



جامعة الأمير محمد بن فهد

PRINCE MOHAMMAD BIN FAHD UNIVERSITY

Prince Mohammad Bin Fahd University (PMU)
Al-Khobar, Kingdom of Saudi Arabia.
College of Engineering
Multiple Engineering Laboratory Technicians

Job Title: Laboratory Technician
Gender: Male
Languages: Arabic and English
Career Level: Intermediate to Advanced
Environment: Academic Institution

Typical work activities

The main function of an engineering laboratory technician is to perform daily technical, maintenance and administrative assignments in collaboration with college and university units that allow college faculty and students to conduct instructional and research activities in a safe and healthy environment.

Tasks typically involve:

- Disassemble instruments and equipment, using hand tools, and inspects components for defects. Reassemble and calibrate instruments and equipment.
- Check equipment and parts for conformity with specifications.
- Align, repair, replace, and balance component parts.
- Perform laboratory experiments to support instructional and research activities.
- Prepare specimens and samples.
- Construct, maintain and operate standard laboratory equipment.
- Assist in procuring consumables and supplies and placing purchase orders for equipment.
- Ensure that the laboratory is well-stocked and resourced.
- Perform inventory management and organize and catalog laboratory equipment
- Demonstrate health and safety procedures to faculty and students.
- Follow and ensure strict safety procedures and safety checks.
- Perform other support duties as required
- Organizing and cataloging lab and sample materials

Required Qualifications:

Candidates with degrees from recognized college or university with at least three years of experience. The successful candidate will have strong oral and written communication skills in English. Application must include curriculum vitae and unofficial copies of all post secondary education transcripts (min two year college diploma) and training certificates. Review of applications will begin immediately and continue until the positions are filled.

ENGINEERING TECHNICIANS Job Description per Position

1. Materials Engineering Technician

The Technician will have credentials and experience in support of the following equipment and experiments: Mixing and casting of concrete; Uniaxial compression test of concrete; Uniaxial tension test for metals; Torsion and yielding of metals; Metal corrosion; Metal fatigue; Uniaxial tension test of polymers; Wood compression test; Strength of reinforced concrete

2. Engineering Surveying Technician

The Technician will have credentials and experience in support of the following equipment and experiments: Overview of laboratory and field exercises; Review of mathematical and computer skills for surveying; Level and sloped ground linear measurements; Data acquisition with GPS; Transit field operations; Differential leveling; Angular measure with theodolite/total station; Three-dimensional positions of a traverse with total stations; Layout of simple circular curve using taping and total stations; GIS software application

3. Geotechnical Engineering Technician

The Technician will have credentials and experience in support of the following equipment and experiments: Description and identification of soils; Determining the moisture content of soil; Determining the specific gravity of soil; Plastic limit and plasticity index of soil; Shrinkage limit of soil; Soil classifications; Compaction test and moisture-weight relationship of soil; Density and unit weight of soil; Percolation test; Permeability test for granular soils; Consolidation test; Direct shear test; California bearing ratio test

4. Hydraulic Engineering Technician

The Technician will support the following equipment and experiments: Pipe and friction; Flow in close conduit; River flow; Design of open channel flow; Hydraulic structures; Hydraulic machinery; Groundwater hydraulics; Surface

runoff; Flood control and detention ponds; and Topics in wastewater management and treatment.

5. Electric Circuits Technician

The Circuits Laboratory Technician will have credentials and experience in support of the following equipment and experiments: analog and digital electronics; communication; instrumentation; use electrical laboratory test equipment, such as digital multi-meters, signal generators, power supplies, and oscilloscopes; predict the behavior and make measurements of simple operational amplifier circuits; predict and measure the sinusoidal steady-state responses of simple RC and RLC circuits; describe the relationship of voltage and current in resistors, capacitors, inductors, and mutual inductors; explain and demonstrate the meaning of rms voltages and currents and real and reactive power flows in AC circuits; demonstrate a basic understanding of electronics applications, converter circuits, electric machinery and power systems.

6. Electronics Technician

The Technician will have credentials and experience in support of the following equipment and experiments: Operational amplifier circuits; Small-signal linear analysis of circuits involving semiconductor devices; Analysis of feedback circuits; Temperature effects on electronic components and circuits; Design and analysis of active filters.

7. Digital Systems Technician

The Digital Technician will have credentials and experience in support of the following equipment and experiments: Instruments, measurements and microprocessors

8. Automatic Control Systems Technician

The Technician will have credentials and experience in support of the following equipment and experiments: Control Products; electromechanical control system modules interfaced to computers for control algorithm implementation through high speed data acquisition hardware.

9. Electrical Machinery Technician

The Technician will have credentials and experience in support of the following equipment and experiments: Electric power measurement; Equivalent circuit power transformers; Voltage regulation of power transformers; Efficiency of power transformers; Direct current generator characteristics; Direct current motor characteristics; Speed regulation of DC motors; Equivalent circuit of three-phase

induction motors; Three-phase induction motor characteristics; Characteristics of synchronous machines.

10. Thermal Fluids Technician

The Technician will have credentials and experience in support of the following equipment and experiments: Measurement of pressure, temperature, and velocity; Determination of pressure drop and flow rate in a pipe; Determination of force on objects in internal and external flow; Heat transfer by conduction; Heat transfer by convection; Heat transfer by radiation; Energy balances for a control volume; and Analysis of a simple thermodynamic cycle.

11. Mechanical Systems Technician

The Technician will have credentials and experience in support of the following equipment and experiments: Stress, strain, and deflection on a cantilevered beam and/or a rotated shaft; Natural frequency of a vibrating beam with various end masses; Analysis and control of base-excited resonant-type vibrations; and Analysis of rotating imbalance.