POSITION DESCRIPTION

Department: BCSM – Biological Sciences
Classification Title: Instructional Support Technician III
Working Title:
FLSA Status: ☒ Non-Exempt ☐ Exempt
Incumbent:

Position Summary

The Biological Sciences Department is the largest academic unit within the Bailey College of Science and Mathematics and is one of the largest departments at Cal Poly. There are approximately 900 undergraduate students and 50 graduate students. The department’s mission is three-fold: 1) offer majors leading to a Bachelor of Science degree in Biological Sciences, Marine Science, or Microbiology; 2) offer courses to satisfy the biology requirements for other majors; and 3) offer courses to meet general education and breadth requirements for Cal Poly’s entire student population. The department offers approximately 125 different courses to over 10,000 students annually, with the majority of courses having a laboratory component.

Under the supervision of the Department Chair, the purpose of this position is to assist in the technical support, implementation, and preparation of all laboratory courses with a microbiology component in the Biological Sciences Department. The incumbent assumes responsibility for the technical assistance required to execute microbiology, immunology, molecular-related classroom exercises, and faculty and student research experiments. This includes the preparation and maintenance of specialized reagents, culture media, pathogenic and non-pathogenic live bacteria, phages, fungi, and supplies. The incumbent will assist faculty in the development and demonstration of experiments and techniques. The incumbent also performs maintenance and support for specialized equipment, computer applications, and teaching/student research laboratories. This position assists in a variety of microbiology-related senior projects and graduate student thesis projects, and directly supervises student assistants. Additionally, this position serves as curator of the microbiology culture collections, oversees the daily operation of one central microbiology preparation room, two lower division microbiology laboratory rooms, one upper division microbiology laboratory room, and three student preparation rooms.

Duties and Responsibilities

The following examples illustrate typical work activities and are not meant to be all inclusive or restrictive:

Essential Job Functions

Daily 90%

1. Provides technical support for microbiology courses. Responsible for independently fulfilling classroom requests daily. Make decisions regarding needs, timing, and preparation of classroom laboratory media, reagents, etc. with the aid of quarterly course syllabi provided by faculty. Work with faculty in developing, incorporating, and maintaining technically modern experiments. Overseer, prepare, and set up instrumentation and equipment, supplies, live materials, and reagents for assigned laboratory experiments and experimental demonstrations for instructors’ courses. Troubleshoot instructional research experiments and recommend protocol changes. Monitor student access to materials and laboratory space.

2. Train faculty, students, and staff within the department in proper laboratory safety in microbiology and associated areas, management and care of equipment, laboratories, and ancillary facilities. Interpret, implement, and adhere to Federal, State, and University
regulations on proper laboratory safety, medical waste, biological hazardous waste, and chemical waste in the microbiology laboratories and associated facilities. Maintain a current Hazardous Chemical inventory within Cal Poly’s Safety Management System, which is called Risk and Safety Solutions (RSS). Conduct Lab Hazard Assessments in accordance with RSS. Ensure that appropriate safety precautions, and PPE are available during operation of equipment in microbiology facilities and that equipment is in safe working order.

3. Prepare, distribute, and maintain pathogenic and non-pathogenic microorganisms, reagents, and culture media for laboratory and classroom experiments. Coordinate proper disposal of all autoclaved medical waste within the department, including processing required documentation and maintaining accurate records for annual inspection.

4. Advise and offer consultation to undergraduate and graduate students on research project materials, methods and techniques. Provide technical and general assistance to students and faculty working on research projects in microbiology-related areas.

5. Supervise and train undergraduate and graduate student assistants. Ensure that students have been trained in proper safety policies and procedures, proper use of laboratory equipment/chemicals and are knowledgeable of associated regulations.

6. Adhere to all Federal, State, University safety standards and guidelines during preparation, use, storage, and disposal of reagents, culture media, etc. Ensure that all chemicals, microbiological media, and cultures in stock will be organized into a computer database to allow rapid assessment of supplies and availability of cultures. Oversee proper use, storage, and disposal of common and restricted chemicals in the laboratory and prep room.

7. Technical operation, routine maintenance, and support of equipment used in microbiology experiments and laboratory exercises. Develop needed maintenance and repair requests as well as safety equipment maintenance in the molecular/cellular biology and biotechnology disciplines. Maintain accurately and regularly all records pertaining to autoclave use and function. Test each autoclave monthly, following standard guidelines, to confirm it is effectively sterilizing materials to meet industry standards. Ensure that appropriate safety precautions are being followed during operation of equipment in microbiology facilities and that equipment is in safe working order.

8. Develop prep room schedules that are used to coordinate all aspects of media preparation, microorganism cultures, and other needs for each experiment. Maintain a system for acquiring and tracking supplies and equipment. Specify, recommend, and initiate purchasing requests for scientific supplies and equipment for microbiology program using Procurement Card. Complete Procurement Card reconciliation in a timely manner. Initiate orders for a variety of chemicals and then store them in an accessible, safe manner that provides for extended shelf life. Procure fresh, perishable materials, food products, environmental samples, etc. to be used in the laboratory for primary isolations.

9. Prepare culture media for classroom use. Preparation and maintenance of specialized reagents, stock solutions and culture media. Prepare microbiological stains, analytical test solutions, complex chemical and media formulations, and other reagents in adequate quantities for each laboratory use.

10. Interact cooperatively with campus groups, such as Information Technology Services, Distribution Services, Facility Services, Risk Management, and Environmental Health & Safety.

Related Job Functions

1. Perform other job-related duties and special projects as assigned.
2. Maintain currency in the knowledge and skills necessary to facilitate industry-leading solutions.

As Needed 10%
Required Education, Experience, and Credentials

Education and Experience:
- Four years’ experience providing instructional support services in a related discipline, acting as a student assistant, or in procuring materials or supplies related to the discipline (two years of college with 16 semester units in courses in the related specialty area discipline may be substituted for one year of required experience OR four years of college with 16 semester units of courses in the related specialty area discipline may be substituted for two years of required experience).

Licenses, Certificates, Credentials:
- Possession of a valid driver’s license or the ability to obtain it by date of hire.

Required Skills, Knowledge, and Abilities
1. Extensive knowledge of microbiology principles and practices, and the skills required for safe and aseptic preparation, maintenance, and long-term preservation of pathogenic and non-pathogenic microorganisms, reagents, laboratory equipment, and culture media.
2. Thorough knowledge and strong background in applications of inorganic chemistry, organic chemistry, immunology, and molecular biology or a related field.
3. Strong working knowledge of the latest technology in microbiology, able to remain current in the technology, and able to apply this knowledge in the instructional laboratories and in faculty and student research.
4. Strong understanding of expected laboratory experiment outcome and distinctive growth patterns of various microorganisms is essential in order to generate correct medium for successful growth and subsequent laboratory experience.
5. Knowledge of aseptic use techniques.
7. Knowledge of growth characteristics of microorganisms used in microbiology laboratory experiments, including growth rates, temperature preferences, and nutrient requirements.
8. Knowledge, ability, and skill in appropriate sterilization techniques as well as basic aspects of autoclave function, maintenance, and testing.
9. Working knowledge of and skill to deploy, calibrate, repair and maintain equipment used in microbiology.
10. Ability to read and understand technical manuals and product literature and follow instructions precisely.
11. Excellent record keeping skills and organization. Ability and technical knowledge to maintain a current computer database of all chemical, biological, and other supplies in the microbiology areas.
12. Excellent computer skills and proficiency with a variety of computer applications including word-processing, spreadsheets, databases, on-line systems, Internet as well as online calendaring and email.
13. Thorough knowledge of MSDS safety issues pertaining to hazardous chemical storage and disposal, biohazard sterilization and waste disposal, including infectious agents. Must have sufficient educational and experiential background to respond quickly and appropriately to an emergency situation due to the presence of hazardous materials. Knowledge of current practices and procedures for laboratory safety.
14. Ability to initiate, establish, and foster communication and teamwork by maintaining a positive, cooperative, productive work atmosphere in and outside the University with the ability to establish and maintain effective working relationships within a diverse population and with those from various cultural backgrounds.
15. Excellent communication skills. Ability to effectively communicate information in a clear and understandable manner, both verbally and in writing. Thorough knowledge of English
grammar, spelling, and punctuation. Ability to communicate effectively with students, instructors, and other individuals in aspects of microbiology and related fields.

16. Ability to take initiative, make independent decisions, and exercise sound judgment in planning, organizing, coordinating, and performing work in various situations where numerous and diverse demands are involved. Excellent organizational and time management skills with the ability to set own priorities to coordinate multiple assignments with fluctuating and time-sensitive deadlines. Ability to work effectively in independently resolving problems and dealing with overlapping deadlines in laboratory schedules and equipment use.

17. Ability to learn and adapt to ever-changing technology, procedures, and techniques.

18. Ability to adapt to changing academic and professional needs.

19. Demonstrated customer service experience requiring a very high level of diplomacy and professionalism. Ability to use tact and diplomacy to effectively handle a broad range of high level and sensitive interpersonal situations with diverse personalities, and to respond appropriately to conflicts and problems.

20. Ability to interpret, communicate and apply policies and procedures.

21. Working knowledge of or ability to quickly learn University infrastructure, policies, and procedures.

Preferred Skills and Experience

- Bachelor’s degree in microbiology or a related field is preferred.
- Completion of college level organic chemistry, biochemistry, immunology, molecular/cellular biology, and microbiology courses.
- Theoretical and practical knowledge of nucleic acid extractions and manipulations, nucleic acid amplification and synthesis (e.g., PCR, cDNA synthesis), restriction and other specialized enzyme use, DNA transformations (bacterial and may include eukaryotic cells), plasmid analysis, nucleic acid and protein electrophoresis, DNA sequencing and sequence data analysis, nucleic acid hybridization technology (may include Southern, Northern blots and/or arrays), ELISA, computer software and internet applications used in immunology and molecular biology laboratories.
- Experience in research.
- Competency in the use of power tools and hand tools.
- Demonstrated skills in an institutional/educational environment utilizing a customer-oriented and service-centered attitude.

Special Conditions

- Ability to stand for long periods of time.
- Able to move up to 50 pounds from a hand-truck or cart to shelves.
- Ability to climb a ladder to stow or retrieve supplies up to 12 feet above the ground.
- Ability to work with a computer keyboard and mouse to enter, manipulate, and retrieve information.
- No eating, drinking or smoking in the work area.
- Must be willing to travel and attend training programs off-site for occasional professional development.
- Must be able to work overtime, occasional holidays, and adjust working hours to meet special jobs. Must be willing to work variable or flexible hours, as needed, to meet laboratory needs. May be called back periodically to perform work as needed for power outages and emergencies. Available to answer immediate questions during night labs.
- The person holding this position is considered a ‘mandated reporter’ under the California Child Abuse and Neglect Reporting Act and is required to comply with the requirements set forth in CSU Executive Order 1083 as a condition of employment.
- Must be able to successfully pass a pre-employment background/fingerprint check.
- This position classification has been defined as non-exempt and is subject to overtime provisions of the Fair Labor Standards Act (FLSA).
INCUMBENT: I have read this position description and understand its contents.

INCUMBENT NAME                  SIGNATURE                  DATE

SUPERVISOR: I certify that all statements on this form are complete and accurate.

Ken Hillers, Department Chair

IMMEDIATE SUPERVISOR NAME SIGNATURE DATE

AND TITLE

DEPARTMENT HEAD: I certify that all statements on this form are complete and accurate.

Ken Hillers, Department Chair

DEPARTMENT HEAD NAME AND SIGNATURE DATE

TITLE

HUMAN RESOURCES USE ONLY

Employee ID#:

Position Number:

FTE:

☐ Permanent

☐ Temporary

☐ COI Position

Recruitment Number:

REQUEST FOR:

☐ Update Review for Classification File Review

☐ Classification New Position Review

☐ Recruitment Replacement

CLASSIFICATION INFORMATION

Classification Title:

Class Code/Range:

CBID:

MPP Job Code:

Classifier Initials:

Date:

Instructional Support Tech III

1619-1

R-09

n/a

HR

06/26/24