AGM 383
Agricultural Machinery Design and Structure
Spring 2019

Name: Dr. Craig Morton

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Phone: (936) 468-4250

Office: Agricultural Engineering Technology Shop

Office Hours:

Office Hours: M - none, T - none, W - 1:00 to 3:00, R - 4:00 to 5:00, F - 9:00 to 12:00 and 1:00 – 4:00

Department: Agriculture

Class meeting time and place:

Wednesdays 8:00 to 8:50; Agricultural Engineering Technology building room 110; lab Mondays 1:00 to 4:50 Agricultural Engineering Technology building room 110 and shop

Course Description:

Design and fabrication of agricultural equipment; AGM 236 is a prerequisite; completion of AGM 325 is a performance enhancer.

Student Learning Outcomes:

Design a piece of agricultural equipment
Draw detailed plans of a piece of agricultural equipment
Build a piece of agricultural equipment
Prepare a bill of materials for a shop project
Demonstrate to a group the proper method of employing a shop tool
Demonstrate proper techniques for using shop tools
Demonstrate shop safety procedures and clean-up habits
Text and Materials:

No text is required. *Welding For Modern Agriculture* and *Agricultural Technical Systems and Mechanics* are great references for many topics presented in the course. All available volumes of *Arc Welded Projects* by The James F. Lincoln Arc Welding Foundation are available in the classroom for student use. Bring a calculator to all lectures and labs.

Course Requirements:

- Two one-hour exams 200 points
- Project and detailed plans 200 points
- Shop improvement project 50 points
- Demonstration 50 points
- Shop clean-up 50 points
- Attendance and punctuality 100 points
- Total 650 points

Grading Policy:

- 585 – 650 = A
- 520 – 584 = B
- 455 – 519 = C
- 390 – 454 = D
- Below 390 = F
Course Calendar:

Course introduction and shop safety (+/- 1 day)
Drawing and plan reading (+/- 1 day)
Machining mathematics (+/- 1 day)
Drill press operation (+/- 1/2 day)
Jointer and table saw operation (+/- 1/2 day)
Radial arm saw, miter saw, planer, band saw, and panel saw operation (+/- 1 day)
Portable tools – wood-cutting band saw, saber saw, sanders, drill, circular saw (+/- 1 day)
Pocket hole jig (+/- 1/2 day)
Cold metal practices (+/- 1/2 day)
Trailers, wheel bearings, wheels and tires (+/- 1/2 day)
Oxy-fuel cutting, welding, brazing, motorized torch (+/- 1 day)
PAC (+/- 1/2 day)

Exam I (1 day)
PVC (+/- 1/2 day)
Sweating copper pipe (+/- 1/2 day)
Metal-cutting band saw (+/- 1/2 day)
Rivets, bolts, nails, screws, and glue (+/- 1/2 day)
Sheet metal brake and sheet metal shear (+/- 1/2 day)
SMAW (+/- 1/2 day)
ERW (+/- 1/2 day)
Aluminum welding (+/- 1/2 day)
Cast iron welding (+/- 1/2 day)
GMAW (+/- 1/2 day)
FCAW (+/- 1/2 day)
GTAW (+/- 1/2 day)

Hardfacing – powder torch, SMAW, OAW, carbon arc torch (+/- 1/2 day)
Final exam (1 day) - 8:00 Monday, May 13th
Attendance Policy:

Students are expected to attend all classes and labs. Over 15% of the class grade is determined by attendance. A tardy is equal to an absence; if you miss roll call your attendance grade will suffer. If you arrive after roll call do not ask for attendance credit. Treat this class as you would treat a job – be where you are supposed to be when you are supposed to be there. Except for excused absences, exams and lab exercises cannot be made-up. Excused, non-emergency absences must be coordinated in advance or they will be treated as unexcused. Make-up for emergency absences should be coordinated immediately upon return to class.

Academic Integrity:

Academic integrity is a responsibility of all university faculty and students. Faculty members promote academic integrity in multiple ways including instruction on the components of academic honesty, as well as abiding by university policy on penalties for cheating and plagiarism.

Definition of Academic Dishonesty
Academic dishonesty includes both cheating and plagiarism. Cheating includes but is not limited to (1) using or attempting to use unauthorized materials to aid in achieving a better grade on a component of a class; (2) the falsification or invention of any information, including citations, on an assigned exercise; and/or (3) helping or attempting to help another in an act of cheating or plagiarism. Plagiarism is presenting the words or ideas of another person as if they were your own. Examples of plagiarism are (1) submitting an assignment as if it were one's own work when, in fact, it is at least partly the work of another; (2) submitting a work that has been purchased or otherwise obtained from an Internet source or another source; and (3) incorporating the words or ideas of an author into one's paper without giving the author due credit.

Please read the complete policy at http://www.sfasu.edu/policies/academic_integrity.asp
Acceptable Classroom Behavior

Classroom behavior should not interfere with the instructor’s ability to conduct the class or the ability of other students to learn from the instructional program (see Student Conduct Code, policy D-34.1). Unacceptable or disruptive behavior will not be tolerated. Students who disrupt the learning environment may be asked to leave class and may be subject to judicial, academic, or other penalties. This prohibition applies to all instructional forums. The instructor shall have full discretion over what is appropriate/inappropriate in all instructional forums.

Students who do not attend classes regularly or who perform poorly may be referred to the SSC Campus Early Alerts program http://www.sfasu.edu/judicial/earlyalert.asp. This program provides students with recommendations or other assistance that is available to help SFA students succeed.

Tobacco Free Campus

Use of all forms of tobacco are strictly forbidden anywhere in the AET building and compound. Concealed carry is permitted but this does not include hiding a tobacco product between the cheek and gum.

Responsible Use of Technology

It is expected that all students will only use cell phones, PDAs, laptop or table computers, MPs players, and related devices outside of class time or when appropriate in class. Answering a cell phone, texting, listening to music, or using a laptop/tablet for matters unrelated to the course may be grounds for dismissal from class or other penalties. Recording lectures or labs is allowed only with permission. Photographing tests, lab exercises, or other class material without permission is prohibited.
Withheld Grades Semester Grades Policy (A-54):

Ordinarily, at the discretion of the instructor of record and with the approval of the academic chair/director, a grade of WH will be assigned only if the student cannot complete the course work because of unavoidable circumstances. Students must complete the work within one calendar year from the end of the semester in which they receive a WH, or the grade automatically becomes an F. If students register for the same course in future terms the WH will automatically become an F and will be counted as a repeated course for the purpose of computing the grade point average.

Students with Disabilities:

To obtain disability related accommodations, alternate formats and/or auxiliary aids, students with disabilities must contact the Office of Disability Services (ODS), Human Services Building, and Room 325, 468-3004 / 468-1004 (TDD) as early as possible in the semester. Once verified, ODS will notify the course instructor and outline the accommodation and/or auxiliary aids to be provided. Failure to request services in a timely manner may delay your accommodations. For additional information, go to http://www.sfasu.edu/disabilityservices/.
## B.S. Agricultural Engineering Technology Program Learning Outcomes

### Proficiency Levels

<table>
<thead>
<tr>
<th>Course</th>
<th>PLO 1 Technical</th>
<th>PLO 2 Problem Solving</th>
<th>PLO 3 Communication</th>
<th>PLO 4 Leadership</th>
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<tr>
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<td>AGN 110</td>
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<tr>
<th>B-Basic</th>
<th>I-Intermediate</th>
<th>A-Advanced</th>
<th>M-Mastery</th>
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### Program Learning Outcomes:

1. **PLO 1 (Technical)** - The student will demonstrate competence of technical subject matter.
2. **PLO 2 (Problem Solving)** - The student will exhibit problem solving skills.
3. **PLO 3 (Communication)** - The student will demonstrate effective communication skills.
4. **PLO 4 (Leadership)** - The student will exhibit leadership and other interpersonal skills needed for career placement and advancement.
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