



## Statement of Student Learning Objectives/Outcomes (SLO's)

### Area B2 Goals (from EM 99-05):

1. Students must demonstrate an introductory understanding of fundamental concepts of life science as illustrated in plants and animals, or the course must emphasize these concepts in a study of some specific part of the life sciences.

Examples are:

- a. students will be able to describe the basic cell function
- b. students will be able to describe basic cell division
- c. students will be able to understand basic genetic theory
- d. students will be able to understand basic concepts in gene expression

2. Students must have a laboratory component or similar activity in the life science and inquire into the life forms of the universe.

Students will demonstrate understanding and appreciation of the methodologies of the natural science as investigative tools and the limitation of scientific inquiry.

- a. students will be able to demonstrate basic techniques in biotechnology
- b. students will be able to demonstrate basic techniques in hematology
- c. students will be able to demonstrate basic microbiological techniques
- d. students will be able to demonstrate basic techniques in small animal restraint
- e. students will be able to demonstrate basic data collection procedures
- f. students will be able to demonstrate basic skill in live and post-mortem animal evaluation
- g. students will meet (at minimum) the GE writing requirements

## **Grading**

Quizzes (50 pts each: 7 will be taken: no make-ups) 350

- ✓ Quizzes will *usually* be given during lab
- ✓ Quizzes will *usually* cover two weeks of material/including lab material and reading

Laboratory exercises (completed during each lab session) 150

Research Project Work (Paper, participation) 100

In class quizzes; Portal quizzes; Attendance 50

No Comprehensive Final – last quiz given at scheduled final

---

**Total**

**650 pts**

A ≥ 93%	B ≥ 83%	C ≥ 73%	D ≥ 60%
A- ≥ 90%	B- ≥ 80%	C- ≥ 70%	F < 60%
B+ ≥ 87%	C+ ≥ 77%	D+ ≥ 67%	

*Remember—students earn grades, teachers merely assign them, do your best at all times.*

## Quizzes

When scheduled, quizzes will be given at the beginning of each lab session and typically will cover the previous two week's lecture and laboratory information. Punctuality is important to ensure that each student has the maximum amount of time to complete the quiz. Makeup-quizzes will **only** occur if pre-arranged with the professor.

## Recording of scores

If a student feels an error in grading has been made, the student has one week from the time of the assignment is returned to them (or the grade is posted on the web, whichever is later) to request a review of the grade. You should retain all graded items until a final course grade is assigned.

## Course Policies:

### Student Responsibility

- Students are strongly advised not to miss class or labs since this time may be difficult or impossible to make up.
- It is the student's responsibility to inform the instructor and arrange for alternate assignments when a class is missed for an excused reason such as illness or academic field trip.
- Students are expected to pay attention and participate in class meetings.
- It is the student's responsibility to meet all appropriate deadlines for adding, withdrawing, etc. These deadlines can be found on the University web site at: <http://www.csuchico.edu/schedule/>
- **No assignments will be accepted after the assigned due date**
- Unstapled assignments – multiple page assignments without a staple will receive a score of 0.
- Use of tobacco products is not allowed during class or lab.
- Students are expected to turn off all pagers, cell phones, ipods, mp3 players, and other electronic devices during class time. Headsets and ear buds should be removed at the beginning of class or lab.
- All class participants are expected to exhibit respectful behavior to other students and the instructor.
- All students have the right and privilege to learn in the class, free from harassment and disruption.
- Inappropriate or disruptive behavior will not be tolerated, nor will lewd or foul language.
- The class follows the standards set in the ***Code of Students Rights and Responsibilities (EM 96-38)*** and students are subject to disciplinary action for violation of that code.
- Courses in agriculture commonly include activities where potential hazards exist. Students are expected to conduct themselves in a safe manner at all times.

### Plagiarism Detection

The campus subscribes to the Turnitin.com plagiarism prevention service, and you may be required to submit written assignments to Turnitin.com. Your work will be used by Turnitin.com for plagiarism detection and for no other purpose.

### **University Policies**

University policies will be enforced in the course (see the catalog for a list of university policies).

### **Final Exams**

**All classes are required to meet for one two-hour period during finals week for instruction or examination.** Most classes meet in their normal room according to the special schedule listed on the University web site. ***Your final will be your last quiz and will be held during the scheduled final time. It is not cumulative.***

### **Cheating and Plagiarism**

Cheating and plagiarism are considered as the most serious offenses in the teaching-learning process, as it erodes the integrity of the student/faculty relationship. Students are reminded that the University Policy on Academic Honesty will be enforced in this class. The policy is available in the Catalog. *Students are reminded that turning in someone else's homework or project is considered cheating. Students working together on individual assignments (ex. homework) are reminded to do their own work and turning in essentially identical work as another student is not acceptable.*

If there is evidence that you have been involved in any form of academic dishonesty, you will receive an "F" grade for the course, be locked from Vista, and a report will be provided to Student Judicial Affairs for further action.

### **Students with Disabilities:**

"Americans with Disabilities Act:

If you need course adaptations or accommodations because of a disability or chronic illness, or if you need to make special arrangements in case the building must be evacuated, please make an appointment with me as soon as possible, or see me during office hours. Please also contact Disability Support Services (DSS) as they are the designated department responsible for approving and coordinating reasonable accommodations and services for students with disabilities. DSS will help you understand your rights and responsibilities under the Americans with Disabilities Act and provide you further assistance with requesting and arranging accommodations."

### **Academic Rigor**

Academic rigor means the consistent expectation of excellence and the aspiration to significant achievement. It should pervade the entire atmosphere of the University--teaching and learning, curriculum, evaluation of student and faculty, outreach, admissions, advising, and student life.

### **Rigorous Learning**

Rigorous students are part of the equation of rigorous teaching and learning. A rigorous education is vigorous, difficult, deeply satisfying work, and it requires a lifestyle conducive to

achieving excellence. College is not a temporary diversion or a period of entertainment, but a fundamental piece of student character, citizenship, and employment future. A diploma and good grades from a demanding institution count for something. Rigorous students:

- Set high personal standards, develop a strong sense of purpose, come to class well-prepared, and complete assignments on time.
- Develop an effective relationship with the instructor, in and outside of class, and make the most of University advising and other services.
- Treat fellow students and the classroom environment with complete respect. Give each class full attention and participation. Do not miss class, arrive late, or leave early.
- Accept continuing responsibility for learning and for grades earned.
- Approach each class in a professional manner, as if the class were real employment. Treat a full-course load as full-time work and spend no less time on it. Determine exactly what is expected.
- Experiment with all teaching and learning strategies used in classes, and also determine which work best for them.
- Demonstrate complete honesty and integrity.

### **Rigorous Teaching**

Rigorous faculty are role models for the behaviors and accomplishments the University seeks to promote. They demonstrate a high level of professionalism and commitment to the University and to their discipline and inspire in students an excitement about learning. Guiding students toward excellence, they

- Communicate high expectations and demonstrate them through a demanding syllabus and well-prepared classes.
- Encourage student-faculty contact in and out of class and offer conscientious advising and consistent availability.
- Encourage collaboration and active learning, fully involving students in the learning experience.
- Provide students early, prompt, and frequent feedback and develop appropriate assessment strategies.
- Emphasize time on task, clearly communicate time required for learning, make it clear that full-time study is full-time work, and design learning experiences so that homework matters.
- Develop approaches and strategies geared to diverse talents and ways of learning, while maintaining high standards of accountability.

Reduce opportunities to engage in academic dishonesty and challenge its occurrence.

## Scientific Paper Assignment

**Purpose:** The purpose of this assignment is to familiarize students with experimental methodology and critical thinking. Students will learn to write in a scientific format where all statements must be validated by fact. Writing style, grammar, and sentence structure will be an important component of this assignment.

**Method:** A hypothesis will be provided to the class for discussion. From this hypothesis, students will develop an experimental design to test the hypothesis in the absence of environmental or genetic variables that may alter or bias the data. Over the course of several weeks students will participate in every aspect of the experiment, including: 1) implementation of experimental protocol; 2) collection of research data; 3) summary, analysis and interpretation of research data; 4) development of a scientific paper in journal format.

### Research Paper Format:

- I. **Introduction:** Introduce the problem. This is the literature review section where the subject matter is introduced and some general background information is provided. The introduction will require the use of library resources to locate related research papers that discuss similar subject matter. Students will summarize a minimum of **four** outside studies (preferably journal/peer reviewed) as they relate to the class project. The objective of the study is clearly stated at the end of the introduction.
- II. **Materials & Methods:** Explain how the trial was conducted to meet the needs of the objectives. Include dates, feed, housing, breeds, age, sex, experimental design, treatments, anything related to the setup and execution of the study.
- III. **Results:** Report the data in a manner that is easy to understand. Graphs, charts or table formats are required.
- IV. **Discussion:** Discuss the data as it relates to the hypothesis, i.e., do results from this study prove or disprove your hypothesis? Were the methods adequate to test the hypothesis? How does your data compare to the literature described in the introduction?  
*\*\* Results and discussion may be combined into a single section. If not, the results section should not contain discussion of previously published work (from your library research). Results and references to tables and figures already described in the results section should not be repeated in the discussion section.*
- V. **References:** Cite your references in the format used in the Journal of Animal Science

There will be two different due dates for your papers that will be set during the semester. You will be given a grading rubric that will be used to grade each part of your paper.

The first part of your paper that you will complete will consist of: 1. Title, 2. Introduction, 3. Materials & Methods, 4. References.

The second part of your paper that will be due at a later time will consist of: 1. Results, 2. Discussion, 3. References

**What you should take from this exercise:**

- i. An appreciation for scientific research. As a class, we conduct a very simple study that quickly becomes complicated by outside variables which need to be controlled, mitigated or evenly distributed among all subjects.
- ii. Learn scientific method and terms/definitions
- iii. Learn how to use library databases
- iv. Discover the body of knowledge available in the peer reviewed literature.
- v. Learn the difference between good research and bad research
- vi. Critically evaluate statements made in print – are they justified in making specific statements.
- vii. Synthesize information from multiple sources and discuss their similarities or differences as it relates to our hypothesis.

Wk	Day	Date	Lecture	Reading	Lab	Lab Location	Quiz	
1	M	1/23	Animal Contributions	Ch 1	Introduction to livestock species	Univ. Farm 003		
	W	1/25	to Human Needs					
2	M	1/30	U.S. Animal Industries:	Ch 2	Animal products	Univ Farm meats lab		
	W	2/1	An Overview	Pgs 17-31	Ch 8 pg 129-136			
3	M	2/6	Genetics:	Online	Cell components/Hematology	Univ. Farm 003	# 1 in lab	
	W	2/8	Cell physiology	Reading			wk 1-2	
4	M	2/13	Genetics:	Ch 12	DNA extraction	Plumas Hall - TBA		
	W	2/15	Mitosis & Meiosis	Pgs 200-204				
5	M	2/20	**Guest Lecturer - Genetics:	Ch 12	DNA fingerprinting	Plumas Hall - TBA	# 2 in lab	
	W	2/22	Gene Expression				wk 3-4	
6	M	2/27	Genetic Change	Ch 13	Animal Selection	Univ. Farm 003		
	W	2/29	Through Selection		and Evaluation			
7	M	3/5	Nutrients and	Ch 15	Paper Overview;	Univ. Farm 003	# 3 in lab	
	W	3/5	Their Functions		Literature Research		wk 5-6	
8	M	3/12	Digestion and Absorption	Ch 16	Nutrition	Univ. Farm 003		
	W	3/14	of Feed					
	M	3/19	SPRING BREAK		SPRING BREAK			
	W	3/21						
9	M	3/26	Reproduction:	Ch 10	Reproduction: Male	Univ. Farm 003	# 4 in lab	
	W	3/28	Male	Pgs 165-174	Parts of Ch 11		wk 7-8	
10	M	4/2	Reproduction:	Ch 10 Pgs 158-163	Reproduction: Female	Univ. Farm 003		
	W	4/4	Female	and 171-178.	Parts of Ch 11			
11	M	4/9	Growth and	Ch 18	Growth: using egg	Univ. Farm 003	# 5 in lab	
	W	4/11	Development		Ch 8 143-144		wk 9-10	
12	M	4/16	Anatomy and	Ch 18	Heart and	Univ Farm meats lab		
	W	4/18	Physiology	and Online	Lung			
13	M	4/23	Animal behavior	Ch 22	Animal Behavior	Univ. Farm 003	# 6 in lab	
	W	4/25					wk 11-12	
14	M	4/30	Animal Health	Ch 21	Animal Health	Univ. Farm 003		
	W	5/2	and Disease					
15	M	5/7	Issues in Animal	Ch 23	Conclude	Plumas Hall - TBA		
	W	5/9	Agriculture		Animal Health			
16	M	5/18	Final Exam 8-9:50 am: Quiz 7					# 7 in final wk 13-15

## **Where is the FARM 003 classroom at the University Farm?**

- Once you get to the University Farm's main entrance, go south on the main road and turn right on the first paved road to the west (by the Dairy Unit). *If you drove over the speed bumps, you missed the road...*
- Drive past the large yellow pavilion (which you will see on the left) and turn left at the first paved road.
- The FARM classrooms are next to the yellow pavilion, turn in and park in the large gravel parking lot. Find our classroom, FARM 003.
- There are several restrooms adjacent to our classroom and the pavilion.
- Speaking of parking, try to use the shuttle. Not only is it convenient, it's a great way to meet your classmates and develop study groups.
- Play close attention to the weather forecast: we will be working outside so it will either be really hot (fall semester) or really wet and cold (spring semester). Wear appropriate attire, what I call work clothes, clothes you don't mind getting wet, dirty or muddy. Bring sunscreen or a raincoat, whichever is more appropriate for your semester.
- Bring drinking water since there is not a drinking fountain nearby and consider bringing your lunch or a snack. There is no food or drink allowed in the FARM classrooms but you are welcome to eat outside in the parking area.

**Labs start at :15 past the hour** so don't get a speeding ticket trying to get to the University Farm. Watch out for trains. **DO NOT** try to beat the train or drive around the railroad arms, your life is too precious to risk it. Besides, the CA Highway Patrol and Butte County Sheriff patrol these back roads a lot so watch out because they're watching for you.

*Remember the University Farm is a working farm with slow-moving heavy equipment, livestock, and many other lab activities so be alert, watch your speed, and drive safely at all times.*