

Discovery of Sustainable Cattle Systems

ANS 4932

Mondays, Period 6 - 8 (12:50 – 3:50 pm)

Dr. Corwin Nelson

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CATALOG DESCRIPTION: CREDIT: 1; Junior level standing or above, or instructor consent.

Multidisciplinary laboratory course focused on development of perspectives on sustainable cattle systems through experiential learning opportunities. Non-animal science majors are encouraged to enroll.

COURSE FORMAT:

This is a one-credit course that will meet once per week for discussions, farm tours, and hands-on learning projects. The course will encompass multiple aspects related to cattle systems, including agronomy, engineering, human and animal health and nutrition, sociology, and soil science. Students will be expected to keep a journal of the discussions and learning experiences throughout the course. Activities include feeding, milking and shoveling manure.

COURSE LEARNING OBJECTIVES:

Upon completion of the course, students will be able to:

- Explain costs and benefits (to environment and human health and nutrition) of animal sourced foods
- Identify factors that define sustainability of cattle production
- Critically evaluate sustainability of cattle production systems and associated impacts on human health and affordability
- Develop and evaluate approaches to improve sustainability of cattle production systems

OFFICE HOURS: By appointment.

REQUIRED TEXTBOOKS: None.

Recommended Reading:

Sustainable Animal Agriculture, (2014) E. Krebeab, Editor, CABI, Boston, MA, ISBN: 1780640420

http://www.fao.org/fileadmin/user_upload/animalwelfare/20133419221_2.pdf

COURSE SCHEDULE:

Week	Activity	Location	Assignment
1-8/21	Discussion – history of domestication of animals, role of animal sourced foods in human nutrition, and overview of cattle production systems	ANS	Essay
2-8/28	Tour UF Dairy Unit cropland and feed commodities	UF DRU	Feed Worksheet
3	Labor Day – No class		
4-9/11	Tour Grassy Bell and Piedmont Dairies	Trenton, FL	Journal
5-9/18	Tour North Florida Holsteins	Bell, FL	Journal
6-9/25	Group projects at UF Dairy	UF DRU	Journal
7-10/2	Group projects at UF Dairy	UF DRU	Journal
8-10/9	Tour manure and waste water handling at UF DRU	UF DRU	Water/nutrient worksheet
9-10/16	Tour methane digester at Alliance	Trenton, FL	Journal
10-10/23	Discussion – Comparison of dairy systems: challenges and opportunities	ANS	Group report
11-10/30	Tour Quincey Cattle Company	Chiefland	Feed worksheet
12-11/6	Tour Usher Land and Timber	Chiefland	Land worksheet
13-11/13	Group projects at UF Beef units		Journal
14-11/20	Group projects at UF Beef units		Journal
15-11/27	Discussion – maximizing sustainability of beef production	ANS	Group Report
16-12/4	Global perspectives – challenges and opportunities in undeveloped countries	ANS	Journal

EXPERIENTIAL LEARNING:

A key component of the course is to learn through experiences. The farm tours and hands on activities are designed to help the student learn about three key elements of sustainability: 1) land, energy, and water requirements of cattle; 2) production outputs; and 3) waste handling and utilization. A sense of a fourth element, human and animal welfare, will be gained through participation in activities such as milking and feeding cows, cleaning pens, and handling of animals. Students will be expected to document their learning experiences from the tours and activities in a journal (described below) and to use those learning experiences to evaluate current practices, identify opportunities for improved sustainability, and develop and evaluate approaches that maximize sustainability of cattle production given in the form of written reports (described below).

ASSIGNMENTS AND GRADING:

Students will be graded on completion of:

- **Journal entries** (8 at 5 pts each),
- **Worksheets** (4 at 5 pts each) and
- **Group reports** (2 at 25 pts each)
- **110 points total**

Journal entries: These are intended to document your learning experiences from farm tours and hands-on activities. The tours and activities are designed to be informative and thought provoking. Each entry should contain three main elements: 1) Facts, information, or experience that impressed you most from the tour or activity, 2) your impression of human and/or animal welfare observed from the activity or tour, 3) opportunities for improved sustainability that you observed or learned about from the activity or tour

Worksheets: Students will work in groups to perform calculations for land and energy requirements, production outputs, soil nutrient requirements (manure application) and estimates for global capacity. Students will be graded on completeness and accuracy of calculations.

Group Reports: Students will work in groups to write a 2 – 3 page report based on the discussion topic (i.e., comparison of land, water and nutrient per unit of output between confined and grazing dairy systems). The report will be formed with input from journal entries, worksheets, class discussions, and further reading. The reports should include two key elements: 1) evaluation of current practices and 2) an approach, or evaluation of approaches, to maximize sustainability. Reports will be graded on coherence and clarity.

GRADES AND GRADE POINTS

For information on current UF policies for assigning grade points, see <https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>

Students will receive a letter grade based on the following scale:

Percentage	Grade
93 - 100	A
90 – 92.99	A-
87 – 89.99	B+
83 – 86.99	B
80 – 82.99	B-
77 – 79.99	C+
73 – 76.99	C
70 – 72.99	C-
67 – 69.99	D+
63 – 66.99	D
60 – 62.99	D-
< 60	E

The percentage is calculated from points earned from assignments out of a total of 140 possible points.

ATTENDANCE AND MAKE-UP WORK

Requirements for class attendance and make-up exams, assignments and other work are consistent with university policies that can be found at:

<https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>.

ONLINE COURSE EVALUATION PROCESS

Student assessment of instruction is an important part of efforts to improve teaching and learning. At the end of the semester, students are expected to provide feedback on the quality of instruction in this course using a standard set of university and college criteria. These evaluations are conducted online at <https://evaluations.ufl.edu>.

Evaluations are typically open for students to complete during the last two or three weeks of the semester; students will be notified of the specific times when they are open. Summary results of these assessments are available to students at <https://evaluations.ufl.edu/results>.

ACADEMIC HONESTY

As a student at the University of Florida, you have committed yourself to uphold the Honor Code, which includes the following pledge: *"We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity."* You are expected to exhibit behavior consistent with this commitment to the UF academic community, and on all work submitted for credit at the University of Florida, the following pledge is either required or implied: *"On my honor, I have neither given nor received unauthorized aid in doing this assignment."*

It is assumed that you will complete all work independently in each course unless the instructor provides explicit permission for you to collaborate on course tasks (e.g. assignments, papers, quizzes, exams). Furthermore, as part of your obligation to uphold the Honor Code, you should report any condition that facilitates academic misconduct to appropriate personnel. It is your individual responsibility to know and comply with all university policies and procedures regarding academic integrity and the Student Honor Code. Violations of the Honor Code at the University of Florida will not be tolerated. Violations will be reported to the Dean of Students Office for consideration of disciplinary action. For more information regarding the Student Honor Code, please see: <http://www.dso.ufl.edu/sccr/process/student-conduct-honor-code>.

SOFTWARE USE:

All faculty, staff and students of the university are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against university policies and rules, disciplinary action will be taken as appropriate.

SERVICES FOR STUDENTS WITH DISABILITIES

The Disability Resource Center coordinates the needed accommodations of students with disabilities. This includes registering disabilities, recommending academic accommodations within the classroom, accessing special adaptive computer equipment, providing interpretation services and mediating faculty-student disability related issues. Students requesting classroom accommodation must first register with the Dean of Students Office. The Dean of Students Office will provide documentation to the student who must then provide this documentation to the Instructor when requesting accommodation

0001 Reid Hall, 352-392-8565, www.dso.ufl.edu/drc/

CAMPUS HELPING RESOURCES

Students experiencing crises or personal problems that interfere with their general well-being are encouraged to utilize the university's counseling resources. The Counseling & Wellness Center provides confidential counseling services at no cost for currently enrolled students. Resources are available on campus for students having personal problems or lacking clear career or academic goals, which interfere with their academic performance.

- *University Counseling & Wellness Center, 3190 Radio Road, 352-392-1575, www.counseling.ufl.edu/cwc/*
 - Counseling Services
 - Groups and Workshops
 - Outreach and Consultation
 - Self-Help Library
 - Wellness Coaching

- U Matter We Care, www.umatter.ufl.edu/

- *Career Resource Center, First Floor JWRU, 392-1601, www.crc.ufl.edu/*