

SAM HOUSTON STATE UNIVERSITY  
COLLEGE OF ARTS AND SCIENCES  
COURSE SYLLABUS

AGR 380.01

AGRICULTURAL MACHINERY

3 CREDIT HOURS

FALL 2007

LOCATION OF CLASS MEETING: AG MECH CENTER, RM 101

CLASS TIMES: M and W, 8:00 to 8:50 AM

LOCATION OF LAB MEETING: AG MECH CENTER

LAB TIME: M - 1:00 TO 2:50 PM

INSTRUCTOR: Joe E. Muller, Ph.D., Associate Professor – Ag Mechanization

OFFICES: Rm 309, Thomason Bldg and Rm 100, Agricultural Mechanization & Technology Center

CONTACT INFORMATION:

Thomason Bldg (936) 294-1218

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OFFICE HOURS: as posted or by appointment

COURSE DESCRIPTION: Functional requirements, design, construction, adjustments, operation, and testing of agricultural machines including capacities and costs of operation are covered through classroom lecture, demonstrations, hands-on laboratory activities and field trips.

COURSE OBJECTIVES: An understanding of the operation, repair, and maintenance of modern agricultural machinery and equipment and their systems is necessary for success in production, processing, and distribution of agricultural commodities and the related careers opportunities in, sales, management, and service. Upon completion of this course you should be able to:

1. Discuss principles of operation of power units and power trains used in agricultural machinery.
2. Discuss current technological trends in use of mechanization in agriculture.
3. Make evaluations and calculations concerning basic design, operation, maintenance, and management aspects of agricultural machinery.
4. Discuss employment opportunities in agricultural mechanization and technology.
5. Explain how power is measured and transferred from one point to another to perform work.
6. Discuss the principles of operation of belt, chain, hydraulic, pneumatic, and mechanical lever power systems

7. Discuss principles of soil tillage and explain operation, adjustments service and repair of primary and secondary tillage equipment.
8. Discuss principles of operation, adjustments service and repair of planting and seeding equipment.
9. Discuss principles of operation, adjustments service and repair of chemical application equipment.
10. Discuss principles of operation, adjustments service and repair hay and forage harvesting equipment.
11. Discuss machinery management strategies and perform necessary calculations included in the selection, lease/purchase/custom operation options, maintenance and repair of agricultural machinery.
12. Perform basic adjustment, service and repair on agricultural machinery
13. Discuss the use of geographic information systems, remote sensing, and global positioning systems in modern precision farming operations.

#### DEPARTMENT OF AGRICULTURAL SCIENCES ATTENDANCE POLICY:

1. Regular and punctual attendance is expected of each student in the Department of Agricultural Sciences at Sam Houston State University.
2. Each faculty member will keep a written record of student attendance.
3. If a student misses four or more classes, the student's grade may be reduced by one letter grade. Additional penalties will be up to the discretion of the professor.
4. Three unexcused or unjustified tardies or early departures are considered one absence.
5. Excused absences must be documented by the student with a letter of confirmation from the sponsoring student organization, professor or doctor. Exemptions will include participation in departmental activities when prior approval is attained from the Department Chair or the sponsoring professor.

#### LABORATORY ACTIVITIES:

One or more pieces of equipment may be disassembled for observation, service and repair, observation, or demonstration in the laboratory. Each student is to take notes and maintain a lab notebook. Students will keep the laboratory clean and in order. Lab will not be dismissed until all tools and equipment is returned to the proper storage location and the floor is properly clean and swept.

#### RESEARCH PAPER:

Each student is required to work as a team to develop a research paper over a subject related to the use of new technology in agricultural machinery. To avoid possible duplication of specific topics, **advanced approval of topics by the instructor** is required and will be granted on a first-come first-served basis. The paper is to have six to eight typed pages of text plus a bibliography. At least three major references are to be listed. The bibliography and any tables, charts, pictures, etc. do not count as part of the four pages of text. The paper is expected to be neat as well as mechanically and grammatically correct. Up to 8 points extra credit will be given if the team utilizes the Sam Houston Writing Center for assistance. A group grade will be given.

### CLASS PRESENTATION:

Each student team is expected to give a twelve to fifteen minute presentation to the class over a subject related to the use of new technology in agricultural machinery. The presentation **may be** over the same subject as the research paper, **but must be pre-approved by the instructor**. The presentation should be approached as if the team is giving a presentation describing a new technology, product, or process to business colleagues or adults, or as a sales presentation to potential customers. Students are to contact the instructor prior to the presentation regarding any audio-visual equipment that may be needed. A group grade will be given.

### COURSE EVALUATION:

Exam # 1	150 pts
Exam # 2	150 pts
Exam # 3	150 pts
Lab work and assignments	300 pts
Research paper	75 pts
Oral Presentation	75 pts
Final Exam	<u>150 pts</u>
Total points	1050 pts

A = 90 – 100, B = 80 – 89, C = 70 – 79, D = 60 – 69, F = > 60

No exams or assignments will be given at alternative times unless arrangements are made with the professor before the scheduled activity occurs.

1. At the discretion of the professor, up to a 10 % penalty may be assessed for late exams or assignments. At the discretion of the professor, a 100% essay make-up exam may be given.
2. Final Exam is comprehensive.
3. Students with perfect attendance in both lecture and lab will not be required to take the final if they are satisfied with their semester average.

### FIELD TRIPS:

Field trips may be planned throughout the semester as student/instructor schedules and contacts with businesses and industries allow. Because of possible travel time from the SHSU campus, it may be that a field trip will take longer than normal class/lab schedules allow. If so, other class/lab release time will be given.

### ACADEMIC DISHONESTY:

All students are expected to engage in all academic pursuits in a manner that is above reproach. Students are expected to maintain complete 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, purchasing papers collusion and the abuse of resource materials. Any such action will result in failing that exam, research paper, assignment, or the entire course, and a letter of explanation placed in the student's file.

#### DISRUPTIVE CONDUCT:

Students will refrain from behavior in the classroom or lab that intentionally or unintentionally disrupts the learning process and, thus, impedes the mission of the university. Cellular telephones and pagers **must be turned off before** class begins. Students **are prohibited from using tobacco products**, making offensive remarks, reading non-class materials, sleeping, talking at inappropriate times, wearing inappropriate clothing, or engaging in any other form of distraction. Inappropriate use of lap-top computers during class or lab will not be tolerated. Any inappropriate behavior shall result in a directive to leave. Students who are especially disruptive also may be reported to the Dean of Students for disciplinary action in accordance with university policy.

#### VISITORS IN THE CLASSROOM:

Unannounced visitors to class must present a current, official SHSU identification card to be permitted in the classroom. They must not present a disruption to the class by their attendance. If the visitor is not a registered student, it is at the instructor's discretion whether or not the visitor will be allowed to remain in classroom.

#### AMERICANS WITH DISABILITIES ACT:

It is the policy of Same Houston State University that no otherwise qualified disabled individual shall, solely by reason of his/her handicap, be excluded from the participation in, be denied the benefits of, or be subjected to discrimination under any academic or Student Life program or activity. Disabled students may request assistance with academically related problems stemming from individual disabilities by contacting the Director of Counseling Center in the Lee Drain Annex or by calling (936) 294-1720. If you have a disability that may adversely affect your work in this class, then I encourage you to register with the 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.

#### 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. 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). This request must be made in the first fifteen days of the semester or the first seven days of a summer session in which the absence(s) will occur. 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.

#### INSTRUCTOR EVALUATIONS:

You will be asked to complete a course/instructor evaluation form toward the end of the semester.