College of Science and Engineering Technology

Department of Agricultural Sciences

COURSE SYLLABUS

PLSC 4370 – Forage Crops and Pasture Management

3 credit hours (2-2 Format)
Fall 2017 semester

LOCATION/TIME: Lecture: Pirkle 310, Monday & Wednesday, 10:00-10:50 a.m.
Lab: Pirkle 310 & Various Locations, Wednesday, 1:00-2:50 p.m.

INSTRUCTOR: Robert A. Lane, Professor
Pirkle 450A, phone 294-1225
e-mail: **blane@shsu.edu**
Office hours: See schedule on office door. E-mail for alternate appointment.

TEXT: All PowerPoint presentations used in lecture will be made available through BlackBoard either before or while the lecture is being presented in class. You should take adequate notes in class to supplement these materials. Recording of lectures is acceptable and even recommended. Study questions for each unit will be posted to BlackBoard before the lectures so students can have an idea of the course components deemed most crucial. Readings from various sources will be assigned, both in class and through announcements on BlackBoard. You are expected to keep up with all assignments. You are also expected to use the internet to find additional information related to the subjects being discussed in class. An excellent place to start is http://edis.ifas.ufl.edu/topic_forage, http://varietytesting.tamu.edu/forages/index.htm, or http://www.lsuagcenter.com/en/crops_livestock/livestock/pasture_forage/. If you have trouble finding the information requested, contact me or other students in the class that have been more successful.

COURSE OBJECTIVES: This course is designed to provide a thorough understanding of the major forage crops utilized throughout the U.S. with concentration on methods of economically improving forage quality and quantity and the scientific principles concerned with plant growth and development. An understanding of how natural forces combined with plant genetics and cultural practices used are emphasized. Students are expected to show proficiency in all topics presented on the course outline.

COURSE OUTLINE:

I. Introduction
   A. Brief History of Grassland Agriculture
   B. Comparison of Forage Resources (Range vs. Pasture)

II. Forage Evaluation and Utilization
    A. Composition, Fiber Quality and Nutritive Value
    B. Methods of Evaluation
    C. Management Practices and Environmental Factors that Affect Quality

III. Grazing Management Systems and Strategies
    A. Extensive grazing management systems
    B. Intensive grazing management systems

IV. The Forage Grasses and their Management
    A. Warm Season Perennial Grasses
        1. Bermudagrass
        2. Bahiagrass
        3. Carpetgrass
        4. Dallisgrass
        5. Johnsongrass
    B. Warm Season Annual Grasses
        1. Corn
        2. Sorghum
        3. Pearl Millet
        4. Crabgrass
    C. Cool Season Perennial Grasses
        1. Tall Fescue
        2. Kentucky Bluegrass
    D. Cool Season Annual Grasses
        1. Ryegrass
        2. Oat
        3. Wheat
        4. Rye
        5. Triticale

V. The Forage Legumes and Their Management
    A. Symbiotic Nitrogen Fixation
    B. Cool Season Perennial Legumes
        1. Alfalfa
        2. White clover
        3. Red clover
    C. Cool Season Annual Legumes
        1. Crimson clover
        2. Berseem clover
        3. Ball Clover
        4. Arrowleaf clover
        5. Subterranean clover
        6. Rose clover
        7. Yellow and White Sweetclover

8. Medics

D. Warm Season Legumes
   1. Kudzu
   2. Annual and Perennial Peanut
   3. Lespedeza
   4. Cowpea
   5. Lablab

VI. Forage - Animal disorders
   A. Bloat
   D. Grass Tetany - hypomagnesemia
   E. Milk Fever – hypocalcemia
   F. Prussic Acid Poisoning – hydrocyanic acid toxicity
   G. Fescue Toxicosis
   H. Photosensitivity
   I. Toxic Plants
   J. Sweetclover Bleeding Disease

VII. Forage Preservation
   A. Silage Production
   B. Hay Production and Quality Control

Laboratory Topics

I. Laboratory Safety
II. Identification of Forage Plants and Weeds
III. Seed Quality and Identification
IV. Hay Quality Evaluation and Control
V. Forage Production Practices
   A. Establishment and Renovation
   B. Weed Control
   C. Fertilization
   D. Cultivation
VI. The Botany of Forages
   A. Grass Morphology and Anatomy
   B. Legume Morphology and Anatomy
VII. Legume Inoculation & Culture
VIII. Weed and Pest Control
IX. Forage Harvesting Machinery

COURSE EVALUATION:
This course consists of 2 hours lecture plus 2 hours laboratory per week. Three lecture exams will be given of which one is the final. All will carry equal weight with the lecture average comprising 60% of the course grade. The laboratory portion of the course grade (30%) will be derived from a combination of lab attendance and quizzes. A Wiki assignment will account for

the remaining 10% of the course grade. If desired, students will be apprised of their class standing at any time during the semester.

*****Students taking this course for graduate credit will be required to conduct an independent research project. Consult with the instructor for details.**

MAKEUP POLICY
There will be no makeups for missed laboratory or homework assignments. The lowest lab grade will be dropped. Lecture exam makeups will be administered at the end of the semester, but only with a valid and verifiable excuse.

RECOMMENDED OR REQUIRED READINGS:
Reading assignments covering materials on the internet or copies of reference materials handed out in class will be made regularly. Students are expected to keep up with readings and will be held responsible for them on examinations.

ATTENDANCE POLICY
Regular and punctual class and lab attendance are expected. My attendance policy will be in accordance to that established by the university. Attendance will be recorded daily. Please do not make a habit of arriving to class late.

ACADEMIC DISHONESTY:
All students are expected to engage in all academic pursuits in a manner that is above reproach. Students are expected to maintain honesty and integrity in the academic experiences both in and out of the classroom. Any student found guilty of dishonesty in any phase of academic work will be subject to disciplinary action. The University and its official representatives 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 which is to be submitted, plagiarism, collusion and the abuse of resource materials. Any students found to engage in dishonest activities related to this class may receive a grade of F for the course.

STUDENT ABSENCES ON RELIGIOUS HOLY DAYS POLICY:

Section 51.911(b) of the Texas Education Code requires that an institution of higher education excuse a student from attending classes or other required activities, including examinations, for the observance of a religious holy day, including travel for that purpose. Section 51.911 (a) (2) defines a religious holy day as: "a holy day observed by a religion whose places of worship are exempt from property taxation under Section 11.20…." A student whose absence is excused under this subsection may not be penalized for that absence and shall be allowed to take an examination or complete an assignment from which the student is excused within a reasonable time after the absence.

University policy 861001 provides the procedures to be followed by the student and instructor. A student desiring to absent himself/herself from a scheduled class in order to observe (a) religious holy day(s) shall present to each instructor involved a written statement concerning the

religious holy day(s). The instructor will complete a form notifying the student of a reasonable timeframe in which the missed assignments and/or examinations are to be completed.

STUDENTS WITH DISABILITIES POLICY:

It is the policy of Sam Houston State University that individuals otherwise qualified shall not be excluded, solely by reason of their disability, from participation in any academic program of the University. Further, they shall not be denied the benefits of these programs nor shall they be subjected to discrimination. Students with disabilities that might affect their academic performance are expected to visit with the Office of Services for Students with Disabilities located in the Counseling Center. They should then make arrangements with their individual instructors so that appropriate strategies can be considered and helpful procedures can be developed to ensure that participation and achievement opportunities are not impaired.

SHSU adheres to all applicable federal, state, and local laws, regulations, and guidelines with respect to providing reasonable accommodations for students with disabilities. If you have a disability that may affect adversely your work in this class, then I encourage you to register with the SHSU Counseling Center and to talk with me about how I can best help you. All disclosures of disabilities will be kept strictly confidential. NOTE: No accommodation can be made until you register with the Counseling Center. For a complete listing of the University policy, see:

Any student with a disability that affects his/her academic performance should contact the Office of Services for Students with Disabilities in the SHSU Lee Drain Annex (telephone 936-294-3512, TDD 936-294-3786) to request accommodations.

VISITORS IN THE CLASSROOM:
Only registered students may attend class. Exceptions can be made on a case-by-case basis by the professor. In all cases, visitors must not present a disruption to the class by their attendance. Students wishing to audit a class must apply to do so through the Registrar's Office.

CELL PHONE USAGE:
Unless one is expecting an urgent call or communication, I expect cell phones to be silenced and put away during class/lab. I consider text messaging and other means of communicating with others while class is in session to be distracting and disrespectful. If an urgent contact is expected, please let me know before class. Inattention to this request may result in expulsion from class.