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TECHNICAL JOB FAMILY – TECHNICAL SPECIALIST

JOB FAMILY CONCEPT: The Technical job family is responsible for all aspects of technical related activities. This job family provides design, fabrication, and maintenance support for the education, research, and clinical programs within the university.

TECHNICAL SPECIALIST

The Technical Specialist role specializes in one or more skilled trade(s). The Technical Specialist roles have gained their specialty following an apprenticeship and/or obtaining a licensure/certification. The levels of the Technical Specialist are distinguished based on the complexity of work, level of supervision received and the degree of independence. Levels also increase as the depth of expertise of a single specialty increases or as the breadth of multiple specialties increase.

The **Technical Specialist** role is distinguished from the **Technical Assistant** role in that it has primary responsibility for performing specialized skilled technical services, typically following obtaining a degree/licensure/certification in support of education, research activities, clinical programs, and related functions.

The **Technical Specialist** role is distinguished from the **Technical Supervisor** role in that its primary focus is on a specialized skilled technical services and not supervision of units and employees.

TECHNICAL SPECIALIST 1

Typical Functions

- Constructs, installs, operates, maintains, inspects, and repairs electronic, electrical, mechanical, telecommunications equipment, scientific instrumentation, audio-visual equipment, video surveillance systems and various systems per regulations, codes and professional practices.
- Troubleshoots and diagnoses a broad range of scientific instrumentation and equipment.
- Assists in designing and demonstrating prototypes for projects.
- Fabricates and assembles components as specified.
- Assists in designing parts in CAD/cam software for fabrication.
- Fabricates parts on CNC (computerized numerical control)
- Selects materials and components needed for completion of designs, fabrications, and repairs.
- Provides technical assistance, instruction, and consultation for the resolution of problems.
- Operates hand and power tools.
- Reads, interprets, and uses blueprints/schematics, instructions, manuals or shop drawings to understand specifications of work.
- Checks completed work for adherence to designated dimensions and specifications.
- Ensures codes and standards are met.
- Maintains accurate records of assignments, servicing and repairs.
- Demonstrates appropriate work methods to other employees including proper safety measures.
- Assists with training and provides technical guidance to others.
- May recommend products and equipment needed to complete project.

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Complexity and Decision Making Authority

Incumbents are experienced in their trade and make decisions on how best to complete a task based on their knowledge. Incumbents are mentored by more experienced specialists or supervisors. Work is generally monitored for progress and may be checked for completeness and adherence to standards, specifications and codes. Complex situations are referred to supervisor or more experienced specialist. Assignments are basic to moderate in complexity.

Knowledge, Skills, and Abilities

Knowledge of trade in area of specialty. Knowledge of safe work practices. Responsible for experienced skill in one specialty area or knowledgeable and skilled in multiple specialty areas. Skills in area of specialty. Math skills. Basic computer skills. Communication skills. Ability to meet the physical requirements of the job. Ability to use hand and power tools. Ability to solve problems.

Education/Experience

High school diploma and three years related experience in specialty area, or an equivalent combination of education, training, and experience. Experience may be gained by trade school or apprenticeship. Associate's degree may be required.

License/Certification

May require licensure or certification in specialty area.

TECHNICAL SPECIALIST 2

Typical Functions

- Fabricates, installs, maintains, services, modifies, and troubleshoots a broad range of scientific instrumentation, equipment, and various systems.
- Designs parts in CAD/cam software for fabrication.
- Fabricates, installs, maintains, services, modifies, and troubleshoots communications and electronics equipment.
- Develops drawings, diagrams, and graphic displays.
- Provides technical guidance and direction to designated personnel.
- Prepares and maintains reports as required.
- Provides technical guidance and direction to designated personnel and reviews completed work.
- Maintains records and prepares reports on projects.
- Makes recommendations on how to best complete a project.
- Orders or pulls supplies needed for job.
- Assists with cost estimates.
- Monitors and adjust systems and equipment to ensure efficient operation.
- Corrects complex unsafe/dangerous conditions.
- Coordinates with appropriate parties to complete work.
- Assists with enforcing safety regulations.
- Mentors others.
- May develop drawings, diagrams and graphic displays.
- May assign and oversee work and assist in checking completed work.
- May design, construct and modify electronic equipment not available commercially.

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Complexity and Decision Making Authority

Incumbents have advanced experienced in their trade and make decisions on how best to complete a task based on their knowledge. Assignments are moderate to complex in difficulty. Completes more difficult, technical and complex assignments.

Knowledge, Skills, and Abilities

Advanced knowledge of trade in area of specialty. Advanced knowledge of safe work practices. Advanced skills in area of specialty. Math and algebraic skills. Responsible for expert, experienced skill in one specialty area or knowledgeable and skilled in multiple specialty areas. Effective oral and written communication skills. Ability to use hand and power tools. Ability to lay out components of an entire project start to finish. Ability to solve complex problems.

Education/Experience

High school diploma and four to six years experience in trade area of specialty, or an equivalent combination of education, training, and experience. Experience may include trade school. Bachelor's degree and computer experience may be required.

License/Certification

May require licensure or certification in specialty area.

TECHNICAL SPECIALIST 3

Typical Functions

- Performs technical tasks in the maintenance, operation, and modification of complex electronic, electrical, mechanical equipment and various systems.
- Machines complex precision parts and instruments used in experiments.
- Designs, develops, constructs, and modifies complex prototypes for research projects.
- Designs, constructs, modifies equipment including electronic, electrical, and mechanical equipment.
- Advises on product design. Recommends modifications and determines feasibility.
- Maintains and operates complex equipment and assists in the installation.
- Performs routine maintenance and repair on malfunctioning research/lab equipment to include modification, replacement of parts, adjustment, and calibration.
- Provides technical assistance, instruction, and consultation in the operation and maintenance of equipment.
- Recommends purchase or acquisition of products and equipment.
- Assists in determining cost estimates for projects.
- Coordinates work to be performed.
- Leads on projects or assignments.
- Communicates with faculty, staff, and students to keep informed of job status and progress. Responsible for continuity of systems and projects.
- Provides advanced technical training and advice.
- May make work assignments; assists in employee training.

Complexity and Decision Making Authority

Assignments are complex and specialized.

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Knowledge, Skills, and Abilities

Advanced knowledge of highly specialized trade. Advanced knowledge of safe work practices. Advanced skills in area of specialty. Advanced knowledge and skills in multiple specialty areas. Math skills. Effective oral and written communication skills. Ability to use hand and power tools. Ability to coordinate advanced systems or multiple interrelated systems. Ability to solve specialized and complex problems.

Education/Experience

High school diploma and six years' experience in trade area of specialty, or an equivalent combination of education, training, and experience. Master's degree may be required.

License/Certification

May require licensure or certification in specialty area.