

## Job Description

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<b>Job Title:</b>	Technology Shop Specialist
<b>Department:</b>	Kinesiology
<b>Reports To:</b>	Department Chair - Kinesiology
<b>Jobs Reporting:</b>	None
<b>Salary Grade:</b>	USG 9
<b>Effective Date:</b>	March 2019

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### **Primary Purpose**

The department of Kinesiology employs a wide variety of equipment in our research and teaching programs and maintains a large workshop and associated equipment to support the design, maintenance and modification of equipment used in teaching and research laboratories. The Technology Shop Specialist reports to the Chair. Provides essential technical guidance and expertise in support of our research and educational laboratory programs and is responsible for the safe and efficient use of the workshop space. The Kinesiology department has approximately 1200 Undergraduate students, 26 faculty and 120 graduate students. Research interests span physiology, biomechanics, ergonomics, neuroscience, nutrition and social psychology. Our research and teaching labs house equipment supporting a broad range of activities such as (but not limited to) biomechanical analyses, wired and wireless activity / movement monitoring, EEG, EMG, Cardiovascular and neurological assessments, animal and human testing, in vivo and in vitro systems and more. We currently hold an inventory of over 2250 pieces of equipment, worth over \$10 million.

### **Key Accountabilities**

#### **Support of research activities**

- Design, fabricate and modify novel research tools and /or equipment to meet project requirements for a wide variety of research applications
- Engage advanced manufacturing techniques such as 3D printing and CAD/CAM techniques for design and production purposes
- Provide technical support for advanced research equipment such as robots, servo controlled motion platforms, hydraulics and pneumatics, medical grade imaging and others
- Provide timely troubleshooting expertise and advice to minimize error, improve validity and reproducibility and maximize high quality signal generation of research activities both onsite and in remote locations as required
- Participate in budget planning for, and the acquisition of, equipment including product research and quotations.
- Consult and negotiate with outside vendors during the procurement process to facilitate equipment acquisition, pricing and educational discounts, maintenance and repair and other details as required
- Facilitate equipment integration into research programs including delivery and installation adaptation of existing infrastructure, planning for essential building modifications, CSA approvals/inspection, safety approvals/inspections, initial calibration and beta testing
- Manage the Kinesiology workshop as a resource for graduate students, faculty and HQP in support of research activities. This includes training, SOP development, equipment and tool maintenance and acquisition, supply stock and workshop security system and management of the shop operations budget

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- Support ongoing calibration and annual maintenance of equipment as required
- Facilitate the effective use of equipment and technology for a wide variety of applications- ensuring continuity of approaches and high quality output
- Maintain current knowledge base to support and provide technical advice/council for emerging technologies to enhance research applications and facilitate the development of novel applications

### **Support of teaching activities**

- Support the integration of existing and new commercially available technology into experiential learning experiences to meet goal and objectives of undergraduate and graduate courses
- Maintain current knowledge base to support and provide technical advice/council for emerging technologies to enhance hands on learning applications
- Design and create new teaching tools and equipment as required to meet demand
- Provide timely repair of teaching lab equipment to ensure minimal disruption to lab activities

### **Other**

- Facilitate the design and application of tools and equipment for on campus and off campus outreach experiences
- Lead In-house repair of equipment and systems to facilitate efficient use of research and department funds
- Active member of the technology group providing guidance and advice to facilitate appropriate use and integration of technology in KIN departmental research and educational programming
- Works with AHS computing to ensure existing technology is compatible and current with UW supported operating systems
- Financial oversight of the technology workshop operating budget
- Facilitate other Kin department activities such as office moves, design problems, special events etc.
- Develop and administer policies and procedures for safe and efficient use of the work space and equipment
- Participate in the departmental equipment inventory

*\*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**

- Diploma or degree in technical or electronics engineering

### **Experience**

- 5 years experience in technical applications, preferred experience in a research or industrial setting

### **Knowledge/Skills/Abilities**

- Demonstrated aptitude for electronics skills required for the design, modification and repair of a wide range of signal generation, acquisition and processing equipment, circuit boards and apparatus used in research and experiential learning experiences
- Proven experience in mechanical fabrication including welding, carpentry and composites
- CAD/CAM experience including 3-D printing experience
- Understanding motion capture, force measurements, and other human movement assessment techniques/tool such as DEXA, EEG , EMG ultrasound, Oxygen uptake an asset
- Solid understanding of Kinesiology experiential learning would be an asset

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- Experience working and negotiating with outside vendors, suppliers and maintenance companies as well as good understanding of financial and procurement systems at UW
- Experience with robotics is an asset
- Understanding of small scale equipment and industrial safety standards and procedures

### Nature and Scope

- **Contacts:** INTERNAL: The incumbent will work closely with faculty and staff in Kinesiology as well as graduate students and post-docs involved in research and teaching programs. EXTERNAL: equipment suppliers, vendors and external research collaborators
- **Level of Responsibility:** The incumbent will be required to utilize strong technical and problem solving skills in a busy and diverse Kinesiology Department and to participate in procedures to maximize teaching and research activities, equipment and programs. This position will operate both independently with minimal supervision and within a team environment and will be required to enforce safe practices in the use of the workshop area at all times.
- **Decision-Making Authority:** This position will operate both independently with minimal supervision and within a team environment and is expected to use good judgement to make decisions based on existing policies and procedures, seeing guidance from the Department Chair and Administrative Officer when appropriate. This position will be responsible and accountable for the safe operation of the workshop area and for managing the workshop annual budget.
- **Physical and Sensory Demands:** This role operates primarily in a workshop with tools and machinery that require safe practices. Our activities are in tow buildings – one on the main campus and the other on the north campus requiring the incumbent to travel between locations to provide the necessary support. Physical demands of operating equipment is involved in daily activities.
- **Working Environment:** This position works primarily in a workshop. In addition, they are required to attend to equipment in a variety of research and teaching environments that require sensitivity and respect (School of Anatomy) as well as attention to hazards such as biological materials, radioactivity, high voltages etc.