

Job Description



SGJob Title:	Engineering Student Machine Shop (ESMS) CNC Machinist
Department:	Sedra Student Design Centre
Reports To:	Manager, Sedra Student Design Centre
Jobs Reporting:	None
Salary Grade:	USG 8
Effective Date:	April 2017

Primary Purpose

The Engineering Student Machine Shop (ESMS) Computer Numerical Control (CNC) Machinist trains, monitors, and provides assistance to all student shop users, including undergraduate and graduate Engineering students, as well as individuals who are members of University of Waterloo entrepreneurship programs such as Velocity. The primary location of the job will be the Engineering Student Machine Shop located in Engineering 5. Depending on demand the job may also be located in the Woodworking Shop located in Engineering 5, the Sedra Student Design Centre located in Engineering 5 and Ancillary Student Machine Shop located in East Campus Hall (ECH).

Key Accountabilities

List the major responsibilities of the job, divided into 3 to 5 broad categories. These should reflect 80 - 90% of "what" the job does not the "how". Insert a category heading and in bullet form below, state specific responsibilities.

Provide daily monitoring and assistance for the Engineering Student Machine Shop, the Woodworking Shop, the Ancillary Student Machine Shop and the Sedra Student Design Centre <ul style="list-style-type: none">• Assess designs and provide feedback to students that includes safety, manufacturability, skill level, tooling and equipment requirements, etc.• Provide basic knowledge of machining practice• Demonstrate and monitor proper use of machine shop equipment• Establish a mentoring relationship with students who use the shop frequently• Provide assistance for the Manager in supporting the facilities of the student team workbays and the shared-used resources of the Sedra Student Design Centre
Ensure a safe working environment in all areas for all students and staff <ul style="list-style-type: none">• Assist with safety orientation sessions for students• Ensure ESMS users comply with all safety requirements, including maximum occupancy, use of personal protective equipment (PPE), securing loose clothing or long hair, safe operation of all equipment, etc.• Maintain equipment in safe working order, i.e. performing routine inspections, verifying safety features are in place and adjusted properly, and notifying the Manager of any deficiencies• Perform regular maintenance and repairs of equipment as required• Assist the Manager with monthly safety inspections
Maintain inventory of materials and supplies <ul style="list-style-type: none">• Maintain inventory of tooling and fasteners that are available to students• Prepare purchasing information for the Manager to replenish inventory• Collaborate with EMS Stores to access tooling and fasteners, where applicable
Assist with machining tasks for the Engineering Machine Shop (EMS) <ul style="list-style-type: none">• As time permits and according to demand, use the CNC and conventional machine tools in the ESMS and EMS for the machining, fabrication, modification and repair of research and teaching equipment, specimens, etc. for the Engineering Machine Shop (EMS)

Required Qualifications

If hiring today, what would be the required education, experience, knowledge, skills and abilities?

Education <ul style="list-style-type: none">• High School Diploma and a Certificate of Qualification (Ontario preferred) in one of the following trades: General Machinist, Tool & Die maker, Mould Maker
Experience <ul style="list-style-type: none">• A minimum of 7 years of experience in the operation of all equipment in the Engineering Student Machine Shop and the Woodworking Shop, including conventional metal working and wood working machines and the CNC mill and CNC router. Highly skilled in all machining and fabrication methods and techniques. Extensive experience using machine relevant and current versions of MasterCAM with Haas CNC equipment. Teaching and mentoring skills, e.g. apprentices in a shop setting, which can be applied to students in a student shop / student team workshop environment.
Knowledge/Skills/Abilities <ul style="list-style-type: none">• Basic MS Office skills• Experience with MasterCam, Solidworks and CNC controllers

Nature and Scope

- **Contacts:** Excellent interpersonal and communication skills applicable to diverse groups, including students from many backgrounds with different experience levels, as well as staff and faculty members. Exchange or provide simple information to external contacts, including suppliers, customers, visitors and members of the general public.
- **Level of Responsibility:** The job has defined duties and responsibilities with minimal supervision for certain shifts
- **Decision-Making Authority:** Problems and decisions typically faced by this position fall within established procedures. The Manager is consulted in all cases of conflict.
- **Physical and Sensory Demands:** Physical demands are typical of a manufacturing environment; standing for long periods of time, exposure to machine noise, heavy lifting, and potential for injury. Sensory demands of dealing with large numbers of students can be a distraction and a source of fatigue and strain. Based on the demands, the job requires exertion of physical or sensory effort resulting in moderate fatigue, moderate strain or risk of injury.
- **Working Environment:** Machine shop; standing and walking on a concrete floor, exposure to machine noise. The job has rotating shifts in order that a minimum of one machinist or technician be in the ESMS at all times. Regular weekly shifts are shared equally among all machinists and technicians assigned to the ESMS, as follows: Day shift, Monday – Friday 8:30am – 4:30pm; and Evening shift, Mon. - Fri. 1:00pm – 9:00pm. Saturday shifts are shared equally among all machinists and technicians assigned to the ESMS, as follows: Saturday shift, 10:00 am – 5:00 pm. The person who works on Saturday is normally entitled to a day off on the following Monday in order to have a 2 day break following a 5 day work week.