

SOUTHWESTERN COMMUNITY COLLEGE DISTRICT

TITLE: INSTRUCTIONAL LAB TECHNICIAN – ARCHITECTURE

RANGE: 24

DISTRICT VALUES

Southwestern College (SWC) is committed to meeting the educational goals of its students in an inclusive environment that promotes intellectual growth and develops human potential. We are the leader in equitable education that transforms the lives of students and communities.

Southwestern College (SWC) employees are collegial and collaborative. They demonstrate the highest degree of professionalism, integrity and respect when interacting with students, colleagues, leadership, and members of the Jaguar community. Our employees actively honor and respect diversity to foster a safe and welcoming community where all are inspired to participate and realize a sense of belonging.

Incumbents in District positions exhibit an equity-minded focus, responsiveness, and sensitivity to and understanding of the diverse academic, socioeconomic, cultural, gender identity, sexual orientation, and ethnic backgrounds of community college students, and employees, including those with physical or learning disabilities, and successfully foster and support an inclusive educational and employment environment.

SUMMARY DESCRIPTION

Under the general direction of the assigned administrator the Instructional Lab Technician - Architecture, provides oversight and management of the model shop / wood shop, fabrication lab, and print shop. Provides supervised access to the architecture facilities during assigned lab hours, assisting students in safe and proper use of equipment for course assignments, ensuring proper use of tools and technology, providing continued maintenance of equipment, maintaining lab inventory, and ordering supplies and replacement parts as needed, and keeping track of inventory; responsible for checking out, collecting, managing, and maintaining drafting kits, rendering kits, student laptops, and architecture student lockers.

DISTINGUISHING CHARACTERISTICS

This position is responsible for independently performing technical duties in support of an assigned instructional laboratory. Positions at this level exercise judgment and initiative in their assigned tasks, receive only occasional instruction or assistance as new or unusual situations arise, and are fully aware of the operating procedures and policies of the work unit.

REPRESENTATIVE DUTIES

The following duties are typical for this classification. Incumbents may not perform all of the listed duties and/or may be required to perform additional or different duties from those set forth below to address business needs and changing business practices.

1. Oversee and manage the model shop/wood shop, fabrication lab, and print shop. **E**
2. Ensure compliance with all shop safety protocols, including student safety training, equipment orientation, and enforcement of personal protective equipment (PPE) requirements. **E**

3. Facilitate supervised access to the architecture facilities during assigned lab hours. **E**
4. Assist students with their assignments that require the use of the model shop/wood shop, print shop, and fabrication lab. **E**
5. Operate, maintain, and troubleshoot fabrication technologies, including CNC routers, laser cutters, 3D printers, vacuum formers, 3D scanners, and other fabrication equipment used in architectural prototyping and model making. **E**
6. Keep track of the lab inventory, and order replacement parts as needed. **E**
7. Check out, collect, manage, and maintain drafting kits, rendering kits, and student laptops as needed. **E**
8. Coordinate the check-out of architecture student lockers. **E**
9. Prepare a material list of supplies and equipment. **E**
10. Ensure that architecture facilities, including all equipment and supplies, are ready for use as needed. **E**
11. Support, upkeep, and maintain learning spaces in the architecture facilities, including regular clean-up, sanitization, organization, and storage of supplies, discarding trash and unused materials, clearing of classroom areas, etc. **E**
12. Support inventory maintenance and provide recommendations to the architecture program coordinator for procurement of materials, supplies, and equipment, as well as for servicing tools and equipment across the various maker spaces. **E**
13. Manage responsible use and recycling of model-making materials where possible. **E**
14. Be available for other duties as assigned by the architecture program coordinator. **E**
15. Perform related duties and responsibilities as required.

E = Essential Functions

KNOWLEDGE AND ABILITIES

Knowledge of:

- Principles, practices, procedures, and equipment used in an architecture technology instructional lab environment and woodshop
- Software workflows used in digital fabrication (e.g., Rhino, CAD/CAM software, slicing software for 3D printing)
- Nomenclature, operation, and maintenance of tools, equipment, and materials used in architecture instructional classes and labs
- Operating and repair characteristics of various saws and sanders (squaring, adjusting, replacing parts)
- Tool maintenance including charging batteries, replacing saw blades, sharpening chisels
- Maintenance of 3D Printers, including reloading filament, extruder unjamming, replacing print surface, troubleshooting print failures
- Maintenance of laser cutters, including alignment and cleaning mirrors, lubricating gantries, troubleshooting cut failures
- Maintenance of CNC routers, including completing manufacturer maintenance schedules, sourcing and restocking materials
- Inventory control principles and practices
- Occupational hazards and safety regulations, precautions, and procedures
- Principles and practices of record keeping

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Instructional Lab Technician - Architecture - *Continued*

- Correct English usage, grammar, spelling, punctuation, and vocabulary
- Oral and written communications skills
- Interpersonal skills using respect, patience, and courtesy
- Modern office procedures, methods, and equipment including computers and applicable software applications
- Basic principles and practices of budget administration

Ability to:

- Improve efficiency of existing equipment in the lab space
- Assure the care, maintenance, and security of assigned equipment, materials, supplies and instructional areas
- Assemble, maintain, and repair lab equipment
- Demonstrate competence in the field of specialty
- Issue and receive equipment and supplies
- Plan and organize work
- Work independently with little direction
- Meet schedules and timelines so students can finish class projects
- Maintain records and prepare reports
- Communicate clearly and concisely, both orally and in writing, using appropriate English grammar and syntax
- Establish, maintain, and foster positive and effective working relationships with those contacted in the course of work
- Learn and adapt to changing technology and equipment used in the performance of assigned duties

MINIMUM QUALIFICATIONS:

Two (2) years of college with major coursework in architecture, computer-aided design and drafting, engineering, manufacturing, 3D design, or other field related to the area of assignments; **AND** two (2) years of experience in woodworking, digital fabrication, and related areas.

PREFERRED QUALIFICATIONS:

Experience operating and maintaining woodworking equipment and digital fabrication technologies such as laser cutters, CNC routers, or 3D printers.

Demonstrable technical expertise in the areas of woodworking, laser-cutting, CNC milling, 3D printing, other maker-centered tools and technologies.

PHYSICAL DEMANDS AND WORKING ENVIRONMENT

The conditions herein are representative of those that must be met by an employee to successfully perform the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential job functions.

Environment: Work is performed in an instructional lab environment - indoor and outdoor; exposure to wood

dust, adhesives, and chemical finishes, requiring proper ventilation and protective gear; moderate to loud noise from machines and equipment; may work in non-climate-controlled spaces, experiencing heat or cold; risks from sharp tools, rotating machinery, hot surfaces, and high-speed cutting tools; must follow personal protective equipment (PPE) guidelines.

Physical: Primary functions require sufficient physical ability and mobility to work in a lab setting; to stand or walk for prolonged periods of time; to stoop, bend, kneel, crouch, reach overhead, above shoulders or horizontally, and twist; to lift, carry, push, and/or pull light to moderate amounts of weight; to operate equipment requiring repetitive hand movement and dexterity of hands and fingers and fine coordination; and hearing and speaking to verbally communicate to exchange information.

Vision: See in the normal visual range with or without correction.

Hearing: Hear in the normal audio range with or without correction.

Created: April 2026
Southwestern Community College District