



CLASS TITLE: SCIENCE LAB TECHNICIAN IV

RANGE 38

SUMMARY:

Under the direction of an assigned supervisor, perform advanced support functions to individual students or group of students in a classroom or laboratory environment in a specific instructional area to facilitate effective learning.

Life Sciences & Biotechnology – Combined role

Conceptualize and assemble complex and unique sets of experiment preparations involving vast arrays of chemicals, live organisms and equipment. Work with department faculty to develop, validate and implement unique experimental systems for student classes utilizing a wide variety of sophisticated equipment such as, but not limited to, High Performance Liquid Chromatography, Gas Chromatography, GC Mass Spec, Fourier Transform Infrared Spectroscopy, Atomic Absorption Spectroscopy, PCR Thermo-cyclers, DNA Sequencers, Gel Electrophoresis equipment, Scanning Electron Microscope, Nuclear Magnet Resonance Spectrophotometer, Real Time PCR, Western Blot Apparatus, Elisa Plate reader, etc. Set up, operate, adjust, maintain and arrange for major repairs of a wide variety of laboratory equipment including microscopes, autoclave, centrifuge, incubators, audio visual equipment, analytical equipment (HPLC, GC, AA, FTIR, SEM, NMR, DNA Sequencer, Real Time PCR, GC-MS), other technical apparatus and measuring devices, and instructional computers and their peripherals.

ESSENTIAL FUNCTIONS:

Ensures that all department assigned facilities laboratories, prepare areas and stockrooms are maintained in a clean, well-organized and safe condition.

Performs required tasks to ensure these conditions, or assigns and follows up on completion of tasks to other department technical staff in order to achieve efficient and safe operation of department facilities.

Participates in modification and improvement of instructional facilities

Coordinates general laboratory operations of department or discipline.

Coordinates use of laboratories and workloads of junior staff to ensure that classrooms are adequately prepared for scheduled classes.

Works across scientific disciplines to ensure effective department operations.

Defines supplies and materials needed to support existing and new curriculum.

Consults with vendors regarding supplies, material and equipment needs.

Orders supplies, materials and equipment to meet the needs of laboratory classes; receives supplies, materials and equipment and works with junior staff to coordinate proper storage.

Devises systems and protocols for preparation, organization and delivery of scientific instructional materials and equipment for complex laboratory experiments and exercises.

Assists faculty in the classroom to carry out complex exercises.

Assists instructors and students (as requested by instructor) in the use of complex instructional equipment, materials and supplies within a discipline or across disciplines.

Conducts open lab sessions for students as necessary to meet discipline needs.

Develops and implements protocols for training, calibration, adjustment and daily maintenance of standard and complex equipment found in scientific laboratories across disciplines.

Trains faculty and staff in the use, care and daily maintenance of complex analytical instrumentation and equipment

Develops and pilots classroom protocols for the use of complex analytical instrumentation and equipment.

Ensures safety procedures followed for the handling, storage and disposal of hazardous materials.

Develops and implements training protocols for faculty and staff regarding handling and storage of hazardous materials.

Ensures that all hazardous materials are properly received, containered, labeled, stored and disposed.

Ensures that all local, state and federal laws and standards are met.

Designs and implements standard operating procedures to ensure recordkeeping requirements are met.

Works with junior staff members to ensure recordkeeping requirements are met.

Works with Department Chair or lead discipline faculty to prepare department budget; determine costs for specific courses or disciplines; develop complex budgets for research projects including new or unusual equipment or supplies.

Prepares basic and complex research reports necessary to department operations.

Researches, develops, pilots, assesses and implements complex, interdisciplinary curriculum for upper level science courses. Interacts with scientists and technicians at other colleges or companies to develop complex protocols to be implemented in the classroom.

Works with faculty and staff across disciplines to develop complex curriculum or to support authentic research implementation in upper level courses.

Acts as an interdisciplinary resource for the use and development of classroom procedures and protocols using complex analytical instrumentation and equipment.

Develops and implements training protocols for laboratory technicians, assistants and student workers as needed to ensure efficient department operations.

Leads discipline/ department research projects that are broad in scope in often inter-disciplinary in nature.

SECONDARY FUNCTIONS:

Communicates clearly with faculty, staff and administrators to ensure that department operations support the overall goals of the department and division.

Ensures supplies/equipment inventory is maintained in order to achieve department needs.

Participates on college-wide committees and hiring committees to meet the needs of the department/discipline.

Performs simple repairs or arranges for major repair of complex instrumentation.

Troubleshoots operating protocols and equipment/instrumentation malfunctions.

Works with both faculty and students to carry out department research projects.

Perform related duties as assigned.

KNOWLEDGE OF:

Detailed safety requirements and protocols for discipline in which employed and related disciplines.

Complex and state-of-the-art methods for preparation of materials and supplies necessary for laboratory exercises and demonstrations.

Correct English usage including grammar, spelling, punctuation and vocabulary.

Broad interdisciplinary technical knowledge and/or high level knowledge and expertise in a specific scientific area that can be applied to the development and implementation of interdisciplinary projects and curriculum.

ABILITY TO:

Communicate effectively both orally and in writing with a wide variety of college and district personnel in order to solve problems and ensure smooth daily operations.

Operate a variety of equipment typically found in discipline where employed and related disciplines.

Understand and follow oral and written directions; write reports and other discipline documents that can be followed by other department employees.

Follow and apply safety regulations involving the care, storage and handling of materials used in the department or discipline.

Establish and maintain cooperative and effective working relationships with others

Provide information and assistance to faculty, other staff members, students (if requested by faculty members) and other members of the campus community.

Perform complex calculations as necessary to prepare materials necessary for laboratory materials. Instructs junior staff to perform necessary calculations necessary to complete complex laboratory tasks within or across related disciplines

Operates a broad variety of computers and use a variety of software packages necessary to operate complex analytical equipment. Skilled in troubleshooting computer and computer-driven

equipment issues.

Works independently to effectively complete complex organizational task in order to meet department timelines and goals. Leads junior staff in meeting department goals and objectives. Seeks appropriate counsel with discipline faculty or administrators. Exceptional decision-making and judgement skills.

Maintain currency in knowledge relevant to discipline in which employed and closely related disciplines

EDUCATION AND EXPERIENCE:

Completion of two years college-level course work or the equivalent in relevant science discipline. Increasingly responsible biological laboratory experience, preferably including a minimum of 3 years' experience in two or more of the following areas including core life-science disciplines, analytical biochemistry, molecular biology, microbiology, immunology, genomics, bioinformatics, and/or biotechnology.

WORKING CONDITIONS:

Instructional lab or classroom environment, subject to fumes, chemical preservatives, noise, and heat. May handle hazardous, bio-hazardous, or toxic substances, and handling live and preserved specimens. May be exposed to outdoor environment with various weather conditions and encounters, depending on area of assignment. May be subject to frequent standing and occasional lifting, bending and stooping depending on area of assignment. May be required to lift up to 40 pounds.

** 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.*