

Job Description

JOB TITLE: ENGINEERING INSTRUCTOR

LAST REVISED: DECEMBER 2024

Job Descriptions are intended to present a descriptive list of the range of duties performed by employees in the position. They are <u>not</u> intended to reflect all duties which may be performed and additional or different duties from the ones set forth below may be required on occasion to address changing needs of the district.

OVERVIEW

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. The Photography Instructor must demonstrate a profound understanding of and experience with successfully supporting individuals with varying backgrounds. This includes persons with disabilities, various gender identities, sexual orientation, individuals from historically underrepresented communities and other groups to ensure the district provides an inclusive educational and employment environment focused on strategies for success and equitable outcomes for all.

Under the direction of an educational administrator, duties include lecture and lab instruction, evaluation of student performance, and curriculum development in Engineering. Coordinate with faculty and other staff regarding support of hardware and software, assist in the selection of and coordination with adjunct faculty members, participate in articulation with other colleges and high schools, coordinate with business and industry partners, to participate in shared governance and other activities in support of the instructional program, and to perform related work as assigned.

JOB CHARACTERISTICS

Incumbent may supervise students and/or other temporary help, as assigned.

EXAMPLES OF FUNCTIONS AND TASKS

Lecture Preparation/ Instruction – ESSENTIAL: Develop syllabi of lecture materials; prepare lesson plans to be used in lectures; coordinate lectures with laboratory assignments; provide clear instructional objectives and outlines to direct student learning; prepare multi-media demonstrations to enhance instructional delivery; integrate the use of the computer throughout the instructional program; prepare handouts and supplemental materials; develop quizzes, tests, and "hands-on" evaluations; encourage student participation and involvement in classroom discussions; evaluate student performance onquizzes, tests, and reports; advise students on matters regarding their academic performance; tabulate scores and assign official grades; review and select learning resources such as textbooks, internet sites, and periodicals determined to be the most useful and appropriate; review and evaluate new instructional material for content, readability, and cost effectiveness; read literature (books, newspapers, periodicals, and other print and non-print materials) to stay current in the field of Engineering. PERIPHERAL: Complete instructional materials order forms; review study guides and other supplemental materials for classroom use; maintain appropriate reference materials; develop assignments related to current reference materials in Library/Learning Resource Center; arrange and schedule guest lecturers.

Laboratory Instruction/Supervision – ESSENTIAL: Prepare and present laboratory instruction for students; use analogies, examples, and/or other techniques to convey important concepts; provide clear instructional objectives and outlines to direct student learning; enhance presentations with visual aids and/or demonstrations and/or examples as available; answer student questions; encourage student participation and involvement in classroom discussions; research technological data to include in labs; develop quizzes and tests; coordinate lectures with laboratory assignments; design and develop new laboratory exercises to demonstrate major concepts; help students set up, operate, and troubleshoot equipment problems; remain present in laboratory to supervise activities; demonstrate safe laboratory techniques and operation of equipment; prepare handouts and other supplementary



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course materials; test and evaluate classroom/laboratory equipment performance. **PERIPHERAL**: Review study guides and other supplementary course materials.

Student Performance Evaluation – ESSENTIAL: Develop quizzes, examinations, portfolio projects, term papers, homework assignments, projects, and laboratory assignments which fairly evaluate student progress in acquiring knowledge of subject material; monitor student activity during examinations and quizzes; read, evaluate, and grade student responses on examinations, quizzes, and projects; assign, read, and evaluate student homework assignments and projects; tabulate scores and assign official grades; advise students on matters regarding their academic performance; refer students to appropriate student services (e.g. Counseling, Tutoring Center, Writing Center, etc.) for specialized support, testing and tutoring.

Curriculum Development – ESSENTIAL: Review and evaluate curriculum to include student learning outcomes and program outcomes meet student and state interests and needs within the parameters of division/department budgets and availability of equipment and materials; coordinate with full-time and part-time instructors to enhance consistency of lecture/laboratory content; evaluate and/or revise course descriptions to fit curriculum designs; present proposals for curriculum changes to the Curriculum Committee and/or other appropriate shared governance bodies; research, evaluate, and incorporate current technology into curriculum; design degree and certificate programs; work with local businesses, industries, and community groups to plan and develop curriculum to meet employment needs.

Shared Governance Participation – ESSENTIAL: Attend and participate in departmental meetings and activities; respond in writing to requests for information (e.g. district planning processes, Program Review); participate in articulation/curriculum development, investigation and costing of departmental equipment needs, and selection of textbooks and other learning materials; represent department by serving on campus-wide committees. **PERIPHERAL**: Attend and participate in divisional and/or building meetings and activities, as well as those organized by Academic Senate and Professional and Organizational Development; serve on employee selection committees, as requested; serve as a functional member of one or more committees and/or task forces; attend Board of Trustees and/or Strategic Council meetings, as necessary; read and respond to information polls distributed by Academic Senate.

Ancillary Student Services – ESSENTIAL: Hold regular office hours; provide advice to students regarding academic performance; provide students and peers with a positive role model in terms of character and citizenship; participate in graduation and other awards ceremonies. **PERIPHERAL**: Provide students with letters of recommendation; advise and encourage students; participate in campus activities of interest to department students; provide opportunities for participation in club activities and/or field trips.

MINIMUM QUALIFICATIONS

Degrees/Experience: ESSENTIAL: Master's in any field of engineering OR Bachelors in any field of engineering AND Master's in mathematics, physics, computer science, chemistry or geology OR the equivalent. NOTE: A bachelor's in any field of engineering with a professional engineer's license is an alternative qualification for this discipline.

Licenses/Certifications: ESSENTIAL: None

Knowledge of Engineering as an Academic Pursuit and Career: ESSENTIAL: Understand and be capable of communicating/teaching all major concepts related to a bachelor's degree in engineering; Engineering theory, analysis, evaluation, laboratory preparation procedures; operation of laboratory equipment utilized to conduct appropriate laboratory activities, use of computer technological enhancements; teaching practices, methods, and techniques; laboratory hazards and appropriate safety protocol.



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Ability to Produce Quality Instruction/Teaching for all Engineering Subjects: ESSENTIAL: Communicate clearly and give excellent instruction in lecture mode; explain appropriate details and their relationships in a logical, sequential fashion; conduct classes in a laboratory environment; organize lectures and laboratories; develop procedures for laboratories and other student activities; form and maintain effective working relationships with peers, staff and students; work with community members, external organizations, as appropriate; supervise student and/or other temporary help and/or volunteers; work independently to solve problems; effectively us computer technology for classroom enhancement; recognize variation in student backgrounds, abilities, and learning styles; be patient with students; maintain integrity, honesty, reliability and cooperation.

Physical Suitability Requirements: ESSENTIAL: Incumbent must be able to perform the following, with or without reasonable accommodation: Almost Constantly: Stand, sit, walk and turn to deliver lectures, other instruction, or instructional materials; work in the confines of a classroom and/or laboratory environment; reach overhead to operate equipment; lift, push, pull, stoop, squat, bend and carry (up to maximum of 50 lbs.) to move and operate equipment and prepare laboratory materials; utilize manual and finger dexterity to operate equipment, computers, and to prepare laboratory materials; utilize hearing to respond to student questions, conversations, and telephone calls; utilize vision (near and far) to read written materials and computer screens and to operate equipment.

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