Job Description

Job Title: MME Engineer
Department: Mechanical & Mechatronics Engineering
Reports To: Design Engineer
Jobs Reporting: None
Salary Grade: USG 9/10
Effective Date: April 2, 2018

Primary Purpose
The MME (Mechanical and Mechatronics Engineering) Engineer provides technical support for the Mechanical & Mechatronics Engineering department with primary responsibility for the undergraduate students in both programs.

Key Accountabilities

Provide technical support for the undergraduate design courses
- Supervise, instruct, and assist students
- Create and develop demonstrations, and workshops
- Develop written instructions and manuals for students

Provide technical support for undergraduate laboratories/clinics/studios
- Create and develop labs, clinic activities and design studios
- Design and construct mechanical/electronic/software systems for labs and class use
- Maintain laboratory safety standards
- Maintain equipment inventories
- Supervision of co-op students and advising/training TA’s

Support Undergraduate projects
- Mentor /assist students
- Advance intellectual property and commercialization potentials
- Develop and operate design competitions, conferences and departmental symposia
- Maintain safety standards, especially for 4th year capstone projects

General Accountabilities
- Be flexibly responsive to changing teaching needs
- Maintain training levels to be current with subject matter – continuous improvement
- Regularly review teaching labs to ensure topics are current
- Capital equipment and other purchases – requisition and acquisition, setup and rollout
- Other duties as assigned

Required Qualifications

Education
- A degree in mechanical/mechatronics engineering (preferred) or similar engineering program is required. A Master’s degree in a similar field is an asset.
- Must be a Professional Engineer in Ontario or a registered Engineer in Training.

Experience
- 2 + years of relevant experience required.
Knowledge/Skills/Abilities
A strong aptitude for mechanical technologies and systems is essential. Must have good knowledge and operational experience in many areas:

- multidisciplinary design of consumer products
- engineering tools (e.g., Labview, MatLab, etc.)
- computer aided design and solid modelling (Solidworks, Solidworks Simulation, AutoCAD, or similar)
- prototyping tools such as laser cutters, 3D printers, thermal formers
- commercialization of products and technologies
- patenting
- product sourcing
- electro-mechanical systems
- thermal and fluids test and measurement techniques
- material properties and materials testing
- hydraulic, pneumatic, and electric control systems
- mechanical testing equipment
- digital data acquisition, monitoring, and control systems
- open sourced electronic platforms/computers (Arduino, Raspberry Pi)
- analog and digital circuit design
- systems maintenance and calibration
- software development and programming
- safety standards and procedures

- Proficient in Microsoft Office suite

Nature and Scope
- Contacts: This role provides technical support and liaison with undergraduate students, faculty, administration and other technical staff. The practitioner must be able to communicate effectively with people at all levels of expertise.
- Level of Responsibility: Independently instructs, and mentors students. Manages co-op students, clinic activities where safety is paramount, and equipment inventory.
- Decision-Making Authority: Advises students, teaching assistants and faculty, along with ongoing decisions while managing co-op students, capital acquisition leadership and some curriculum development in conjunction with faculty.
- Physical and Sensory Demands: Some activities require setup, usually not heavy or dirty.
- Working Environment: Working conditions vary and range from working at a computer, to bench work, to work in clinics, labs and other areas. Working outside of normal hours might be occasionally required to deal with emergencies, maintenance, extended run activities, or upgrades.