Lab manager.
* Work supportively with colleagues, operating in a collegiate manner at all times.

**Help maintain a safe working environment by:*** Attending training in Health and Safety requirements as necessary, both on appointment and as changes in duties and techniques demand.
* Following local codes of safe working practices and the University of Surrey Health and Safety Policy.
* Monitor, maintain, repair or replace faulty equipment, and undertake work for the professional upkeep of the laboratories, which includes regular tidying up and maintenance work.
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| **Elements of the Role**This section outlines some of the key elements of the role, which allow this role to be evaluated within the University’s structure. It provides an overview of what is expected from the post holder in the day-to-day operation of the role. |
| **Planning and Organising*** Work will be organised and prioritised by the post holder within an established operating environment, with limited guidance from the Lab manager and other senior colleagues.
* The post holder will have the latitude to organise and prioritise work within the daily/weekly work routine to ensure that key deadlines and objectives are met. This will include successfully managing any conflicting demands, possessing a basic awareness of the options available and being able to make effective and appropriate decisions, referring to line management where appropriate.
* The post holder will support projects at all levels with an experimental content undertaken using testing equipment; they will help with preparation of tests/demonstrations during Open/Taster Days and similar events aimed at promoting the Civil Engineering activities at the University.
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| **Problem Solving and Decision Making*** The post will be expected to undertake the activities with limited guidance from line management; however, more complex problems should be referred to the Lab manager or an appropriate member of academic staff, either for advice, guidance or for resolution.
* The post holder is expected to provide advice to all stakeholders and solutions to routine day-to-day problems in their specialist area.
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| **Continuous Improvement*** The post holder is expected to take a pro-active approach to their work, making suggestions for improvements in working methods and facilities and implementing them under the guidance of the Lab manager.
* They are also expected to develop new technical skills as appropriate to the developing nature of research within the laboratory, in order that they can contribute to the creation of innovative solutions to requirements.
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| **Accountability** * The post holder will be required to order miscellaneous material, parts and consumables and ensure adequate stock levels at an appropriate cost. Failure to do so would affect the students’ laboratory experience, the staff and postgraduates’ research and external contracts.
* The post holder is expected to also apply their technical knowledge and practical knowledge of the required workshop practices in order to provide advice, training and assistance to staff and students regarding the application of techniques and use of common equipment for preparation and application of standard laboratory techniques. Whilst the work will usually follow an established pattern, the post holder should be able to refer to well-defined procedures for guidance when required. The post holder should recognise when problem/issues should be referred to a senior member of the project team or to the Lab manager for guidance or resolution.
* The post holder is responsible for the safety and security of the laboratory space and equipment. This includes monitoring and maintaining a safe working environment within the laboratories, ensuring that the environment and equipment meets Health and Safety requirements and that any procedures, including waste disposal, are carried out in compliance with their associated regulations.
* The postholder responsible for familiarising staff and students with Health and Safety issues and the preparation of Risk/COSHH assessments, as well as keeping records of Health and Safety documentation. They are responsible for the professional upkeep of the laboratory spaces, including regular tidying up and basic maintenance work. Errors in judgement in terms of the advice given, could lead to damaged equipment or personal safety being placed at risk.
* The post holder is expected to respond confidently and in a timely manner to problems/issues such as equipment malfunction and prioritisation. They are expected to communicate effectively, proactively and promptly with all laboratory users, as well as to make recommendations for improvements to the efficiency and effectiveness of the service offered.
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| **Dimensions of the role*** The post holder will be working as part of a wider team supporting approx. 10 academic and research staff and associated postgraduate and undergraduate students. This may include L4 and L5 Engineering Experiments, L6 Group Design Projects, and L6 & L7 Individual Research Projects.
* The post holder will support PhD students and research staff in delivering the experimental content of research grants and contracts and PhD projects; with agreement from the line manager, they may assist with consultancy services undertaken in accordance with university guidance and rules.
* The post holder will also assist staff and students in design and manufacture of apparatus for project based teaching and may manufacture specimens and testing arrangements.
* The post holder does not have any budgetary or supervisory responsibility**.**
* They will directly interact internally with the Estates and Facilities team, as well as with the FEPS Workshop.
* They will interact externally with engineers from testing houses that undertake installation and maintenance of experimental facilities in the laboratories and with sales representatives in relation to purchase orders placed.
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| **Supplementary Information** *You may wish to include some information here that has not been captured in the other sections of the form, but still has a significant impact on the size of the job. This may include details such as for example the importance in some roles to influence, develop and change the motivation and behaviour of people.** The post holder will be a member of the appropriate Faculty H&S Forum, in particular representing technical aspects of the Laboratory operations.
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| **Person Specification** This section describes the sum total of knowledge, experience & competence required by the post holder that is necessary for standard acceptable performance in carrying out this role. |
| **Qualifications and Professional Memberships** |  |
| HNC/C&G in engineering and manufacture practice, together with several years practical experience  | D |
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| **Technical Competencies (Experience and Knowledge)** This section contains the level of competency required to carry out the role (please refer to the Competency Framework for clarification where needed and the Job Matching Guidance). | **Essential/Desirable** | **Level****1-3** |
| Experience of mechanical testing | E | 3 |
| An understanding of relevant Health and Safety requirements and procedures | E | 2 |
| Knowledge and experience of maintenance of and fault finding in equipment | E | 3 |
| Ability to work independently and with minimal supervision | E | 3 |
| Experience of working in a mechanical workshop | D | 2 |
| Knowledge and experience of mechanical design | D | 2 |
| **Special Requirements:**  | **Essential/Desirable** |  |
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| **Core Competencies** This section contains the level of competency required to carry out this role. (Please refer to the competency framework for clarification where needed). n/a (not applicable) should be placed, where the competency is not a requirement of the grade. | **Level****1-3** |
| CommunicationAdaptability / FlexibilityCustomer/Client service and supportPlanning and OrganisingContinuous ImprovementProblem Solving and Decision Making SkillsManaging and Developing PerformanceCreative and Analytical ThinkingInfluencing, Persuasion and Negotiation SkillsStrategic Thinking & Leadership | 322222121n/a |
| This Job Purpose reflects the core activities of the post. As the Department/Faculty and the post holder develop, there will inevitably be some changes to the duties for which the post is responsible, and possibly to the emphasis of the post itself. The University expects that the post holder will recognise this and will adopt a flexible approach to work. This could include undertaking relevant training where necessary. Should significant changes to the Job Purpose become necessary, the post holder will be consulted and the changes reflected in a revised Job Purpose. |  |
| **Organisational/Departmental Information & Key Relationships** |
| Background InformationThe Faculty of Engineering and Physical Sciences is built on the core engineering disciplines of aeronautical engineering, civil engineering, chemical engineering, electronic engineering and mechanical engineering, together with the core scientific disciplines of computing, mathematics and physics. Within these fields we enjoy a reputation for excellence in research and teaching.The post holder will be working as part of team supporting approximately 10 academic and research staff and associated postgraduate and undergraduate students. This commitment may include helping with Level M Individual Projects and MSc Individual Research Projects. |
| Department Structure Chart *Please highlight the post holder’s role by right clicking and selecting format shape, selecting solid fill and 2nd shade of blue in list. Boxes can be added/removed by right-clicking and selecting add shape or cut. Font should be Frutiger LT Std 45 Light (max font size 10).* |
| Relationships *This is not an exhaustive list of every relationship the post holder has but is a brief description of those that play an important part in the post holder successfully carrying out the role. It should identify the significant internal and external relationships and contacts that the post holder has in their job and describe the overall purpose and nature of those relationships (i.e. exchanging information, negotiating, networking, etc.)***Internal*** The post holder will assist staff and postgraduate students in design and manufacture of apparatus for project.
* The post holder will communicate with other users of the University services.
* The post holder will communicate with the Estates and Facilities team as well as the FEPS workshop.

**External*** The post holder will liaise with external contractors and suppliers for the provision and price of services and goods.
* The post holder may be the point of contact for mechanical assistance within mechanical testing by external customers.
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