

JOB TITLE: Instructional Assistant - Applied Technology
PAY GRADE: CL 20
LAST REVISED: July 2025

*Job Descriptions/Class Specifications are intended to present a descriptive list of the range of duties performed by employees in the job and are **not** intended to reflect all duties performed within the job.*

Sierra College has a strong commitment to the achievement of equity and inclusion among its faculty, staff, and students and values the rich, diverse backgrounds that make up the campus community. A strong candidate for this position must have the understanding and ability to successfully support individuals with varying backgrounds. This includes persons with disabilities, various gender identities and sexual orientations, as well as individuals from historically underrepresented communities and other groups. Our District is committed to providing strategies for success and proactive student-centered practices and policies focused on eliminating equity gaps to ensure the District provides an inclusive educational and employment environment focused on strategies for success and equitable outcomes for all.

SUMMARY DESCRIPTION

Under general supervision from assigned manager and in collaboration with instructional faculty, performs technical and operational duties in support of Advanced Manufacturing, Building Industries, and Welding Technology programs, requiring in-depth knowledge of subject areas and associated use of technology, computers, software, tools, and equipment; sets up equipment for lab activities; maintains lab equipment, facilities, and materials; provides technical and instructional assistance to support lab and classroom activities; and provides purchasing, inventory, and maintenance duties for lab and classroom supplies, materials, and equipment.

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. Provides instructional support for department, including technical and instructional assistance to students with special projects, homework, and classroom and lab presentations, demonstrations, or other instructional activities; proctors exams and quizzes; collaborates with faculty to set up classroom, equipment, and demonstrations; trains staff and students regarding use of tools and equipment, clean up and return procedures, safety practices, and specialized procedures; schedules and supervises student lab usage outside of class hours; ensure individuals follow specialized procedures within each industry; assists with on-site projects; cuts bulk metal stock to size on dedicated equipment; assists with class projects; provides ongoing times and locations for formal tutoring sessions (online and/or on-site); hosts additional lab time and tutoring sessions for student projects, examinations, and study, as needed.
2. Provides instructional support in online teaching environments, including Learning Management Systems (LMS).
3. Monitors and assists with the proper use of classroom and lab equipment, materials, and facilities; assists with ensuring safety and security procedures are followed; inspects tools, equipment, and machinery for hazards and takes prompt action to prevent injury or damage; maintains functionality of all safety guards, stops, switches, and cutouts on all power equipment; maintains safety signage, facilitates use of Personal Protective Equipment (PPE) and additional safety equipment, locks and unlocks building entrances and exits, department doors, exterior gates, and storage facilities to ensure a safe working environment; rearranges equipment and facilities, as needed; determines and mitigates or eliminates possible safety problems; modifies and updates operating procedures, as needed.
4. Performs equipment and tool maintenance and set-up; assembles, installs, and tests new equipment; operates, inspects, tests, calibrates, maintains, and performs minor repairs to hand and power tools, machinery, equipment, and facilities; performs preventative and operational maintenance, including troubleshooting, diagnosing, and repairing tools, machinery, equipment, and facilities; arranges for servicing, packaging, shipping, and/or repair of tools, machinery, or equipment, as needed; designs and fabricates new, renovated, or replacement parts, tools, fixtures, mock-ups, and other needed items for maintenance and instructional activities.

5. Maintains, inventories, and organizes the department lab facilities, including cabinetry shop, mobile welding lab, tool room, stockroom, and project areas; operates, maintains, repairs, and manages inventory and distribution of department apparatus, equipment, hand and power tools, manuals, and supplies; assists students with selection and operation of proper tools; maintains records of items checked in and out; inspects incoming shipments and distributes or stores in proper locations; designs, organizes, and maintains department storage facilities.
6. Assists students with Computer-Aided Design (CAD) software, drawings, models, and technical design documentation; provides technical support for CAD software, including maintaining CAD document archive and retrieval for projects; configures and troubleshoots CAD environments.
7. Provides initial computer technical assistance, training, and support to faculty, staff, and students; installs, removes, maintains, and assists District Information Technology Services (ITS) and Audio Visual (AV) staff with troubleshooting of department computer hardware and software, including coordinating updates with faculty and communicating changes; reports and documents problems or issues in computer labs and classrooms; collaborates with faculty, department heads, and ITS to determine software and hardware needs; coordinates and assists with set up of department computer and remote virtual systems, software images, and networks; maintains department databases; requests or arranges for assistance, servicing, or repair of department computer equipment from ITS staff or other resources.
8. Performs administrative duties in support of department; responds to requests for information and refers inquiries to appropriate staff; manages bulletin boards and display cases and interacts with faculty, students, and student organizations to keep bulletin board content up to date; monitors, coordinates, and facilitates use of department facilities, resources, and equipment for access and security; prepares or assists with preparation of department reports and correspondence; maintains department records, including warranties, licenses and operating information for equipment and software; coordinates across departments to find uses for unused equipment or to surplus or dispose of unused or outdated equipment and supplies.
9. Works with District staff, Marketing, and external entities to produce handouts, memos, and bulletins, as needed.
10. Participates in the preparation and administration of assigned budget(s), including grants; researches and purchases assigned contracts, materials, parts, and supplies for Applied Technology programs, and determines future needs; works with vendors to obtain quotes; requests purchase orders; inventories supplies and instructional materials; discusses new products or special needs with vendors and District staff; works with District staff to obtain laboratory, lecture, or other supplies; maintains expenditure records and prepares reports; advocates for the needs of the department; and creates prioritized lists of needed equipment for administration; provides input regarding annual budget development.
11. Ensures safe handling, storage, transportation, and disposal of hazardous materials; complies with federal, state, and local laws and industry best practices for the handling and storage of hazardous materials; classifies and packages chemicals for hazardous waste removal; measures and portions bulk hazardous chemicals into portable containers for students use; maintains hazardous chemical storage in a secure location with controlled access; maintains Safety Data Sheets (SDS) for all chemicals and other safety-related documentation for hazardous materials; prepares listings of unneeded hazardous materials and arranges for pickup and removal from District premises.
12. Prepares, loads, and transports department materials, equipment, parts, and supplies between campuses or off-site locations; may be required to operate District vehicle for transport.
13. May perform basic first aid, as needed.
14. Provides onboarding support, general work training, guidance, supervision assistance, and directs activities of students, temporary employees, or District staff.
15. Performs related duties that support the overall objective of the position.

QUALIFICATIONS

The following generally describes the knowledge and ability required to enter the job and/or be learned within a short period of time in order to successfully perform the assigned duties.

Knowledge of:

- Principles, techniques, protocols, applications, and equipment used in Applied Technology programs, including advanced manufacturing, building industries, and welding technology.

- Principles, techniques, concepts, applications, practices, terminology, codes, materials, and/or operating characteristics of equipment used:
 - To machine, fabricate, or manufacture parts, tools, or equipment, including, but not limited to, Computer-Aided Drawing (CAD) modeling and technical drawings; Computer-Aided Manufacturing (CAM) and document standards for mechanical, architectural, civil drafting and engineering, and welding and fabrication; Computer Numerical Control (CNC) machining and milling.
 - In construction, carpentry, cabinetry, electrical, plumbing, and welding trades.
 - To weld using electrical arc, gas, Metal Inert Gas (MIG), and Tungsten Inert Gas (TIG).
 - To fabricate using brazing, plasma, carbon arc cutting, chop saw, iron work, and sheet metal processes.
 - For metallurgy applications.
 - In the design and building of electronics.
- Standards and practices of metrology, including operation of measuring devices and equipment such as Coordinate-Measuring Machines (CMM).
- Federal, state, and local laws, building/construction codes, standards, and regulations regarding instruction, support of students, and lab protocols, including, but not limited to, the Family Educational Rights and Privacy Act (FERPA), the Americans with Disabilities Act (ADA), Occupational Safety and Health Administration (OSHA), CalOSHA, and American Welding Society.
- Basic inventory, bookkeeping, and purchasing processes and procedures.
- Principles and practices of record keeping.
- English usage, spelling, grammar, punctuation, and vocabulary.

Ability to:

- Perform general technical and operational duties to in support of Applied Technology programs, including, but not limited to, installing, operating, and maintaining equipment, software, computers, and tools; maintaining and organizing supply inventories and storage facilities; proctoring tests; and supporting classroom and lab activities.
- Operate, calibrate, and perform minor troubleshooting and repair of lab equipment and tools, including Computer Numerical Controlled (CNC) laser, waterjet, plasma, and router; and welding torches and metal fabrication tools and equipment; and those used in the building industries, including, but not limited to, hand and power tools, measuring devices, and fabrication equipment.
- Weld utilizing electrical arc, gas, MIG, and TIG techniques.
- Utilize fabrication techniques, including brazing, plasma, carbon arc cutting, chop saw, iron work, and sheet metal processes.
- Install and maintain CAD software and hardware inventory and resources.
- Design, fabricate, and manufacture custom parts or tools.
- Assist and advise students with safe working practices in the use of lab equipment and procedures.
- Read and interpret drawings, sketches, blueprints, diagrams, schematics, and technical manuals.
- Operate vehicles, trucks, forklifts, and maintenance equipment, including hand and power tools, measuring devices, machinery, and stationary or mobile power equipment.
- Practice safety precautions, techniques, and procedures, including safe lifting techniques, "lock-out/tag-out", laboratory protocols, and safe handling, storage, and disposal of hazardous materials.
- Adapt to changing technologies and learn functionality of new equipment and systems.
- Plan and organize work to meet schedules and changing deadlines.
- Perform basic record keeping functions.
- Compile information and statistics for reports and records.
- Utilize office procedures, methods, and equipment, including computers, technology, and applicable software applications sufficiently to perform the duties of the classification, including Learning Management Systems (LMS), CAD, CAM, and other software used in mechanical, architectural, and civil drafting.
- Maintain confidentiality of information.
- Follow oral and written directions.

- Communicate clearly and concisely, both orally and in writing.
- Provide onboarding support, general work training, guidance, supervision assistance, and directs activities of students, temporary employees, or District staff.
- Establish and maintain effective working relationships with those contacted in the course of work.
- Work independently and collaboratively.
- Apply District policies and procedures.

EDUCATION AND EXPERIENCE GUIDELINES

Any combination of education and experience that demonstrates the required above knowledge and abilities is qualifying. Examples of ways to obtain the above knowledge and abilities could include, but are not limited to, the following:

Education/Training

- Equivalent to the completion of the twelfth grade or General Educational Development (GED) supplemented by college level coursework, specialized training, or certification in Computer-Aided Drafting (CAD), Computer-Aided Manufacturing (CAM), drafting, welding, construction, or a related discipline.

Experience

- One year of responsible construction and/or welding experience in the areas of electrical, welding, machining, and/or millwright.

License/Certificate - Possession of, or ability to obtain within a reasonable timeframe, each of the following:

- Valid California Driver's License.
- First Aid Certificate.
- Forklift Certificate.
- Hazardous Materials Awareness Certificate.

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 primarily performed indoors and/or outdoors in a construction/welding shop/site and in a classroom/laboratory setting; exposure to chemicals, hazardous materials, grease, dust, fumes, gases, solvents, noxious odors, wet/damp surfaces, and loud noises; risk of cuts and burns; work and/or walk on various types of surfaces, including slippery or uneven surfaces; work with laboratory equipment and apparatus; subject to risk of exposure to blood borne and/or other pathogens due to potential for cuts and/or contact with fresh or dried blood or other body fluids on saws, drills, and other power equipment. Moderate exposure to risks controlled by safety precautions.

Physical: Primary functions require sufficient physical ability and mobility to work in an education center/classroom/laboratory, construction/cabinetry shop, and office setting; to stand or sit for prolonged periods of time; to occasionally walk, stoop, bend, kneel, crouch, reach, and twist; to lift, carry, push, and/or pull light to moderate amounts of weight; to operate shop, laboratory, and office equipment requiring repetitive hand movement and fine coordination, including use of a computer keyboard; to verbally communicate to exchange information; and requires the wearing of personal protective equipment, including safety glasses or goggles, rubber or plastic gloves, respirators, and/or face shields.

Vision: See in the normal visual range with or without correction; vision sufficient to read computer screens and printed documents; and to operate assigned equipment.

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

Board Approved: July 15, 2025