Job Template: Equipment Technician 1

Occupational Group | Laboratory and Research Operations
Job Family | Research
Job Path | Research Equipment and Supplies

Job Title | Equipment Technician 1

| Job Code | G20000 | FLSA Status | N | Job Category | P | Job Level | 1 |

P1: Level Standards

GENERAL ROLE

This level is accountable for directly providing service to any assigned work unit at the University. The service can focus on a single or a variety of job functions with varying degrees of independence.

Incumbents:

- Put into effect what is required by defined job duties and responsibilities following professional norms or established procedures and protocols for guidance.
- Assignments tend to be reoccurring and work outputs generally are delivered in a prescribed form/format.
- May alter the order in which work or a procedure is performed to improve efficiency and effectiveness.

INDEPENDENCE AND DECISION-MAKING

→ Supervision Received
  - Works under supervision.
  - Progress and outcomes are reviewed for consistency with instructions and established procedures.

→ Context of Decisions
  - Determines the process of how work is to be done based on precedent, practice, and existing policy at the unit/office level.

→ Job Controls
  - Receives some instructions with respect to details of most work assignments.

COMPLEXITY AND PROBLEM SOLVING

→ Course of Resolution
  - Resolutions are typically generated by utilizing existing procedures or practice.
  - Typically, problems can be quickly and relatively easily resolved.
“Job Template: Equipment Technician 1”

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<tr>
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<tbody>
<tr>
<td>G20000</td>
<td>N</td>
<td>P</td>
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</tr>
</tbody>
</table>

➔ **Measure of Creativity**
  - Tasks or activities are reoccurring with emphasis typically on precision and timeliness of execution.

**COMMUNICATION EXPECTATIONS**

➔ **Manner of Delivery and Content**
  - Regularly provides information on finished materials to others.

**SCOPE AND MEASURABLE EFFECT**

- Actions regularly affect an individual, item, event, or incident, etc.
- Actions taken are generally done to meet reporting requirements or regulatory guidelines, or to satisfy internal checks and balances and/or existing standards.
- Incumbents indirectly promote the general welfare of students, faculty and staff, and safeguard the institution by playing an important role within a process.
**Job Template: Equipment Technician 1**

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<td>Job Level</td>
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</table>

**GENERAL SUMMARY**

Designs, constructs, and maintains moderately complex scientific, electronic, and mechanical equipment and instruments to support the specialized research and teaching activities of a department or division.

**REPORTING RELATIONSHIPS AND TEAM WORK**

Works under supervision of a supervisor or manager.

**ESSENTIAL DUTIES & RESPONSIBILITIES**

*The intent of this section is to list the primary, fundamental responsibilities of the job – that is, the duties that are central and vital to the role.*

- Designs, constructs, tests, troubleshoots, and installs scientific and electronic devices, equipment, and instruments.
- Adjusts, calibrates, aligns, tests, and modifies scientific and electronic equipment and instruments.
- Performs preventive maintenance and repairs on standard scientific and electronic instruments and equipment.
- Advises faculty, researchers, technicians, and students on equipment and component capability and performance. Recommends appropriate equipment for experimental purposes.
- Monitors inventory of supplies, orders as necessary, and monitors expenditures.
- Instructs others in the proper and safe use of scientific electronic equipment and instruments.
- Provides general support services such as carpentry, plumbing, electrical wiring, and other services related to lab equipment.
- Controls and coordinates use of lab equipment, assigning equipment to various teaching laboratories as needed.
- Keeps informed regarding current developments in the field of electronics and academic discipline specific to the department to be served.
- Performs related work as required.
Job Template: Equipment Technician 1

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</table>

MINIMUM QUALIFICATIONS

- Associate's degree in related field.
- Two to three years of related experience.

COMPETENCIES

Knowledge of:
- Principles of electronics and familiarity with scientific discipline in department to be served
- The methods and materials used in repair and maintenance of scientific and electronic instruments and devices
- Principles of mechanics
- Microsoft Office and related software applications

Skill in:
- Planning and organization
- Troubleshooting
- Developing and maintaining effective and appropriate working relationships
- Critical thinking, problem solving and analysis

Ability to:
- Read and interpret complex diagrams and specifications
- Modify moderately complex electronic and scientific instrument devices
- Communicate effectively through both oral and written means
- Respect diversity and work collaboratively with individuals of diverse cultural, social and educational backgrounds
- Maintain the confidentiality of information and professional boundaries
- Work independently to analyze available information, draw conclusions and understandings, and present such conclusions effectively to senior management
Job Template: Electronic Engineer

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<td>Job Category</td>
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<td>Job Level</td>
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</table>

P2: Level Standards

GENERAL ROLE

This level is accountable for directly providing service to any assigned work unit at the University. The service can focus on a single or a variety of job functions with varying degrees of independence.

Incumbents:

- Put into effect what is required by defined job duties and responsibilities following professional norms or established procedures and protocols for guidance.
- Tend to have assignments that are reoccurring and work outputs generally are delivered in a prescribed form/format.
- Alter the order in which work or a procedure is performed to improve efficiency and effectiveness.
- May recommend or implement modifications to practices and procedures to improve efficiency and quality, directly affecting the specific office operation or departmental procedure or practice.

INDEPENDENCE AND DECISION-MAKING

→ Supervision Received
   - Works under general supervision.
   - Periodic checks on accuracy, quality, and timeliness of outcomes.

→ Context of Decisions
   - Independently develops how work is to be done based on precedent, practice, and existing policy at the unit/office levels.

→ Job Controls
   - Possess the latitude to adjust the work processes or methods to effectively and efficiently manage their work assignments.
   - Guided by general procedures and professional norms.
Job Template: Electronic Engineer

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</tbody>
</table>

COMPLEXITY AND PROBLEM SOLVING

→ Range of issues
• Problems tend to be modestly technical or operational.

→ Course of Resolution
• Performs comparisons, verifications, reconciliations, compilations, etc. and such of data, program or student services/practices, or operational/staff output.
• Understands the end product/outcome and where to send and receive information and materials to fulfill the assigned responsibilities.

→ Measure of Creativity
• Once problems are identified, solutions generally can be resolved using conventional or standard procedures.
• Most of the obstacles, issues, or concerns can be handled with established practice and policy.

COMMUNICATION EXPECTATIONS

→ Manner of Delivery and Content
• Regularly provides information on finished materials to others.

SCOPE AND MEASURABLE EFFECT

• Actions typically affect an individual, item, event, or incident, etc.
• Actions taken are generally done to meet reporting requirements or regulatory guidelines, or to satisfy internal checks and balances and/or existing standards.
• Incumbents indirectly promote the general welfare of students, faculty and staff, and safeguard the institution by playing an important role within a process.
**Job Template: Electronic Engineer**

**Occupational Group**  
Laboratory and Research Operations

**Job Family**  
Research

**Job Path**  
Research Equipment and Supplies

**Job Title**  
Electronic Engineer

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**GENERAL SUMMARY**

Designs, develops, and fabricates scientific and experimental electronic equipment and other special purpose electronic devices in support of the University’s research and instructional program.

**REPORTING RELATIONSHIPS AND TEAM WORK**

Works under general supervision of a supervisor or manager.

**ESSENTIAL DUTIES & RESPONSIBILITIES**

*The intent of this section is to list the primary, fundamental responsibilities of the job – that is, the duties that are central and vital to the role.*

- Designs, develops, and fabricates from detail specifications, sketches, or verbal/conceptual descriptions, special purpose electronic devices and instruments as requested.
- Calibrates, operates, maintains, and repairs laboratory equipment such as digital and analog systems and subsystems, power systems, electronic measurement equipment, electronic counters, and other equipment used for research or instructional purposes.
- Diagnoses, tests, trouble-shoots, repairs, or rebuilds a wide variety of electronic, electrical, and electromechanical instruments and equipment.
- Serves as a technical resource to students, faculty and staff regarding design, capability, and selection of equipment and systems.
- Prepares specifications for performance and operation of electronic devices.
- Maintains adequate inventory of supplies and materials.
- Arranges for purchase of equipment and materials from outside vendors and follows up to ensure accurate and timely delivery, resolving problems as needed.
- Maintains and monitors purchasing records.
- Performs related work as required.

**MINIMUM QUALIFICATIONS**

- Bachelor’s degree in related field.
- Two years of related experience.
Job Template: Electronic Engineer

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**COMPETENCIES**

**Knowledge of:**
- Standard laws and principles of electrical engineering
- Laboratory instrumentation
- Standard laboratory practices
- Microsoft Office and related software applications

**Skill in:**
- Planning and organization
- Troubleshooting
- Developing and maintaining effective and appropriate working relationships
- Critical thinking, problem solving and analysis

**Ability to:**
- Design, build, calibrate, and test electronic components
- Communicate effectively through both oral and written means
- Respect diversity and work collaboratively with individuals of diverse cultural, social and educational backgrounds
- Work with digital and analog devices
- Maintain the confidentiality of information and professional boundaries
- Work independently to analyze available information, draw conclusions and understandings, and present such conclusions effectively to senior management
Job Template: Equipment Technician 2

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</table>

P3: Level Standards

GENERAL ROLE

This level is accountable for directly providing service to any assigned work unit at the University. The service can focus on a single or a variety of job functions with varying degrees of independence. Positions at this level may supervise student or support employees.

Incumbents:

- Put into effect what is required by defined job duties and responsibilities following professional norms or established procedures and protocols for guidance.
- Alter the order in which work or a procedure is performed to improve efficiency and effectiveness.
- Recommend or implement modifications to practices and procedures to improve efficiency and quality, directly affecting the specific office operation or departmental procedure or practice.

INDEPENDENCE AND DECISION-MAKING

→ Supervision Received
  - Works under limited supervision.

→ Context of Decisions
  - Utilizes general departmental guidelines to develop resolutions outside the standard practice.

→ Job Controls
  - Possesses considerable freedom from technical and administrative oversight while the work is in progress.
  - Defines standard work tasks within departmental policies, practices, and procedures to achieve outcomes.
  - Serves as the advanced resource to whom more junior employees go to for technical guidance.
**Job Template: Equipment Technician 2**

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</table>

**COMPLEXITY AND PROBLEM SOLVING**

→ **Range of issues**
- Handles a variety of work situations that are cyclical in character, with occasionally complex situations.
- Issues are regularly varied.
- Problems tend to be technical or programmatic in nature.

→ **Course of Resolution**
- Assesses a variety of situations, and develops resolutions through choosing among options based on past practice or experience.

→ **Measure of Creativity**
- Issues are solvable through deep technical know-how and imaginative workarounds.
- Most of the obstacles, issues, or concerns encountered require considering alternative practice or policy interpretation.

**COMMUNICATION EXPECTATIONS**

→ **Manner of Delivery and Content**
- Regularly provides information on finished materials to others.

**SCOPE AND MEASURABLE EFFECT**

- Actions regularly affect an individual, item, event, or incident, etc.
- Actions taken are generally done to meet reporting requirements or regulatory guidelines, or to satisfy internal checks and balances and/or existing standards.
- Incumbents have an indirect impact on a larger action or process, such as serving as a single component in an approval process, where the process is “owned” by a different work unit.
- May be designated to guide or organize the work of several employees within the unit.
Job Template: Equipment Technician 2

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**GENERAL SUMMARY**

Assists faculty, students, and staff in design, repair, and maintenance of equipment that support educational research programs.

**REPORTING RELATIONSHIPS AND TEAM WORK**

Works under limited supervision of a supervisor or manager.

**ESSENTIAL DUTIES & RESPONSIBILITIES**

The intent of this section is to list the primary, fundamental responsibilities of the job – that is, the duties that are central and vital to the role.

- Designs, constructs, tests, troubleshoots, and installs complex scientific and electronic devices, equipment, instruments, and software.
- Performs preventive maintenance and repairs on a variety of scientific and electronic instruments and equipment.
- Adjusts, calibrates, aligns, tests, and modifies complex equipment and instruments.
- Advises faculty, researchers, technicians, and students on equipment, software, and component capability and performance. Recommends appropriate equipment for experimental purposes.
- Monitors inventory of supplies, ordering as necessary, and monitors expenditures.
- Resolves complex design and malfunction problems of electronic and scientific equipment, including specialized measurement problems.
- Instructs others in the proper and safe use of a variety of scientific and electronic equipment and instruments.
- Operates a variety of specialized instruments and devices.
- Performs related work as required.

**MINIMUM QUALIFICATIONS**

- Bachelor’s degree in related field.
- Three years of related experience.
Job Template: Equipment Technician 2

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</table>

COMPETENCIES

Knowledge of:
- Electrical/electronic principles and practices
- Safety procedures and protocols
- The methods and materials used in repair and maintenance of scientific and electronic instruments and devices
- Principles of mechanics
- Microsoft Office and related software applications

Skill in:
- Planning and organization
- Troubleshooting
- Leadership
- Developing and maintaining effective and appropriate working relationships
- Critical thinking, problem solving and analysis

Ability to:
- Design, maintain, and repair electrical equipment
- Communicate effectively through both oral and written means
- Respect diversity and work collaboratively with individuals of diverse cultural, social and educational backgrounds
- Provide consultations to members of the University community
- Read and interpret complex diagrams and specifications
- Maintain the confidentiality of information and professional boundaries
- Work independently to analyze available information, draw conclusions and understandings, and present such conclusions effectively to senior management
Job Template: Machine Shop Engineer

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</table>

P4: Level Standards

GENERAL ROLE

This level is accountable for directly providing service to any assigned work unit at the University. The service can focus on a single or a variety of job functions with varying degrees of independence. Positions at this level may supervise student or support employees.

Incumbents:

- Put into effect what is required by defined job duties and responsibilities following professional norms or established procedures and protocols for guidance.
- Alter the order in which work or a procedure is performed to improve efficiency and effectiveness.
- Recommend or implement modifications to practices and procedures to improve efficiency and quality, directly affecting the specific office operation or departmental procedure or practice.

INDEPENDENCE AND DECISION-MAKING

→ Supervision Received
  - Works under direction.

→ Context of Decisions
  - Decisions should involve selecting an approach from among alternatives, timing when certain tasks should be performed, determining how to best use available resources, and other similar choices.
  - Decisions require more coordination and collaboration among different sources, taking into consideration the roles and impact on work outside the immediate organization.

→ Job Controls
  - Has the latitude to make decisions on projects that they are accountable for delivering on.
  - Free to plan and carry out all phases of work assignments.
Job Template: Machine Shop Engineer

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<td>Job Level</td>
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</table>

## COMPLEXITY AND PROBLEM SOLVING

→ **Range of issues**
  - Assignments are defined as less reoccurring or cyclical tasks, and primarily consist of development or refinement of programmatic or administrative objectives.

→ **Course of Resolution**
  - Resolution and project completion require substantial planning and scheduling within the department in order to obtain and align resources when and where needed.

→ **Measure of Creativity**
  - Problems are not amenable to strict technical resolution, requiring innovative thinking.

## COMMUNICATION EXPECTATIONS

→ **Manner of Delivery and Content**
  - Regularly provides information on finished materials to others.
  - Diplomatically and effectively deliver information difficult to understand or in contrast with a student or customer's views.

## SCOPE AND MEASURABLE EFFECT

- Incumbents may supervise a small homogenous department, with proportionate responsibility to perform daily responsibilities similar to the work of subordinate staff.
- Actions typically affect an individual, item, event, or incident, etc.
- Actions taken are generally done to meet reporting requirements or regulatory guidelines, or to satisfy internal checks and balances and/or existing standards.
- Incumbents are typically designated as a lead or frequently assigned project leadership roles within a specific administrative/programmatic function or specialty area.
- Generally, have a more direct impact on a larger action or process, such as serving as an approver in a process, where the process is “owned” by a different work unit.
Job Template: Machine Shop Engineer

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GENERAL SUMMARY

Designs, builds, and implements sophisticated experimental apparatus for faculty, staff, and students in support of educational and research activities.

REPORTING RELATIONSHIPS AND TEAM WORK

Works under direction of a supervisor or manager. Serves a lead worker to employees who perform similar functions.

ESSENTIAL DUTIES & RESPONSIBILITIES

The intent of this section is to list the primary, fundamental responsibilities of the job – that is, the duties that are central and vital to the role.

- Uses machines and parts designed specifically for experiments and research. Designs and develops custom precision parts.
- Quotes and purchases items for upcoming jobs and maintains an updated inventory of supplies for the machine shop.
- Consults on projects with faculty members, students, and researchers. Devises or designs experimental projects, equipment, or apparatus to meet needs.
- Diagnoses, repairs, or rebuilds equipment and instruments as required.
- Ensures safety by overseeing use of shop facilities by students, staff, and faculty to assure proper usage of equipment according to prescribed safety standards.
- Investigates accidents, compiles reports, performs routine checks, and initiates corrective action if necessary.
- Maintains shop facilities, including maintaining inventory of supplies and materials.
- Resolves complex design and malfunction problems of mechanical and scientific equipment.
- Performs related work as required.

MINIMUM QUALIFICATIONS

- Bachelor’s degree in related field.
- Four to five years of related experience.
**Job Template: Machine Shop Engineer**

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<tr>
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**COMPETENCIES**

Knowledge of:
- Basic electronics, mechanics, and mechanical design
- Safety procedures and protocols
- Metals, alloys, and plastics
- Microsoft Office and related software applications

Skill in:
- Planning and organization
- Troubleshooting
- Leadership
- Developing and maintaining effective and appropriate working relationships
- Critical thinking, problem solving and analysis

Ability to:
- Design and fabricate research equipment
- Communicate effectively through both oral and written means
- Respect diversity and work collaboratively with individuals of diverse cultural, social and educational backgrounds
- Machine and manufacture metal instruments/parts
- Plan, organize, and conduct safety courses
- Maintain the confidentiality of information and professional boundaries
- Work independently to analyze available information, draw conclusions and understandings, and present such conclusions effectively to senior management
Job Template: Technical Operations Manager

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P6: Level Standards

GENERAL ROLE

This level is accountable for serving in a highly advanced capacity in an area of specialization. The advanced resource capacity must be distinct from the regular or most common provision of work within the area of specialization. Positions at this level are not reflective of the majority of the workforce, but instead the most advanced functions within an area of specialization.

Incumbents:

• Serve in a subject leader and consultative capacity within an area of expertise.
• Set goals and objectives for team members to meet project initiatives and standards.
• Distribute project work.
• Evaluate and monitor the accuracy, quality, quantity, and timeliness to meet project milestones and objects.

INDEPENDENCE AND DECISION-MAKING

→ Supervision Received
  • Works under direction.
  • Seeks approvals when significant changes to process steps are considered and additional resources for task completion are required.

→ Context of Decisions
  • Decisions are driven by departmental policy and procedures.
  • Incumbents understand the smallest details of an assigned area.

→ Job Controls
  • Free to plan and carry out all phases of work assignments, including the oversight of project staff.
  • Has the latitude to make daily operational project decisions.

COMPLEXITY AND PROBLEM SOLVING

→ Range of issues
  • Issues are readily identified but cannot be understood and fixed in simple cause-effect terms.
Job Template: Technical Operations Manager

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- Variables affecting the problem are generally known.

→ Course of Resolution
- Utilizing an understanding of best practices and the way similar units run elsewhere, convincingly recommends, develops, and implements capital and process improvements to the area.

→ Measure of Creativity
- Problems require integrative solutions such as how technologies, processes, resources, and people all fit together

COMMUNICATION EXPECTATIONS

→ Manner of Delivery and Content
- Deliver statements and information in a combined persuasive and motivational fashion to subordinate staff, departmental and University administrators, and the campus community as a whole.

SCOPE AND MEASURABLE EFFECT

- Serve as a lead over major projects within a specific administrative/programmatic function or specialty area requiring specialized education.
- Actions regularly affect a department or an office-centric outcome with departmental impact.
- Actions generally have a direct impact on controlling such things as nature of work and scope of services.
- Actions may have high-risk financial, compliance, political or safety implications.
- Performance results tend to relate to efficiency, degree of waste/cost overruns, quality/continuous improvement, timeliness, resource allocation/effectiveness, etc.
GENERAL SUMMARY
Manages the design, development, fabrication, and implementation of projects and equipment to support the research and educational activities of the University.

REPORTING RELATIONSHIPS AND TEAM WORK
Works under direction of a manager. Serves as the first full level of supervision over the day-to-day operations of a group of employees.

ESSENTIAL DUTIES & RESPONSIBILITIES
The intent of this section is to list the primary, fundamental responsibilities of the job – that is, the duties that are central and vital to the role.

- Supervises the work of assigned personnel, including assigning and reviewing work, providing guidance, and conducting performance evaluations.
- Consults with and advises researchers concerning development of special instruments and devices required to accomplish research/educational goals.
- Provides oversight on design, construction, repair, and support for equipment and projects.
- Diagnoses, repairs, or rebuilds equipment and instruments as required.
- Develops operating budget and estimates labor and material costs for each project.Procures parts and components to facilitate repairs and modifications.
- Maintains and controls inventory of shop supplies and equipment. Restores depleted stocks and orders repair or replacement of equipment.
- Ensures safety of shop activities. Plans, organizes, and conduct machine shop safety courses.
- Evaluates shop functions and recommends changes in current or future operations. Maintains files and records necessary to support shop activities.
- Stays abreast of developments in area of expertise and related scientific fields.
- Performs related work as required.

MINIMUM QUALIFICATIONS
- Bachelor’s degree in related field.
- Six years of related experience.
Job Template: Technical Operations Manager

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**COMPETENCIES**

Knowledge of:
- Principles and practices of employee supervision
- Principles of mechanics and mechanical design
- Safety practices and protocols
- Metals, alloys, and plastics used in instrument construction
- Microsoft Office and related software applications

Skill in:
- Planning and organization
- Troubleshooting
- Developing and maintaining effective and appropriate working relationships
- Critical thinking, problem solving and analysis

Ability to:
- Consult with and advise researchers
- Communicate effectively through both oral and written means
- Respect diversity and work collaboratively with individuals of diverse cultural, social and educational backgrounds
- Prepare and maintain reports and records, including inventory
- Operate applicable machinery and equipment
- Maintain the confidentiality of information and professional boundaries
- Work independently to analyze available information, draw conclusions and understandings, and present such conclusions effectively to senior management