**Department of Human Resources**

**OPSEU Job Description**

**Job Title:** Machine Shop Technician, Science Workshops

**Job Number:** SS-063

**NOC:** 2232

**Band:** 9

**Department:** Science

**Supervisor Title:** Associate Dean, Science

**Last Reviewed:** September 29, 2008

**Job Purpose**

Under general direction of the Associate Dean (Science) provides technical services in the areas of machining, equipment fabrication and instrument design primarily in support of science teaching and research.

**Key Activities**

1. Uses skills and experience to repair and maintain equipment in support of teaching and research to reduce or avoid interruptions in these activities. Consults with equipment users on sourcing-out equipment that cannot be repaired in-house.
2. Uses skills, experience and creativity to design, develop and construct research and teaching equipment to enable or enhance research and teaching activities. This includes the use of MIG and TIG welding equipment (in applications that comply with the Boilers and Pressure Vessels Act regulation 220/01 and other applicable industrial standards) and the use of all other Science Workshop machines, tools and equipment.
3. Acts as a consultant to faculty, staff and students in the area of machining, equipment fabrication and instrument design by becoming acquainted with their technical requirements, then providing advice based on knowledge and experience so as to provide appropriate solutions.
4. Uses interpersonal skills as well as technical knowledge and experience to supervise the work of students and assistants involved in shops jobs.
5. Ensures that all students, staff and faculty using shop equipment are appropriately trained to safely operate workshop equipment. Keeps abreast of developments in relevant areas of machining, instrument design and equipment fabrication in order to be able to apply new technology and techniques as appropriate.
6. Manages machine shop finances. Prioritizes jobs, does all purchasing of parts and supplies, documents work done and provides invoicing information to the Office of the Associate Dean (Science). Keeps records of the work done and time spent on all jobs, including consultation time and time spent on design. Reports and updates on details of jobs done and time spent on various aspects of each job on a monthly basis.

**Education**

Certificate of Qualification in Tool and Die Making. (Requires certification i.e. skilled trades license)

**Experience Required**

* A minimum of 3-5 years of directly-related experience; or a reasonable equivalent combination of education and experience.
* Expertise in the use of modern machine tools.
* Ability to use conceptual design skills in the design and fabrication of unique equipment.
* Computer skills including familiarity with spreadsheets and some ability with CAD/CAM technology.
* Over two years and up to four years, broad general knowledge of organization, detailed knowledge of own occupational area and closely connected work areas

**Communication**

Internal:

* Faculty
* Students
* Lab techs
* Support staff

External;

* Suppliers
* Other technical personnel

**Motor/ Sensory Skills**

* Fine Motor Skills - using shop machines, tools and equipment
* Gross Motor Skills - using shop machines, tools and equipment
* Hearing - using shop machines, tools and equipment
* Smelling - using shop machines, tools and equipment
* Visual - using shop machines, tools and equipment
* Touch - using shop machines, tools and equipment

**Effort**

Mental:

* Sustained mental concentration - working on various projects, planning
* Sustained physical concentration - working with various machines, tools and equipment
* Listening - design

Physical:

* Lifting, moving, holding - fabrication

**Working Conditions**

Physical:

* Dangerous Equipment
* Loud
* Dirty, Dusty
* Fumes

Psychological:

* Multiple competing demands - Projects with different timelines, students, workload
* Frequent interruptions - Students, etc. through the workshop (seeking technical advice, consulting on projects)