Job Description

Job Title: Mechatronics and System Integration Technician

Faculty/Directorate: Technology, Art and Culture

Grade: D **Role profile: SSD3**

Full time: 37 hours per week **Fixed Term: 12 months**

	Duties of the role
Overall purpose of the role	Responsible for ensuring efficient and comprehensive day-to-day operation of the Mechatronics and System Integration Technician laboratory along with the other associate areas. To be responsible for the support of activities related to Supporting learning and teaching, research and development - including external income generation. As well as having specialist knowledge and experience relevant to these responsibilities, all technical support staff are expected to take the lead in keeping up-to-date with new developments as appropriate to their role. In addition, they are also expected to understand the need to put students first and to be proactive in improving the support that students receive, which may include working with students in other facilities. This role in summary involves providing hands-on technical support to staff and students, maintaining and developing lab infrastructure, and facilitating the integration of hardware and software systems for teaching and research purposes. To assist other teams with routine and special projects such as preparations for display of assessment work, end of year shows, exhibitions and other events.
Main duties and responsibilities	**Technical Support Responsibilities** • Provide hands-on assistance to students and staff with equipment and techniques, interpreting verbal and sketch-based requirements to support circuit design. • Deliver initial and ongoing training in practical module elements and specialist equipment, aligned with safety policies. • Conduct facility inductions for new students, including health and safety guidance. • Support academic staff in developing and troubleshooting practical experiments. **Project & Research Support** • Advise students on project preparation (e.g., systems integration, robotics, automation) and demonstrate safe use of instruments. • Collaborate with academic staff on research and income-generating projects.

	Duties of the role
	• Provide technical support in mechatronics labs, including setup and maintenance of robotic and automation systems. • Assist with embedded systems, IoT, and automation projects by integrating mechanical, electrical, and software components. • Help design and develop prototypes for teaching, research, and outreach. **Specialist Skills** • Guide students and staff through the full lifecycle of electronic/mechatronic hardware development. • Support hardware/software design, testing, and debugging, especially with ROS and Linux platforms. • Diagnose faults and maintain lab test equipment. **Robotics & Embedded Systems (Desirable)** • Operate and maintain robotic platforms (mobile robots, arms). • Support autonomous systems using ROS, Gazebo, SLAM, OpenCV, LIDAR, and sensor fusion. • Advise on embedded systems integration and manage simulation environments (Gazebo, CoppeliaSim). • Contribute to demonstrator and outreach projects. **Equipment and facilities management** ▪ Oversee daily lab operations to ensure safe, authorised use and maximize student access. ▪ Ensure equipment compliance with health and safety regulations. ▪ Assist with capital equipment replacement, including supplier liaison and quote gathering. ▪ Maintain inventory and reorder consumables as needed. ▪ Keep lab areas clean, safe, and organised; manage waste disposal. ▪ Design and build custom test/demo equipment as required. **Health and Safety Responsibilities** • Ensure compliance with university safety policies in all technical spaces. • Conduct safety inspections and risk assessments, especially for robotics and electrical systems. • Maintain records of safety procedures, equipment maintenance, and training. • Oversee safe handling and disposal of hazardous materials.

	Duties of the role
	• Monitor and correct unsafe practices; provide safety inductions and PPE guidance. • Act as safety contact for electronics/mechatronics labs and assist in protocol development. • Perform Portable Appliance Testing (PAT). **Collaboration & Service Delivery** 1. Share and transfer knowledge to colleagues to allow for the provision of adequate cover if required. 2. Assist in the delivery of any agreed Service Levels relating to the provision of CEM Technical Instruction. 3. Form alliances and relationships with key stakeholders across the University to enable effective delivery of services, raising the profile of CEM and ensuring clear, effective and external stakeholders. 4. Ensure compliance with the University's standards for information systems, security and technology in line with the relevant legislation and audit requirements. 5. Remain innovative and stay abreast of all relevant industry and technological developments in the market place and provide advice to Management on how to take advantage of these to support the development of initiatives that deliver the University's objectives. 6. Represent CEM and the University on internal and external groups as appropriate. 7. Perform any other duties commensurate with the job grade as reasonably required from time to time. 8. Treat all DMU staff, students, contractors and visitors with dignity and respect. Provide a service that complies with the Equality Act 2010, eliminating unlawful discrimination, advancing equality of opportunity and fostering good relations with particular attention to the protected characteristics of age, disability, gender reassignment, marriage and civil partnership, pregnancy and maternity, race, religion or belief (or none), sex and sexual orientation. 9. De Montfort University is one of over 80 higher education and research institutions across the UK in a pledge to better support their technicians. The Technician Commitment is an initiative to address the challenges affecting technical staff and to support institutions in driving forward positive changes.

Person Specification

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Area of responsibility	Requirements	Essential or desirable		*Method of assessment			
				A	I	T	D
Qualifications and Training	Qualified to HND or above level in Electronics /Mechatronics or equivalent.	Essential		Y			Y
Work Experience	Significant experience of Electronic/Mechatronics engineering.	Essential		Y			Y
	Experience to include hardware and software aspects of communication engineering.	Essential		Y			Y
	Knowledge and application of Protocols.		Desirable	Y	Y		Y
Previous Work Experience	Experience of working in a training environment.		Desirable	Y			Y
	Experience of working in a FE or HE environment.		Desirable	Y			Y
Knowledge and Skills	Knowledge of equipment in both hardware and software operating environment.		Essential	Y	Y		
	Practical skills in soldering, wiring, PCB assembly, and fault diagnosis.	Essential		Y	Y		
	Proficiency in programming languages used in embedded systems or robotics (e.g., Python, C/C++, MATLAB).	Essential		Y	Y		
	Familiarity with ROS (Robot Operating System) and Linux-based development.	Essential		Y	Y		
	Experience with robot simulation tools (e.g., Gazebo, CoppeliaSim).		Desirable	Y	Y		
	Understanding of robotics concepts (e.g., kinematics, PID control, SLAM).		Desirable	Y	Y		

Area of responsibility	Requirements	Essential or desirable		*Method of assessment			
				A	I	T	D
	Experience in MATLAB/Simulink for control systems modelling and simulation.	Essential		Y		Y	
	Knowledge of IoT platforms and protocols (MQTT, BLE, etc.).		Desirable	Y			
	Enthusiastic and keen to learn more about the application of engineering in the modern world, such as green technologies.	Essential		Y	Y		
	Ability to cover a range of duties from basic laboratory housekeeping to complex technical problem solving in an undergraduate/postgraduate research environment.		Desirable	Y	Y		
	Knowledge, appreciation and understanding of Health & Safety procedures.	Essential		Y	Y		
	Knowledge of software such as CST studio, wire shark, Pico Scope and FSV tool.		Desirable	Y	Y		
Other Requirements	Willingness to work outside of core hours occasionally.		Desirable	Y	Y		
	Understanding and appreciation of equality and diversity.	Essential		Y	Y		
	Capable of showing initiative and working independently when necessary.		Desirable		Y		
	Ability to work as part of a team.		Desirable	Y	Y		
	Friendly, approachable individual with excellent interpersonal and communication skills.		Desirable	Y	Y		
	Ability to communicate and work with staff and students at all levels.	Essential		Y	Y		
	Willingness to undertake further training in specialist robotics and automation tools, e.g. by enrolling and training fully in the Year 3 Robotics & AI module, to support the students more effectively.	Essential		Y	Y		
	A satisfactory Enhanced DBS Check will be required for this role.	Essential		Y			Y

***A = Application Form; I = Interview; T = Test; D = Documentary Evidence**