Role Description
Professional Managerial Roles

Role Title: Technical Project Specialist (Student Shop Advisor)

Incumbent:

Department: Dean’s Office, Experiential Learning & Student Support
Unit/Department Leader(s): Samantha Roach
Date: June 2023
Position Number (if applicable): 00005055

1. UNIT OVERVIEW:
   a) Unit’s Mission (2 or 3 sentences about the overall purpose or role of the unit)
   The Western Engineering Student Machine Shop is located in the Claudette MacKay Lassonde Pavilion (CMLP) at Western University and is a place where aspiring engineers learn and practice hands-on skills by applying their new found engineering knowledge in practical ways. This is achieved through shop training and access to machinery and resources. These experiential learning activities help ensure a seamless transition from student life to employment and careers. The Student Machine Shop is located in the same area as the MEGA project team shops, like Western FSAE Baja, Aero and Formula, as well as Sunstang and WEBots and is also host to a number of outreach programs.

   b) Key Goals of the Unit
   To provide a safe, clean, well-equipped and professional environment for students to gain the knowledge and practice of hands-on skills found in today’s industries. To support research and learning activities at Western Engineering, Western University, as well as local industry by designing and manufacturing equipment to support their goals.

2. PURPOSE OF THE ROLE: (2 or 3 sentences about why this role exists and how it contributes to the mission and goals of the unit)
   The Technical Project Specialist (Student Shop Advisor) supports students within the Faculty of Engineering and is responsible for oversight in the student workshops in the Claudette MacKay Lassonde Pavilion (CMLP) and the Amit Chakma Engineering Building (ACEB) and for the development, implementation and effective delivery of shop safety training for students. The role will improve and compliment the current student programs by providing leadership, mentorship, guidance and advice for student design projects and providing technical advice and oversight to ensure students are abiding by health and safety policies and legislation. In addition, the role attends various engineering courses to provide instruction on health and safety practices and manufacturing techniques and processes. The role is responsible for maintaining the student shop, equipment and tools as well as access to the shops.

3. KEY ACCOUNTABILITIES: (a) Summarize, in point-form, the work to be performed. (b) As applicable, indicate with whom the role collaborates to perform the work, and to whom the
Indicate relevant metrics to indicate the scope of the work e.g. size of budget managed, payroll administered, or research funding administered, number of direct reports, number of students served by role, square footage of facilities managed by role, etc.

- Manages the operation of the Western Engineering Student Machine Shop (all common student manufacturing facilities) in the CMLP and ACEB (approx. 4300 sq ft; approximately 2000 users in the facility each academic year)
- Responsible for the following labs: Room 63 (Common Student Work Room), Room 63A (Student Wood Shop), Room 63C (Student Workshop Tool Crib), and Room 54 (Student Machine Shop)
- Oversees the safe operation of the student MEGA Project Teams space (Sunstang, Baja, WEBots, Aero Design, SAE Formula, etc.) and club rooms (Room 55 (Formula SAE and Sae Baja Work room and Office), Room 63B (WeBots work room), Room 63D (Western Aero Team Work Room), and Room 67 (Sunstang work room and office)
- Works with the Director, Experiential Learning and Student Support to plan for the purchasing of new equipment
- Makes recommendations on the resources needed to ensure the availability of well-maintained manufacturing resources to all Engineering students (student shops are equipped with a wide array of tools including hand tools, welding equipment, stationary power equipment like grinders, band saws and drill presses as well as conventional and CNC machine tools like milling machines and lathes equipped with a wide array of support fixtures and tooling)
  - Develops and follows maintenance schedules for all shop equipment and tools; providing reports to the Director, Experiential Learning and Director, Finance and other stakeholders within the faculty on costs of short and long-term maintenance of equipment
  - Identifies and assesses failures and deficiencies in equipment, determining the best course of action for repair or replacement and making complex repairs to equipment as required
  - Makes recommendation for purchases and replenishes tool inventories as needed
  - Creates and maintains fair, flexible and effective standard operating procedures (SOP's) for all equipment and shop resources
  - Identifies and locates suppliers (for parts, tools and equipment and maintenance), evaluating quotes and proposals from vendors, and working with the EFS Purchasing Coordinator, places orders for new equipment, parts, materials and supplies; Provides estimates and is accountable for remaining within budget for initial equipment and materials purchases; decisions on large equipment purchases are in consultation with the Director, Experiential Learning and Student Support, however, the role is relied upon for providing advice and feedback on options
- Provide access to all students who meet the requirements to use the student shops, including the MEGA project teams, students in ES1050 and MME 4499
- Maintains an environment with a student-first attitude and collaborates extensively with students, the Director, Experiential Learning & Student Support, UMS, Department Chairs and Deans in terms of the vision for the use of the facility
- Responsible for health and safety in the facility, including ensuring that proper attire and personal protective equipment is worn by students and users of the shops, and will identify and rectify all safety concerns and report to the Director, Experiential Learning and Student Support, Associate Director, Facilities, and/or Director, Administration. Has the authority to stop work until health & safety concerns have been addressed
• Reviews specific safety and emergency protocols per Ontario Health and Safety Act, and ensures retraining occurs and is documented each calendar year for every user
• Research costs and appropriateness of manufacturing technology, tools and equipment to be available in the shop to meet demand and makes recommendations to the Director, Experiential Learning and Student Support
• Develops, administers, and maintains in-person and on-line training resources that meet or exceed the requirements of the Occupational Health and Safety Act of Ontario, Western Occupational Health and Safety protocols as well as the Canadian Engineering Accreditation Board requirements regarding shop, machine and tool use
• Responsible for the development and implementation of the Engineering Shop Safety Training and Testing website (courses include Introduction to Wood and Metal Shop Training, Theory training; Introduction to Wood and Metal Shop Training, Hands-On training, non-credit course; Machine Tool Training, non-credit course; Welding training, non-credit course; Engineering Shop Safety Training, as part of MME 2200S and MSE 2200Q compulsory non-credit courses)
• Demonstrates safe operating procedures of milling machine, lathe, and drill presses, provides technical support in the daily operation of equipment and instrumentation, and develops and maintains documentation (SOPs) and other aides to support the safe and effective use of equipment and instruments in the two student shops
• Works closely with the Director, Experiential Learning and Student Support and other stakeholders in the faculty to determine needs of additional equipment and staff complete labs
• Provides recommendations to instructors on best practices, methods and technologies available to students and assists instructors by attending their courses to provide training and information (tutorials as part of ES 1050, 3 tutorials of MME/MSE 2200S/Q, and 1/2 tutorial in MME 4499) regarding health and safety and manufacturing techniques and processes
• Supports students in Engineering Science 1050 by assisting with design and manufacturing technologies, recommending cost-saving measures, and materials acquisitions/choices required to complete their projects (approximately 850+ first year students)
• Member of Western Engineering's Occupational Health and Safety Committee and is expected to develop and implement safety standards for the student shop including identifying equipment and maintenance issues and/or safety concerns and acting accordingly to find a solution
• Participates in and coordinates inspections to ensure compliance with health and safety regulations in consultation with the Engineering Associate Director, Facilities

4. OUTCOMES THE ROLE IS TO ACHIEVE: (5 to 8 key results that will be in place by performing the work described in “Key Accountabilities”)
• Student training program records are accurate and up-to-date
• Skillful coordination of multiple schedules, student shop, and materials for meetings, lectures and labs
• Students enjoy a smooth and well-planned student shop experience
• The student training program website is attractive, informative and continuously-updated
• On-line training and reference materials are creatively-designed and informative
• Reports that assist in decisions on budgets, are accurate and easy to read
• Skillful coordination of preventive maintenance programs to maintain equipment functionality
• A productive, safe and respectful work environment
• Presentations are engaging, well-planned, and clear using appropriate styles and tools
• Sound decisions based on a mixture of analysis, wisdom, experience and judgement
• Project plans are well-developed with clearly identified tasks, milestones, resources and dependencies
• Students are well-informed on safety practices, policies and procedures
• Students experience an engaging and thorough training and orientation program

5. PROBLEM SOLVING AND AUTHORITY FOR DECISIONS
(List a few examples of complex or challenging issues regularly encountered in this role where it requires the incumbent to identify or recommend a solution e.g. issues with respect to service delivery, planning, human resources, students, facilities, or other areas. For each example, indicate who is affected by the solution e.g. clients, colleagues, Department, Faculty, University)

Examples

a. Examples of issues that the incumbent is expected to resolve independently and who is affected:

• Making decisions pertaining to many facets of the management of the student shop (e.g. scheduling, training, design assistance, repair and manufacture of general shop equipment/projects) in order to maintain fair and adequate use of the resources available
• Identifying safety concerns regarding the way a student is using a piece of equipment or the safety of the end product; expected to intervene and provide appropriate assistance and/or training; has the authority to stop work until a suitable solution is derived
• Consulting with students and making suggestions as to an alternative method/material if the process/material stipulated for a project is thought to be inappropriate
• Identifying materials or equipment of a reasonable value (under $5000) for projects or shop use; brought to the attention of the Director, Experiential Learning and Student Support and ordered
• Managing all phases of new shop initiatives (e.g. creation of Siemens NX Lab, addition of a new machine, etc.) and projects (e.g. providing quotes, creating the appropriate design/communication package, ordering materials, scheduling the project and personnel, identifying and rectifying errors, and ensuring timely completion)
• Determining cost implications of which tasks/work can be accomplished in-house or if it is more cost-effective to outsource
• Making decisions regarding the allocation of additional personnel and equipment in projects they are assigned; should a project require more supervisory staff (MME2200 Labs for example), the role could make the necessary requests and schedules required to meet these demands; works closely with the Director, Experiential Learning to arrange, in advance, such work to ensure timely completion

b. Examples of issues where incumbent requires approval and/or consultation with supervisor or others to resolve and who is affected:

• Reporting new projects requiring long-term dedication and resources to the Director, Experiential Learning and Student Support).
• Making major purchases would be processed after consultation with the stakeholders, and the Director, Experiential Learning and Student Support; should the role be assigned the purchase of equipment for a project with an agreed upon budget, they may make the selection and proceed within the agreed upon terms
• Reporting students found in violation of a health and safety protocol and determining solutions with the Director, Experiential Learning and student Support (e.g. removing shop privileges/access); defers such action to the Associate Dean Undergraduate as to an appropriate disciplinary action

c. Pre-established Guidelines for Decisions (e.g. List key University policies, Western collective agreement articles, legislation, professional or other standards that specify the way the role must perform certain tasks or make certain decisions) Examples

• Manual of Administrative Policies and Procedures
• Student Code of Conduct
• Occupational Health and Safety Act and Regulations
• Workplace Hazardous Materials Information System (WHMIS
• TSSA Regulations
• Controlled Goods Program
• Engineering undergraduate curriculum (at the direction of the Associate Dean, Undergraduate)

6. SUPPORT AND RESOURCES:

a. Leadership: Who provides the incumbent with work expectations, coaching, development support, formal performance feedback and evaluation?
The Technical Project Specialist (Student Shop Advisor) will work with the Director, Experiential Learning and Student Support to establish priorities and work assignments. The Director, Experiential Learning, Student support will provide performance feedback and coaching regularly, and more formal reviews annually through the PDG process to collaboratively design and oversee their professional development plan.

b. Colleagues & Key Resource People: With whom does the incumbent regularly collaborate to receive or share information and engage in problem-solving relevant to their role?

• Director, Experiential Learning and Student Support
• Manager, UMS
• Departments Chairs (e.g. Mechanical & Mechatronics System Engineering)
• Leaders, faculty, staff, students in the Faculty of Engineering
• External Suppliers/Equipment Manufacturers

c. Other: List any specialized training, equipment, resources, or other supports required for success in this role (e.g. Peoplesoft training, lab safety, mobile devices, private space, protective equipment, etc.).

• WHMIS Comprehensive Training
• Supervisor Health and Safety Awareness Training
• Workplace Hazard Communication Form
• AODA Training
• General Lab Safety and Hazardous Waste Management Training
• Safe Campus Community
• First Aid, Mental Health First Aid
- Personal Protective Equipment
- Forklift training
- System access to databases and information relevant to the accountabilities of the role

7. **Work Context:**

   *ATTACH an organization chart that shows to whom the role reports, key peer relationships and whom the role supervises if applicable.

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8. **Requirements to Perform Successfully in the Role**

    a. **Professional Qualifications & Education**

       *Minimum Required:*

       - Diploma or Trades/Vocational certificate in a relevant field
Preferred:

- Working towards, of completion of, project management professional designation
- Certification or extensive training in multiple disciplines (general machinist, millwright, toolmaker, pattern maker or mould maker) would be a strong asset

b. Experience

Minimum Required:

- 7 years' (including apprenticeship) experience working in a research and development and/or prototyping machining/manufacturing environment
- Demonstrated experience in computer-aided drafting (CAD), including 3D modelling, CNC tool path creation, and mechanical design
- Experience leading and directing work teams (using remote and in-person methods)

Preferred:

- Experience working with and coaching students (using eLearning and in-person methods)

c. Knowledge, Skills & Abilities: (Describe the knowledge, skills and abilities needed to perform the role successfully [including the use of specialized equipment])

Examples

- Extensive knowledge in the use computer aided drafting tools (Solid Works, AutoCAD)
- Intermediate knowledge of Microsoft Office (Outlook, Excel, Word)
- Must have a strong mechanical aptitude with demonstrated excellence in their trade with the capability of working to extremely fine tolerances
- Must have a good understanding of all types of engineering with emphasis on mechanical engineering and trades (welding, electrical, hydraulics, machining etc.)
- Knowledge of the Occupational Health & Safety Act and TSSA regulations with the ability to adhere to legislated safety requirements and Western safety policies
- In-depth knowledge related to troubleshooting, diagnosis, and repair of mechanical, electrical, and/or electronic devices
- Ability to collaborate across internal and external boundaries to meet common objectives, improve outcomes and support work beyond one's own unit
- Communication skills to describe technical concepts effectively to both novice and sophisticated users and with an ability to write clear, concise and accurate procedural documentation
- Ability to work in a manner that models best practices in confidentiality standards
- Detail-oriented with an ability to function and process information with high levels of accuracy
- Ability to work within a flexible schedule to accommodate the Unit’s events and activities
- Ability to provide guidance, support and feedback in a way that is positively received
- Excellent troubleshooting ability along with hands-on expertise in technical support
- Multi-tasking skills to prioritize and consistently produce high-quality work within deadlines
- Project management skills to assist with the successful completion of multiple projects simultaneously
- Proven ability and natural inclination to develop relationships by interacting with people in a professional, respectful and diplomatic manner
- Ability to provide guidance on the proper and safe use of materials and equipment
- Ability to work independently and effectively as a member of the team to achieve department goals
- Demonstrated ability to research/investigate issues and resolve problems

**d. Background Checks Required** *(Type a “Y” to the left of any required background checks)*  
[More Information]

<table>
<thead>
<tr>
<th>Y</th>
<th>Education Verification</th>
<th>Credential Verification</th>
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<tbody>
<tr>
<td></td>
<td>Driver Abstract</td>
<td>Credit Inquiry</td>
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<td></td>
<td>Police Criminal Record Check</td>
<td>Police Vulnerable Sector Check</td>
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<td></td>
<td>Police Information Check</td>
<td>Other:</td>
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</tbody>
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**9. Working Conditions** *(Type a “Y” to the left of any applicable conditions where they are a regular part of performing the role. Note: “Regular” is defined as daily or almost daily)*

**Physical Effort:**

<table>
<thead>
<tr>
<th>Y</th>
<th>Computer workstation</th>
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<tbody>
<tr>
<td></td>
<td>Extensive walking</td>
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<tr>
<td>Y</td>
<td>Lifting/pushing heavy objects</td>
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<td></td>
<td>Squatting/awkward positions</td>
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<tr>
<td></td>
<td>Climbing</td>
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<td></td>
<td>High Repetitive movements</td>
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<td></td>
<td>Other:</td>
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</tbody>
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**Physical Environment:**

<table>
<thead>
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<th>Y</th>
<th>Normal Administrative Office Environment</th>
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<tr>
<td></td>
<td>Driving on behalf of employer</td>
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<tr>
<td>Y</td>
<td>High noise level</td>
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<tr>
<td>Y</td>
<td>Exposure to welding equipment and fumes</td>
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<td></td>
<td>Extremes of temperatures</td>
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<tr>
<td>Y</td>
<td>High dust concentrations</td>
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<td>Y</td>
<td>Potential exposure to hazardous substances</td>
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<td>Exposure to contagious illnesses</td>
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<td>Exposure to chemical or biological agents</td>
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<td><strong>Y</strong> Exposure to occupational injuries</td>
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<td>Other:</td>
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**Sensory Attention:**

| **Y** Prolonged periods of listening/reading/watching/observing |
| Smelling, tasting, touching |
| Monitoring video displays |
| Auditing |
| **Y** Technical troubleshooting |
| Other: |

**Mental Demands:**

| On-call responsibilities outside of normal schedule |
| **Y** Odd and irregular schedule of hours |
| Requirement to travel out of town |
| **Y** Unpredictable workload |
| Isolation or boredom |
| Other: |

**Additional Notes on Working Conditions:**

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11. **REASON FOR SUBMISSION TO HUMAN RESOURCES:** *(Type a “Y” to the left of the reason)*

| Evaluation and recruitment of a new role |
| **Y** Evaluation and recruitment of an updated or redesigned role |
| Evaluation of a redesigned role that is currently filled |
12. DISTRIBUTION OF COMPLETED DOCUMENT:

1. Copies to Employee and Leader
2. Signed original to Next Level Supervisor/Budget Unit Head
3. Send to HR-Pos-Desc@uwo.ca
   Include:
   a) A scanned, signed version of the completed role description form
   b) An organization chart
   c) If recruiting, attach a Request for Hire form and a MS Word version of the role description

Note: Human Resources requires a scanned, signed version of all role descriptions on file. A MS Word version enables using the description content for recruitment efforts.