

Job Description

Job Title:	Electronics Technician
Department:	Science Technical Services
Reports To:	Manager, Technical Resources, Faculty of Science
Jobs Reporting:	None
Salary Grade:	USG 8
Effective Date:	September 2023

Primary Purpose

The Faculty of Science supports an innovative research and teaching enterprise through technical facilities such as Science Technical Services (STS). STS department is comprised of, an electronic shop, machine shop and vacuum pump shop. STS is a critical organization for the Faculty of Science with in-house expertise to design, fabricate and repair parts and equipment for research and teaching. The responsibilities of the Electronics Technician include client consultation, job estimation, technical support, design, fabrication, construction, and service of various scientific instruments.

Key Accountabilities

- Interact with faculty, students, and staff from a wide variety of backgrounds and provide technical consultation to them. Diagnosing and debugging problems with experiments, suggesting ideas to improve teaching, research labs set-ups, and enhance the data quality is also an important goal. Often teaching and demonstrating the electrical/electronic and mechanical concepts is necessary.
- Design, construct, test and service specialized research and teaching instrumentation including analog, digital electronics, and interfacing. Design and construction will comprise low-noise preamplifiers for various probes, sensors and detectors, high-speed amplifiers, signal generators of various shapes and frequency, power supplies, motion, temperature, or pressure controllers, etc.
- Support CSA certification of custom build electronics and electrical equipment.
- Use specialized software such as AUTOCAD or Electronic CAD packages during design phase and PCB software (Printed Circuit Board) to prepare component layout. Use dedicated programming software to operate precision CNC Mill to produce the boards.
- Demonstrate mechanical dexterity to build enclosures, packaging, shielding, etc. Proficiency in using variety of small tools.
- Work in team environment on large projects involving both electronic and machining group.
- Test and service specialized research and teaching instrumentation including analog, digital electronics, and interfacing.
- Foster a team environment via encouraging colleagues to contribute ideas and collaborate on new and complex projects.
- Makes recommendations for continuous improvement through enhanced methods, specialized equipment, and tooling.
- Assist client in purchases of electronics parts from electronics store.
- Oversees parts inventory, order parts that are low in inventory.
- Maintaining order of the workstation, shop, and storeroom

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**All employees of the University are expected to follow University and departmental health and safety policy, procedures, and work practices at all times. Employees are also responsible for the completion of all health and safety training, as assigned. Employees with staff supervision and/or management responsibilities will ensure that assigned staff abide by the above, and actively identify, assess, and correct health and safety hazards, as required.*

Required Qualifications

Education <ul style="list-style-type: none">• A diploma in Electronics Engineering Technology or Equivalent.
Experience <ul style="list-style-type: none">• 5 years of experience required.• Expertise in electronics: analog and digital knowledge• Experience in working with different measurement instruments.• Experience with hardware design procedures and software packages related to the area of specialization
Knowledge/Skills/Abilities <ul style="list-style-type: none">• Proficiency in design, schematic capture, simulation, and layout of electronics• Knowledge of computer interfacing with measurements instrumentation is required.• Strong organizational, problem-solving, and analytical skills are essential.• High-speed digital circuit design• Analog circuit design• Designing and implementing electronics hardware system• Ability to design, analyze and, solder PCBs.• Assemble and test prototype.• CSA evaluation• Real-world hands-on troubleshooting with electronics and mechanical assemblies• Excellent time management skills with the ability to efficiently balance competing priorities.• Ability to work independently and as part of a team. Willingness to take initiative to improve processes.• Effective communication skills• Familiar with various communication protocols such as Inter-Integrated Circuit (I2C), Serial Peripheral Interface (SPI), Universal Serial Bus (USB), Universal asynchronous receiver-transmitter (UART)• Radio Frequency experience, including matching, Low Noise Amplifier (LNA), and Mixer

Nature and Scope

- **Contacts:** Requires the ability to communicate with all staff, faculty, and students (primarily graduate level) who seek services from Science Technical Services. Communication abilities must be geared to both technical and non-technical individuals. External contacts; suppliers and scientific instrument service engineers. Proven ability to work collaboratively as part of a team as well as independently.
- **Level of Responsibility:** The job has defined duties and responsibilities with minimal supervision. The incumbent assesses feasibility of project or repair to provide clients with an estimate of project schedule, and cost or alternative solution. Responsible for supplies and shop equipment is maintained properly and in working order.
- **Decision-Making Authority:** Has autonomy regarding directing purchases to complete scope for work for clients. Work closely with clients to provide information relevant for decision making. All operational and policy decisions are reviewed and made by the manager.

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- **Physical and Sensory Demands:** Work with distractions, interruptions, close attention to detail, lifting and carrying
 - **Working Environment:** Mostly electronic shop environment, however, there will be occasionally work in various laboratory conditions typical to scientific research; chemical and biological samples are present, as well as work in the vicinity of highly sensitive equipment.