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| Last updated: | 24.11.2021 |

**JOB DESCRIPTION**

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| Post title: | **Mechanical Plant Engineer** | | |
| Academic Unit/Service: | Estates & Facilities | | |
| Faculty: | Professional Services |  |  |
| Career pathway: | Community and Operational | Level: | 3 |
| Posts responsible to: | Assistant Mechanical Engineer (DLO) | | |
| Posts responsible for: | None | | |
| Post base: | ~~Office-based~~/Non Office-based (see job hazard analysis) | | |

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| Job purpose |
| Day to day operation, maintenance, and repair of all mechanical building services within the University Estate. This includes, but is not limited to, water (hot & cold ‘domestic’, chilled, process cooling), heating and cooling systems, air handling, extraction, compressed air and vacuum systems and associated controls. |

| Key accountabilities/primary responsibilities | | % Time |
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|  | To undertake preventative planned maintenance activities using own resources and those of contractors on mechanical services, plant and equipment associated with the University Estate. This includes, but is not limited to:   * Heating and Hot water generation * Heating, Hot and cold water distribution * Chilled and cooling water distribution (of various ‘grades’) * Air supply, extract and distribution (air handling units) * Controls associated with the Mechanical Building Services | 50 % |
|  | To identify, investigate and correct faults and sub-optimal performance of the mechanical engineering systems on a multitude of systems, working at all times in accordance with relevant health and safety legislation. | 25 % |
|  | To operate the building energy management system (BEMS) for monitoring and control of heating and ventilation systems to achieve optimum efficient performance and reduce energy consumption/Carbon emissions. | 10 % |
|  | To deputise / assist the Chargehand / Asst. Mechanical Engineer in their absence | 5 % |
|  | At all times works with due regard to relevant Health and Safety Regulations and regulations. Completes dynamic risk assessments for each job attended. | 5% |
|  | Any other duties as allocated by the line manager following consultation with the post holder. | 5 % |

| Internal and external relationships |
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| * Mechanical and Plumbing staff (inc. management) – receiving instructions regarding work. * Estates staff – exchanging information and advice about the operation and maintenance of mechanical and electrical services. * Chiller operation and maintenance contractor working under an SLA – liaison on the provision and distribution of chilled water. * Contractors and consultants – exchanging information and advice about the operation and maintenance of mechanical and electrical services. * Insurance inspectors – preparation and examination of pressure systems. * BMS engineers – fault finding and fault rectification on control systems. * Building occupants (Faculty Departments) – sharing information on building services in relation to operation and maintenance, and working with building occupants to plan work so as to minimise disruption. |

**PERSON SPECIFICATION**

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| Criteria | Essential | Desirable | How to be assessed |
| Qualifications, knowledge and experience | Successful completion of a full engineering apprenticeship to NVQ level 3, BTEC Level 2 (ONC) or equivalent in a mechanical services trade with a sound knowledge of electrical safety.  Proven post-apprenticeship experience in a maintenance environment covering complex heating, ventilation, and air conditioning systems from domestic to industrial scale.  Ability to operate and apply diagnostic fault-finding to large engineering systems such as district heating and chilled water systems.  A high level of computer literacy and practical experience of operating building energy management systems (BEMS) for monitoring and control of plant and optimising energy consumption. Ability to ‘blend’ the theoretical diagnosis with hands-on maintenance of actuators, sensors, controllers and thermostats.  A good knowledge of health and safety legislation with an understanding of its application to activities such as water hygiene (e.g. legionella monitoring and humidifier maintenance), plant inspection, and pressure vessels. | HNC in mechanical or building services engineering  Understanding of other trades such as electrical, welding, turning, pipefitting.  Experience in operation of ‘Trend’ BEMS.  Recognised training in the following (with City & Guilds accreditation where appropriate):   * Water Supply (Water Fittings) Regs * Operation of Cooling Towers * Legionella control in hot & cold water systems. | Certificates  CV /Interview  CV /Interview  Certificates  CV /Interview  CV /Interview  Certificates |
| Planning and organising | The post holder must organise and prioritise a mix of PPM work (issued batch-wise to cover a number of weeks) and reactive maintenance jobs with varying degrees of urgency.  Flexibility in approach is required. | Planning and implementation of process shutdowns. | CV /Interview |
| Problem solving and initiative | The identification and rectification of faults on mechanical building services is an essential part of the role. This requires understanding of the mechanical, electrical and controls elements of the system and the use of experience and initiative to determine a solution in a particular situation. | Diagnostic and rectification skills in relation to air conditioning systems and industrial gas fired appliances. | CV /Interview |
| Management and teamwork | Close liaison with the end user is essential so that output can be optimised and ‘downtime’ reduced.  Working with other trade staff and contractors is necessary depending on the work in hand. |  | CV /Interview |
| Communicating and influencing | Good interpersonal skills are necessary when explaining maintenance issues to building users and liaising with them in relation to the timing and impact of work. | Ability to produce short technical reports. | CV /Interview |
| Other skills and behaviours | The post-holder must be computer literate and able to use computer applications.  A good knowledge of current health and safety legislation is essential. | Knowledge of the ‘Planon’ computer application | CV /Interview |
| Special requirements | The post is based within Halls of Residences and academic campus sites.  Possession of a full driving licence, non-endorsed, that enables you to drive a manual vehicle on public roads within the UK. |  | CV /Interview |

**JOB HAZARD ANALYSIS**

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

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| 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.

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| **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 | N/A |  |  |
| ## 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 | N/A |  |  |
| **EQUIPMENT/TOOLS/MACHINES USED** | | | |
| ## Food handling | N/A |  |  |
| ## Driving university vehicles(eg: car/van/LGV/PCV) | N/A |  |  |
| ## Use of latex gloves (prohibited unless specific clinical necessity) | N/A |  |  |
| ## 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 | N/A |  |  |
| Lone working | ✓ |  |  |
| ## Shift work/night work/on call duties | ✓ |  |  |