ANSC 4305 AGRICULTURAL GENETICS

Instructor: Scott Ericsson
Office: RAS 110
Office Hours: (MW) 1:00-4:00 pm
Phone: (432) 837-8260
Email: ericsson@sulross.edu

Spring 2017
Time: Web-delivered
Meeting Place: Web-delivered

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

Course Description:

This course is designed to introduce students to the quantitative genetic principles applied to mating and selection of domestic livestock and wildlife. The course integrates Mendelian principles with biometrical and statistical probability techniques for proper application to breeding, selection, inbreeding, line breeding, and pedigree information for progressive animal and plant breeding. The influences of gene frequency, heritability, and genetic relationships on the gene pool of populations is integrated into this course. The course includes application of the Hardy-Weinberg law and statistical correlation and regression as applied to selection of superior genetic lines of animals.

(ANSC) Student Learning Outcomes:

Student will demonstrate that he/she is able to:

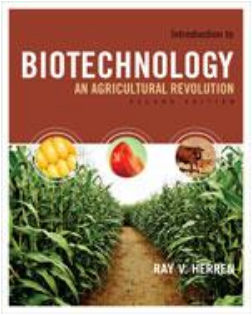
- Analyze and interpret information gathered in a research setting,
- Apply critical thinking skills to deal with potential challenges in diverse animal sciences and related industries, and
- Communicate through written, spoken and graphical methods.

Course Objectives:

By the end of the course, you will be able to understand:

- Cell functions.
- Genetics and biotechnology applications.
- Genetic engineering.
- Genetically modified organisms.
- Cloning.
- Potential dangers of biotechnology.

Text: Required. The below item is necessary to achieve success in this class.



Introduction to Biotechnology, 2nd Edition
Ray V. Herren University of Georgia, Athens (Emeritus)
ISBN-10: 1435498372
ISBN-13: 9781435498372
432 Pages Hardcover
Previous Editions: 2005
©2013 Published

http://www.cengagebrain.com/shop/search/9781435498372
Amazon: http://www.amazon.com
Barnes & Noble: http://www.barnesandnoble.com

Exams:

There will be two midterms and a final exam which will be available on Blackboard. Exams will cover readings, PowerPoint presentations and study guide materials. The final exam will only cover materials scheduled after the second midterm.

Grading:

Midterm 1	100 points
Midterm 2	100 points
Final	100 points
	Total 300 points

Grade assignment: A =100-90; B = 89-80; C= 79-70; D = 69-60 and F= < 60.

Exam schedule:

Midterm 1 – Tuesday, February 28.
Midterm 2 – Tuesday, April 4.
Final – Wednesday, May 3.

16 week calendar (subject to change)

Week	Presentation Order of Topics:	Readings and Assignments:
1	Chapter 1.The Phenomena of Biotechnology.	• Syllabus • Textbook - Chapter 1 • Lecture slides – Chapter 1 • Study Guide – Chapter 1

2	Chapter 2. The Historical Development of Biotechnology.	• Textbook - Chapter 2 • Lecture slides – Chapter 2 • Study Guide – Chapter 2
3	Chapter 4. Cells: The Foundation of Life.	• Textbook - Chapter 4 • Lecture slides – Chapter 4 • Study Guide – Chapter 4
4	Chapter 5. The Principles of Gene Transfer.	• Textbook - Chapter 5 • Lecture slides – Chapter 5 • Study Guide – Chapter 5
5	Chapter 6. Producing Genetically Modified Organisms.	• Textbook - Chapter 6 • Lecture slides – Chapter 6 • Study Guide – Chapter 6
6	Chapter 7. Animal Cloning. Midterm Number 1.	• Textbook - Chapter 7 • Lecture slides – Chapter 7 • Study Guide – Chapter 7
7	Chapter 8. Plant Cloning. Chapter 9. Biotechnology in Plant Science.	• Textbook - Chapter 8 • Lecture slides – Chapter 8 • Study Guide – Chapter 8 • Textbook - Chapter 9 • Lecture slides – Chapter 9 • Study Guide – Chapter 9
8	Spring Break	
9	Chapter 10. Biotechnology in Animal Reproduction.	• Textbook - Chapter 10 • Lecture slides – Chapter 10 • Study Guide – Chapter 10
10	Chapter 11. Biotechnology in Medicine.	• Textbook - Chapter 11 • Lecture slides – Chapter 11 • Study Guide – Chapter 11
11	Chapter 12. Biotechnology in the Food Industry. Midterm Number 2.	• Textbook - Chapter 12 • Lecture slides – Chapter 12 • Study Guide – Chapter 12
12	Chapter 13. Biotechnology in Ecology.	• Textbook - Chapter 13

		• Lecture slides – Chapter 13 • Study Guide – Chapter 13
13	Chapter 14. Consumer Concerns about Biotechnology.	• Textbook - Chapter 14 • Lecture slides – Chapter 14 • Study Guide – Chapter 14
14	Chapter 15. Ethical Issues and Biotechnology.	• Textbook - Chapter 15 • Lecture slides – Chapter 15 • Study Guide – Chapter 15
15	Chapter 16. Careers in Biotechnology.	• Textbook - Chapter 16 • Lecture slides – Chapter 16 • Study Guide – Chapter 16
16	Final Exam	

Sul Ross State University is committed to equal access in compliance with the Americans with Disabilities Act of 1973. It is the student's responsibility to initiate a request for accessibility services. Students seeking accessibility services must contact Mary Schwartze, M. Ed., L.P.C., in Counseling and Accessibility Services, Ferguson Hall, Room 112. The mailing address is P.O. Box C-122, Sul Ross State University, Alpine, Texas. Telephone: 432-837-8691. E-mail:mschwartze@sulross.edu

Students enrolled in distance education courses have equal access to the university's academic support services, such as Smarthinking, library resources, such as online databases, and instructional technology support. For more information about accessing these resources, visit the SRSU website. Students should correspond using Sul Ross email accounts and submit online assignments through Blackboard, which requires secure login information to verify students' identities and to protect students' information. The procedures for filing a student complaint are included in the student handbook. Students enrolled in distance education courses at Sul Ross are expected to adhere to all policies pertaining to academic honesty and appropriate student conduct, as described in the student handbook. Students in web-based courses must maintain appropriate equipment and software, according to the needs and requirements of the course, as outlined on the SRSU website.