**JOB DESCRIPTION**

|  |  |  |  |
| --- | --- | --- | --- |
| Post title: | **Senior Engineer** | | |
| Service: | Zepler Institute/Optoelectronics Research Centre | | |
| Faculty: | Faculty of Engineering and Physical Sciences | | |
| Career Pathway: | Technical and Experimental (TAE) | Level: | 4 |
| Posts responsible to: | Professor of Optoelectronics/Silica Fibre Fabrication group leader | | |
| Posts responsible for: | None | | |
| Post base: | Office-based/Non Office-based (see job hazard analysis) | | |

|  |
| --- |
| Job purpose |
| To undertake maintenance/resolve technical issues/provide technical knowledge of fibre fabrication and characterization equipment in the cleanroom and associated laboratories. To ensure efficient operation of equipment for research staff, students, and visitors. To contribute to the experimental and fibre fabrication activities. |

| Key accountabilities/primary responsibilities | | % Time |
| --- | --- | --- |
| 1. | Provide specialist technical support for the department’s research/enterprise activity, designing and developing specialist machines and equipment and developing solutions, techniques, and procedures. This will include being responsible for maintaining the fibre fabrication facilities in the clean room and associated laboratories. Resolve all technical issues relating to the services availability and equipment operation. Apply mechanical and electrical knowledge to repair items and contribute to the development of equipment capabilities. | 50% |
| 2. | Demonstrate and advise research staff, students, and visitors on fibre fabrication techniques, use of materials in the fibre fabrication area, and assisting in the interpretation of test results. Provide advice and support relating to the use of any equipment or devices and operate as required including a broad understanding of fibre technology to advise users on fabrication issues. Provide a repair and fault-finding service including planned maintenance of equipment and devices within the work environment, advising on future resource requirements, and ensuring health and safety standards within the environment are complied with by staff, students, and visitors. | 15% |
| 3. | Contribute to academic publications within the realm of technical expertise. |
| 4. | Engage in a wide range of cleanroom and laboratory processes to support the research activities. Operate optical fibre fabrication equipment as well as undertake experimental work using associated methods for materials analysis and device fabrication. Contribute to optical fibre preform fabrication, preform/glass processing, optical fibre drawing, and characterisation of preforms and fibres. | 15% |
| 5. | Plan, organise and manage the work environment, training and supervising technical and non-technical staff. Liaise on a technical level with suppliers and manufacturers to resolve issues with equipment. Conduct facility tours for visitors, students, and the media, promoting the silica cleanroom facility and explaining the research activities in the fibre fabrication area. |
|  | Oversee the budget of the work area, maintaining appropriate records. | 10% |
|  | Attend internal and external meetings to ensure the work unit issues are represented. |
|  | Other duties agreed in collaboration with the line manager | 10 % |

| Internal and external relationships |
| --- |
| * Report to Silica Group Leader - to discuss technical and scientific activities in the group. * Communicate with research staff and postgraduate students – to provide instruction and support. * Silica group Technician – to assist in ordering and maintaining stock items. * Zepler cleanroom and facilities manager – to discuss issues relating to maintenance and support. * Equipment suppliers and contractors – to resolve technical issues of fibre fabrication and characterization equipment. |

| Special Requirements |
| --- |
| Working with and handling of gases and chemicals. |

**PERSON SPECIFICATION**

|  |  |  |  |
| --- | --- | --- | --- |
| Criteria | Essential | Desirable | How to be assessed |
| Qualifications, knowledge and experience | Skill level equivalent to achievement of HND, NVQ4, Degree in Physics/Chemistry/materials science/Engineering related discipline and experience of working in an engineering environment.  Substantial experience in a relevant technical field, with proven experience of successfully planning and progressing work activities.  Understanding of how the specialist technical services provided by the post holder support the objectives of the University.  Ability to make effective use of standard and specialist computer  Experience of working within a cleanroom environment  Proven experience in maintaining facilities and resolving process equipment and service issues.  Experience in equipment repair and facility maintenance | Knowledge of optical fibre technology or materials processing.  Experience in materials processing and fabrication in a clean room environment | Application and interview |
| Planning and organising | Able to plan equipment maintenance and workload to ensure minimum disruption to processes and users of the facility.  Able to progress a broad range of activities within professional guidelines and in support of University policy.  Experience in successful project management. |  | Interview |
| Problem solving and initiative | Identify equipment issues and apply practical knowledge and skills to resolve the problem.  Ability to apply specialist technical knowledge to analyse complex problems and recommend solutions/plans of action. |  | Application and interview |
| Management and teamwork | Able to proactively work with colleagues in other work areas to achieve outcomes.  Experience in successfully managing and developing staff.  Able to delegate effectively, understanding the strengths and weaknesses of team members to build effective teamwork.  Able to formulate development plans for staff to meet required skills.  Manage a shared cleanroom facility to ensure a coherent working environment for research staff, students and contractors.  Work together with other technical team members to achieve outcomes. |  | Application and interview |
| Communicating and influencing | Able to communicate effectively to post-graduate staff and students, peers and senior staff in order to exchange information, negotiate and persuade.  Able to provide guidance on technical issues to post-graduate staff and students and develop a common understanding. |  | Interview |
| Other skills and behaviours | Understanding of relevant Health & Safety issues.  Able and willingness to work flexible hours  Proactive in promoting a working environment that is inclusive and engaging; recognising the value diversity brings. |  | Interview |
| Special requirements |  | Confidence in handling toxic gases and chemicals. | Application and interview |

**JOB HAZARD ANALYSIS**

**Is this an office-based post?**

|  |  |
| --- | --- |
| 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.

|  |  |  |  |
| --- | --- | --- | --- |
| **ENVIRONMENTAL EXPOSURES** | **Occasionally**  (<30% of time) | **Frequently**  (30-60% of time) | **Constantly**  (> 60% of time) |
| Outside work |  |  |  |
| Extremes of temperature (eg: fridge/ furnace) |  | √ |  |
| ## 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: |  | √ |  |
| 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) |  |  |  |
| **PHYSICAL ABILITIES** | | | |
| Load manual handling | √ |  |  |
| Repetitive crouching/kneeling/stooping | √ |  |  |
| Repetitive pulling/pushing |  |  |  |
| Repetitive lifting |  |  |  |
| Standing for prolonged periods |  | √ |  |
| 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 |  |  |  |