



ANSC 5325 W01

Agri Genetics and Biotech (web-based course)

Fall 2023

Instructor: Dr. Laura Patterson Rosa
Office: RAS 105
E-mail: laura.patterson@sulross.edu
Phone: (432) 837-8465

Office Hours: By appointment

This web-delivered course will be accessible through Blackboard. Class correspondence will be through Blackboard or student's SRSU email account. **This course is Asynchronous.**

Course Description: This course provides solid grounding in core genetics and biotechnology concepts, as well as information on cutting-edge science and technology and their applications in real-world agriculture, medicine, and health care. My name is Laura Patterson, and I am an equine veterinarian and geneticist. I have been teaching genetics for over 7 years, and I am very excited to teach you all the new developments into how the art of genetics and biotechnology has evolved through the years, and what are the current applications of these. Most professionals have little understanding of the fundamentals of genetic selection, genome, and biotechnologies, yet with the knowledge acquired in this course, I hope you will be one step ahead in your career.

The course content is divided into six modules, each module corresponding to one Exam, with deadlines set up for Sundays 11:59PM. Each new module starts on the following Monday at 6am. Modules should take approximately four (4) to six (6) hours to complete. Each module covers a specific topic listed on your syllabus calendar, with pre-recorded lectures, reading chapters from the Textbook and other diverse multimedia to improve learning. Using an online system still requires you attain to the honor system and be responsible with how you apply technology and internet access while taking the course. Studies have shown that nowadays, when we have our cell phones, tablets, and virtually constant internet access, we are tempted to multitask, but this modern habit of multitasking hinders the learning process. So, I encourage you to do your best while taking this course and try to limit the number of things you do.

Student Learning Outcomes (SLO):

Upon completion of this course, students should be able to understand:

1. Essential topics in genetics and biotech such as cell functions and applications
2. Genetic engineering, genetically modified organisms and cloning
3. Potential dangers of biotechnology to humans and the environment

Animal Science Marketable Skills:

- Knowledge of techniques and equipment for planting, growing, and harvesting food products (both plant and animal) for consumption, including storage/handling techniques.
- Knowledge of plant and animal organisms, their tissues, cells, functions, interdependencies, and interactions with each other and the environment.
- Understanding the implications of new information for both current and future problem solving and decision-making.
- Using logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions or approaches to problems.
- Identifying complex problems and reviewing related information to develop and evaluate options and implement solutions. Communicating finding in both oral and written form at a level appropriate for the needs of the audience.

Animal Science Learning Outcomes (ASLO):

- Demonstrate the basic skills of interpreting research data gathered in an agricultural context.
- Apply critical thinking skills to mitigate potential challenges in diverse animal sciences and related agricultural industries.
- Demonstrate the ability to communicate through written, spoken, and graphical methods.

Accommodations:

Sul Ross State University (SRSU) is committed to equal access in compliance with Americans with Disabilities Act of 1973. It is SRSU policy to provide reasonable accommodations to students with documented disabilities. It is the student's responsibility to initiate a request each semester for each class. Alpine students seeking accessibility/accommodations services must contact Mary Schwartze Grisham, M.Ed., LPC, SRSU's Accessibility Services Coordinator at 432-837-8203 (please leave a message and we'll get back to you as soon as we can during working hours), or email mschwartze@sulross.edu. Our office is located on the first floor of Ferguson Hall (Suite 112), and our mailing address is P.O. Box C-122, Sul Ross State University, Alpine, Texas, 79832.

Academic Integrity:

The University expects all students to engage in all academic pursuits in a manner that is beyond reproach and to maintain complete honesty and integrity in the academic experiences both in and out of their classroom. The University may initiate disciplinary proceedings against a student accused of any form of academic dishonesty, including but not limited to, cheating on an examination or other academic work, plagiarism, collusion, and the abuse of resource materials. For more information visit: <https://www.sulross.edu/catalog/undergraduate-academic-regulations/>

SRSU Library Services:

The Sul Ross Library - Bryan Wildenthal Memorial Library in Alpine offers FREE resources and services to the entire SRSU community. Access and borrow books, articles, and more by visiting the library's website, library.sulross.edu. Off-campus access requires logging in with your LoboID and password. Librarians are a tremendous resource for your coursework and can be reached in person, by email (srsulibrary@sulross.edu), or phone (432-837-8123).

Assessments & Grading:

Discussions boards will be available for students as:

- Introduction: 5 points
- Discussion Boards (topic/research): 10 points each, totaling 60 points
- Self-led Discussion: 50 points

Exams: There will be six exams throughout the semester.

- Exams: 100 points each, totaling 600 points.

Total = 715 points

Percentage	Letter Grade	Meaning	Points
90% - 100%	A	Excellent	4
80% - 89%	B	Good	3
70% - 79%	C	Average	2
60% - 69%	D	Poor	1
Below 60%	F	Failure	0

Extra Points: Students may acquire extra points based on performance, participation in group discussions, at the discretion of the instructor. Extra point opportunities will be determined and announced by the instructor.

This course is asynchronous – students will be able to access modules as they finish the requirements of the previous modules. **Do not wait for the end of the semester to discuss any problems you may have with this course. Your success is important!**

For additional information on current Sul Ross State University policies for assigning grade points, please refer to <https://www.sulross.edu/registrar/catalog-and-policies/>

Important Dates to Remember:

- **September 4 – Labor Day – NO CLASS**
- November 14 - Last day to withdraw from the 16-week course/term with a grade of 'W'. Drops must be processed and in the university registrar's office by 4 p.m.
- November 22-24 – Thanksgiving Holiday – NO CLASS
- December 7 – Dead Day
- December 8, 11-13 – FINAL EXAMS WEEK

Course Schedule (subject to adjustments)

Module	Date Available	Topic	Assignment	Exam
1	08/28	The Biotechnology Century and Its Workforce	Introducing Ourselves (due 9/3)	-
1	09/05	An Introduction to Genes and Genomes	Discussion 1 (due 9/10)	-
2	09/11	Recombinant DNA Technology and Genomics	Discussion 2 (due 9/15)	Exam 1 (due 9/17)
3	09/18	Proteins as Products	Discussion 3 (due 9/24)	-
4	09/25	Microbial Biotechnology	-	Exam 2 (due 10/1)
5	10/02	Plant Biotechnology	Watch – Nature vs Nurture	-
6	10/09	Animal Biotechnology	-	Exam 3 (due 10/15)
7	10/16	DNA Fingerprinting and Forensic Analysis	Discussion 4 (due 10/27)	-
8	10/23	Bioremediation	-	Exam 4 (due 10/29)
9	10/30	Aquatic Biotechnology	Discussion 5 (due 11/9)	-
10	11/06	Medical Biotechnology	-	Exam 5 (due 11/12)
11	11/13	Biotechnology Regulations	Discussion 6 (due 11/18)	-
12	11/20	Ethics and Biotechnology	-	-
13	11/27	Special Topics on Biotechnology	Discussion 7 (due 12/5)	Exam 6 (due 12/11)

