BIOL 2321 001 CRN 21707 MICROBIOLOGY
Sul Ross State University Spring 2024

Instructor: Anne Marie Hilscher, Biology Lecturer
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Office Hours: MWF 10-11; M 2-3; TR 11-12; by appt.
Lecture: TR 12:30-1:45 WSB 201

Course description: This course will focus on microorganisms and how they impact our everyday lives. As anintroductory course in Microbiology, the focus will be on the ubiquity, diversity and evolution of microorganisms, microbial ecology, and medical microbiology. Genetics, genomics and molecular biology will receive less attention as these topics are covered in other courses.

Textbook: I don't require a textbook, but you can use any microbiology text to clarify information presented in class. Madigan et al. *Brock Biology of Microorganisms* (any edition) is a good choice.

Grading: There will be three lecture exams, each of equal contribution to the student grade. Exams will cover the lecture material immediately preceding the exams *i.e.*, no comprehensive final exam

Task	**Points**
Exam I	100
Exam II	100
Exam III	100
Assignments	100
TOTAL	400

Grades: A 90 – 100% B 80 – 89% **C** 70 – 79% **D** 60 – 69% **F** 0 – 59%

Marketable Skills (MS): The biology student graduating with a BS in Biology should have the:

1. Ability to organize, analyze, and interpret data.
2. Proficiency in using presentation software.
3. Experience in managing time and meeting deadlines.
4. Ability to speak effectively and write concisely about scientific topics.
5. Experience in the development of professional email correspondence.

Student Learning Outcomes (SLO): The biology student graduating with a BS in Biology should be able to:
SLO1 demonstrate an understanding of basic biological concepts, including but not limited to evolution via natural selection, cell theory, and the role and function of DNA.
SLO2 demonstrate utilization of various field techniques toward addressing scientific questions in the specific discipline. These field techniques can include, but are not limitedto, plant collection and processing, various animal collection techniques, ecological surveying and sampling, and biodiversity indexing.
SLO3 use biological instrumentation to solve biological problems using standard observational strategies.
SLO4 develop writing skills by summarizing and critiquing recent relevant biological literature.

TENTATIVE COURSE SCHEDULE

WEEK	DATE	TOPIC
1	R Jan 18	An Introduction to Microorganisms
2	T Jan 23	Microorganisms & History of Microbiology
	R Jan 25	Microbial Cell Structure & Function
3	T Jan 30	Microbial Cell Structure & Function, cont.
	R Feb 01	Microbial Metabolism; **A#1 due**
4	T Feb 06	Molecular Microbiology
	R Feb 08	Microbial Growth & Control
5	T Feb 13	Microbial Growth & Control
	R Feb 15	**EXAM I**
6	T Feb 20	Viruses
	R Feb 22	Microbial Evolution
7	T Feb 27	Diversity of Bacteria
	R Feb 29	Diversity of Bacteria, cont.; **A#2 due**
8	T Mar 05	Diversity of Archaea
	R Mar 07	Diversity of Archaea, cont.
9	**Mar 11-15 No Classes—Spring Break**	
10	T Mar 19	Diversity of Eukaryotic Microorganisms
	R Mar 21	Diversity of Eukaryotic Microorganisms, cont.
11	T Mar 26	Diversity of Eukaryotic Microorganisms, cont.
	R Mar 28	Diversity of Eukaryotic Microorganisms, cont.
12	**T Apr 02**	**EXAM II**
	R Apr 04	Microbial Ecology; **A#3 due**
13	T Apr 09	Microbial Symbioses
	R Apr 11	Bioremediation **Friday, 4/12, is the last day to withdraw with a "W."**
14	T Apr 16	Microbial Interactions with Humans
	R Apr 18	Microbial Interactions with Humans, cont.
15	T Apr 23	Diagnostic Microbiology & Vaccines
	R Apr 25	Diagnostic Microbiology & Vaccines, cont.; **A#4 due**
16	T Apr 30	Bacterial and Viral Diseases
	R May 02	**NO CLASS-STUDY DAY**
17	**Exam III: Check SRSU Final Exam Schedule for date and time**	

Note – Lecture topics are subject to change according to course interest, organization, and timing constraints, however the exam dates will remain the same.

Student Learning Objectives for this Course:

- Students will outline the differences between prokaryotes and eukaryotes
- Students will demonstrate an understanding of microbial growth, nutrition and metabolism
- Students will demonstrate an understanding of microbial ecology and nutrient cycling
- Students will outline the basic features of bacteria, archaea, fungi, algae, protists and viruses
- Students will demonstrate an understanding of diseases caused by bacteria, fungi and viruses

Attendance: Lectures will not be posted on Blackboard so students must attend lectures to receive the material. Absences are excused only if students have a documented, university approved excuse (illness, death in the family, etc.). As per SRSU policy, any students missing 20% of lectures (6 lectures) over the course of the semester shall be dropped from the class with an F. **Students cannot miss exams** unless they have a documented, university-approved excuse; in these cases, the instructor needs to be informed **at least 24 hours in advance** of the exam.

Studying: As a general rule, students should spend 2-3 hours studying for every 1 hour oflecture material. So, for this class, you need to allocate 5-7.5 hours per week to study the lecture material. I recommend reading your notes in conjunction with reading the relevanttextbook chapters. Studying is best done shortly after the lecture, not all at once the night before the exam. Look up anything that you do not understand or visit with your instructor during office hours.

ADA Statement: Any student who because of a disability, may require special arrangements to meet the course requirements should contact the instructor as soon as possible to make necessary arrangements. If an accommodation is needed, students must present their accommodation letter, obtained from Accessibility Services, as soon as possible. Please note that instructors are not permitted to provide classroom accommodations to a student until the appropriate verification has been received. Accessibility Services is in Ferguson Hall room 112. You can make an appointment by calling Mary Schwartze Grisham at 432 837-8203.

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Academic Integrity. Students in this class are expected to demonstrate scholarly behavior and academic honesty in the use of intellectual property. A scholar is expected to be punctual, prepared, and focused; meaningful and pertinent participation is appreciated. Examples of academic dishonesty include but are not limited to: Turning in work as original that was used in whole or part for another course and/or professor; turning in another person's work as one's own; copying from professional works or internet sites without citation; collaborating on a course assignment, examination, or quiz when collaboration is forbidden.