SIERRA COLLEGE

Job Description

JOB TITLE: INSTRUCTIONAL ASSISTANT– PHYSICS

PAY GRADE: CL 20

LAST REVISED: 06/2007

Class specifications are intended to present a descriptive list of the range of duties performed by employees in the class. Specifications are not intended to reflect all duties performed within the job. Additional or different duties from the ones set forth below may be required to address changing business needs/practices.

SUMMARY DESCRIPTION

Under direction of assigned manager, provides a full range of instructional support to the Physics Department's faculty, students, and staff requiring in-depth knowledge of subject area; provides tutorial assistance to students in a classroom or laboratory setting; provides assistance to students and staff in the use of technology; maintains equipment in assigned labs; supervises and provides training to student and/or other temporary workers; and performs a variety of other duties as needed to provide technical and teaching assistance to support instructional program laboratory activities.

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. Sets up, tests, and maintains physics experiments and demonstrations for departmental teaching labs and instructors' lectures; delivers and transports physics apparatus for departmental teaching labs; operates equipment and machinery used for physics experiments and demonstrations; develops, tests, and modifies new experiments and writes corresponding procedures; reviews experiment manuals and makes necessary changes to provide adequate procedures for experiments; designs and constructs laboratory and demonstration apparatus using a variety of tools; instructs laboratory assistants and other department staff and faculty in proper use of scientific apparatus; makes chemical solutions.
2. Provides instructional support for all Physics Department instructional activities; provides assistance to students with lab experiments, lab reports, homework, and related questions; maintains knowledge of subject material to assist instructional teaching of physics; assists in the preparation of presentation audio-visuals and computer-based classroom lab aids; discusses instructional topics with faculty and reviews test questions; proctors exams, quizzes, and laboratory activities.
3. Disseminates, collects, assembles, inspects, calibrates, makes minor repairs to, and returns to storage in working order all apparatus and supplies; designs and builds new apparatus used for physics demonstrations and laboratory; repairs and performs preventive maintenance on physics laboratory equipment; recognizes potential hazards of chemicals and safely distributes them in properly labeled containers; maintains equipment manuals; maintains an orderly inventory, storage facility, and laboratory environment; checks in and out equipment and supplies borrowed by other departments; processes returns, exchanges, and replacements.
4. Administers assigned computer network including workstations in the physics laboratory and tutoring center; provides initial computer technical assistance to faculty, staff and students; installs, removes, maintains, and assists with troubleshooting of departmental personal computer hardware and software; assists with set up of departmental computer systems and networks; answers questions and provides training to students and/or staff members; maintains departmental databases; sets-up, maintains, and demonstrates the operation of a variety of computer interfaces, sensors, and related science software

used for experiments and demonstration simulations; requests or arranges for assistance, servicing, and/or repair of departmental computer equipment from District information technology staff or other technology resources.

5. Provides multimedia support and Web page maintenance; develops graphics and video libraries; assists in producing graphic instructional materials; purchases and maintains all multimedia and computer-related equipment; sets-up multimedia equipment; provides trouble-shooting assistance with multimedia equipment and computer software/hardware; provides specifications, evaluates, and makes recommendations on current multimedia equipment; creates and maintains assigned web page and assists faculty members with their individual sites; creates and upgrades available classroom demonstrations on website.
6. Participates in the preparation and administration of assigned budgets; provides input regarding budget(s) development; monitors budget expenditures and coordinates purchasing to meet needs within budget parameters; researches materials and pricing and coordinates with external vendors and/or appropriate Purchasing Office staff; prepares reports on departmental purchasing; coordinates budget transfers, as authorized.
7. Provides a variety of administrative support; responds to inquiries regarding departmental operations or refers to appropriate staff; coordinates sharing of departmental resources; recommends maintenance and repair of departmental facilities; monitors departmental facilities for appropriate access and security; prepares or assists with the preparation of departmental reports and correspondence; performs other clerical tasks.
8. Oversees student assistants and other temporary work forces; compiles work specifications and coordinates work requests and needs; recruits, interviews, hires, and provides orientation and training to new student/temporary employees; assigns projects and daily work; evaluates work performed; monitors student/temporary workers hours worked and budgets.
9. Performs related duties as required.

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:

Theories, concepts, principles, and applications of physics and related scientific discipline.
Operational characteristics of laboratory apparatus, equipment, and materials pertaining to assigned laboratory and subject area.
Mathematics principles and skills through calculus and scientific concepts.
Office procedures, methods, and equipment including applicable computer hardware and software applications such as word processing, desktop publishing, spreadsheets, database management, Web/database server and page design, network administration management, and science data acquisition software and hardware.
Basic inventory processes and procedures.
Basic budgeting and bookkeeping concepts and techniques.
English usage, spelling, grammar, and punctuation.
Principles of lead supervision and training.
Research techniques.
Occupational hazards and standard safety practices.

Ability to:

Assemble, utilize, test, calibrate, clean, and make minor repairs to various physics laboratory apparatus and other equipment.

Instruct others in the proper use of scientific apparatus.
Observe laboratory protocols and ensure adherence to safe work practices and procedures.
Assist with instructional tasks including to administer tests and tutor students in various concepts and problem solving.
Operate office equipment including computers and supporting word processing, spreadsheet, database management, network management, desktop publishing, and Internet navigation applications.
Adapt to changing technologies and learn functionality of new equipment and systems.
Apply principles of physics in direct "hands-on" laboratory situations; use correct terminology.
Read and understand laboratory manuals, technical manuals, and laboratory procedures.
Make arithmetic calculations of average to above average difficulty; apply mathematical calculations to experiments.
Hire, train, and supervise student and/or other temporary help.
Work independently and collaboratively.
Maintain accurate records.
Organize storage facilities.
Plan and organize work to meet changing priorities and deadlines.
Apply scientific principles to practical applications; analyze data and solve problems.
Learn and apply applicable federal, state, and local laws, codes, and regulations as well as administrative and departmental policies and procedures.
Communicate clearly and concisely, both orally and in writing.
Establish and maintain effective working relationships with those contacted in the course of work.

Education and Experience Guidelines - *Any combination of education and experience that would likely provide the required knowledge and abilities is qualifying. Examples of ways to obtain the knowledge and abilities would be:*

Education/Training:

Two years of college with major course work in physics or a closely related field. A Bachelor's degree from an accredited college or university is desirable.

Experience:

Two years of increasingly responsible physics laboratory experience.

License or Certificate:

Possession of, or ability to obtain, an appropriate, valid driver's license.

Possession of, or ability to obtain, a Hazardous Materials Awareness Training Card.

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 indoors in an education center/classroom/laboratory setting and outdoors in the field; risk of exposure electrical energy; work with laboratory equipment and apparatus. Moderate exposure to risks controlled by safety precaution.

Physical: Primary functions require sufficient physical ability and mobility to work in an office and/or education center/classroom/laboratory 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 laboratory and office equipment requiring repetitive hand movement and fine coordination including use of a computer keyboard; to verbally communicate to

exchange information; and may require the wearing of personal protective equipment including safety glasses or goggles, lab coats, rubber or plastic gloves, respirators, 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.

Johnson & Associates
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