

Course Title:	Science Laboratory Assistant
Department:	Science
Course #:	3038
Grade Level/s:	11-12
Length of Course:	1 year
Prerequisite/s:	Teacher recommendation only (interest in science major)
UC/CSU (A-G) Req:	None
Brief Course Description:	Science Laboratory Assistants (LA) must be high achieving students with a goal of becoming a science major or working in a laboratory. You must have teacher/staff approval with a signature on the Course Selection Form at the time of registration. A signed Lab Assistant Contract form must also be included. LAs support teachers in the science department with laboratory organization and design, setup and tear down of lab stations, cleaning tools/instruments, clerical duties and other general classroom support services. When applicable, LAs will also provide content knowledge to support students.

I. GOALS

The students will:

- A. Develop and implement laboratory practice and skills
- B. Support the needs of the students during laboratory activities
- C. Serve as role models for science class students
- D. Work with all students in the class assisting them in the content of the course
- E. Develop biotechnology skills necessary for the 21st century workplace

II. OUTLINE OF CONTENT FOR MAJOR AREAS OF STUDY

- A. Lab Procedures
 - 1. Lab safety procedures and training
 - 2. Equipment inventory
 - 3. Material checkout
 - 4. Stock room procedures

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- B. Lab Design and Student Assistance
 - 1. Utilization of the Scientific Method
 - 2. Development of skills necessary for lab design
 - 3. Analysis of lab safety
 - 4. Maintenance lab activities and cleanliness
- C. Lab Assistant techniques (knowledge acquired)
 - 1. Vernier lab calibration
 - 2. Slide and microscope preparation
 - 3. Biological specimen preparation and inventory
 - 4. Reagent preparation and knowledge of chemicals
 - 5. Chemical apparatus setup
 - 6. Lab group glassware setup
- D. Lab Data Management
 - 1. Collecting data
 - 2. Interpreting data
 - 3. Maintaining daily logs
 - 4. Recording

III. ACCOUNTABILITY DETERMINANTS

- A. Key Assignments
 - 1. Students will be expected to understand and prepare college level labs
 - 2. Scientific reading and writing, as well as out of class preparation may be required
 - 3. Assignments may include, but are not limited, to the following:
 - a. Preparation of labs
 - b. Solving problems
 - c. Maintaining conditions of laboratory experiments
- B. Assessment Methods
 - 1. Daily observation of classroom participation, effort and achievement
 - 2. Performance tasks
 - 3. Preparation of labs
 - 4. Knowledge of lab techniques including use of Vernier Probeware
 - 5. Tutoring/assistance given to students during labs

IV. INSTRUCTIONAL MATERIALS AND METHODOLOGIES

- A. Required Textbook(s)
Not applicable
- B. Supplementary Materials
Not applicable

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C. Instructional Methodologies

1. Guided inquiry
2. Direct instruction
3. Cooperative learning
4. Discourse
5. Problem-based learning
6. Visual representations and concrete models