

Job Description

JOB TITLE: Physics Instructor

LAST REVISED: APRIL 1998

DEFINITION

Under administrative direction of an educational administrator, to teach Physics lecture and laboratory courses, as assigned, to function as liaison with the Science and Mathematics Division with regard to Physics Department policy, business, scheduling and staffing, and to do related work, as required.

JOB CHARACTERISTICS

Incumbent may supervise classified departmental support staff and/or student and/or other temporary help, as assigned.

Lecture/ Laboratory Presentation - ESSENTIAL: Prepare lectures to introduce theory, problem solving techniques, and laboratory procedures for Calculus-based and non-Calculus -based Physics courses; structure course to maintain uniform pace; develop and enforce standards of classroom conduct and of minimum acceptable academic performance; convey relevant material in a clear and logical manner; introduce mathematical techniques, as required; prepare, carry out, and dismantle lecture demonstrations; prepare slides and other multimedia aids, as needed, including videotapes of laboratory procedures; set up and verify proper operation of laboratory apparatus; remove laboratory apparatus from laboratory and return to storeroom; prepare supplemental monographs, as needed, for emphasis and clarity of topics; provide individual tutoring and counseling, as needed; supervise students during laboratory activity periods; seek out student learning difficulties and take proper corrective measures; maintain acceptable American English language skills, as required for ease of verbal and written communication with students and staff. **PERIPHERAL:** Supervise maintenance, adjustment, and repair of apparatus.

Testing Instruments - ESSENTIAL: Prepare, administer, and evaluate tests, quizzes, homework assignments, and makeup work for lecture classes; prepare laboratory instructions and laboratory report forms; prepare, administer, and evaluate laboratory quizzes; maintain class records and assign course grades.

Subject Matter Expertise - ESSENTIAL: Enroll in course work, conferences, and workshops, as needed to review subject matter and mathematics skills and to remain abreast of new developments in subject matter and teaching techniques; undertake regular review of literature, journals, new apparatus, and computer software; correspond with colleagues concerning professional and pedagogical matters. **PERIPHERAL:** Attend and present in-service workshops.

Departmental Operations - ESSENTIAL: Direct and guide departmental tutors, Laboratory Technician(s)-Physics, and student and/or other temporary help; handle departmental correspondence and telephone inquiries; participate in periodical department meetings; confer with departmental/divisional adjunct faculty instructors regarding subject matter, teaching techniques, departmental policies, and equipment use; prepare class schedules and syllabi; prepare purchase requisitions and follow-up correspondence; code and store new equipment and provide for proper inventory techniques. **PERIPHERAL:** Function as liaison between the Physics Department and the District with regard to departmental business, budget(s), staffing, policies, book orders, instructor loading, departmental planning and annual plans, equipment, conditions, and handling of hazardous materials; administer Physics 28 individual research projects and internship programs; provide letters of reference and employment information on behalf of students and staff, as appropriate; participate in selecting new texts and ancillary materials; evaluate other instructors and other staff, as required and in accordance with establish District policies and procedures.

Learning Improvement/ Innovation - ESSENTIAL: Incorporate up-to-date apparatus, computers, and techniques into departmental curriculum;; conduct research and development on new instructional methods and



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apparatus; develop techniques for using computers as lecture aids, laboratory interfaces, and in tutorial modalities. **PERIPHERAL:** Prepare code and file new multimedia aids, including slides, videotapes, demonstrations, and overhead projector transparencies.

Articulation - PERIPHERAL: Provide interdepartmental loan service of equipment and supplies; present programs for other Sierra College academic departments and for local elementary and secondary schools, as requested; provide assistance in matters relating to articulation of Physics curriculum with transfer institutions.

MINIMUM QUALIFICATIONS:

Degrees/Experience:

ESSENTIAL: Incumbent must possess a Master's degree in Physics, Astronomy, or Astrophysics OR a Bachelor's degree in Physics or Astronomy AND a Master's degree in Engineering, Mathematics, Meteorology, or Geophysics OR the equivalent.

Knowledge of:

ESSENTIAL: Knowledge of Physics and associated Mathematics; teaching theories, methods, and techniques.

Ability to:

ESSENTIAL: Instruct students effectively in any Physics course offered by Sierra College, with effective use of demonstrations and multimedia laboratories; develop, set up, and supervise laboratory activities for all Physics courses offered by Sierra College; set up and operate a wide range of laboratory equipment and associated apparatus; repair and adjust a wide variety of apparatus, using common hand tools and electrical measuring instruments; speak and write American English clearly and effectively; work effectively and congenially with colleagues; tutor and advise students; participate in daily departmental operations, including administrative, business, and policy decisions; improve knowledge of subject matter through reading, course work, and attendance at workshops and conferences; use computers in academic, laboratory, and administrative roles; develop curriculum and structure lecture and laboratory materials to provide for a uniform pace of course(s); prepare, administer, and evaluate effective testing instruments for lecture and laboratory sessions; remain committed to philosophy inherent to community college instruction; follow appropriate safety precautions and laboratory protocols; observe requirements for safe handling and disposal of hazardous waste.

Physical Suitability Requirements:

ESSENTIAL: Incumbent must be able to function effectively indoors in a classroom, laboratory, and office environment engaged in work of primarily a moderately active nature, and to accomplish the following, with or without reasonable accommodation: Frequently: Utilize vision (near and far) to write, read printed materials and computer screens, observe activities in classroom and laboratory, set up equipment/apparatus, and assist students with laboratory activities; utilize hearing and speech for ordinary and telephonic conversation and to hear sound prompts from equipment and apparatus; operate stationary and mobile equipment; utilize manual and finger dexterity to set up and operate machinery and equipment and to type/keyboard to enter data into computers; stand, upright and forward flexing, occasionally for long periods of time to deliver lectures and to assist students in the laboratory; walk, to move about classroom, laboratory, office and campus environs; lift (from overhead, waist and floor levels, max. 50 lbs.), carry (max. 50 lbs.), reach (from low, level, and overhead), push, stoop, and bend to move and set up supplies and equipment; work in areas subject to risk of injury from high voltage electricity, moderately high levels of noise, low pressure, intense light, radioactivity, ultraviolet (UV) and microwave radiation, risk of contact with blood borne and/or other pathogens, and risk of cuts and/or sticks with glassware and other sharps. Occasionally: Work in areas subject to risk of exposure to extremes of heat or cold and chemicals and caustics; wear personal protective equipment to protect face, eyes, arms, hands, fingers, and hearing.



Job Description

Full-Time Faculty Salary Schedule, subject to placement at date of hire.
FLSA exempt.
SCFA bargaining unit status.
Classification II, Bloodborne Pathogens Exposure Control Program.