

AGET 150 Course Syllabus

Course Description:

The principles of operation, adjustments, calibration, and safety of wheel and track-type tractors. Selection, operation, and theory of operation of equipment commonly used in California agriculture. 2.0 hours lecture, 3.0 hours laboratory

Instructor:

Michael Spiess

Office Hours and Contact Information:

Current contact information and office hours are available on Vista. See the Contact Me icon.

Note: Email is a good way to contact the instructor outside of class or office hours. Emails are generally answered within 12 hours or less. However some student messages may be trapped by the campus spam filter. To reduce your chances of having your message blocked always include a subject line, don't add links to the message, and don't type in all caps.

Class Meeting:

Monday and Wednesday 0800-0850, Lab: Monday or Wednesday 1400-1650 at Shop II or as announced.

Course Objectives:

Students will:

- Have an understanding of safe agricultural tractor/equipment operations and managers responsibilities for employee safety training.
- Have an understanding of machinery and machinery practices as part of a sustainable agriculture system.
- Be able to operate tractors with common implements including backing, hitching, and field operations.
- Be able to perform pre-start inspections.
- Have knowledge of tractor mechanical, hydraulic and electrical systems.
- Have a basic understanding of the use of common tractor implements.
- Have a basic understanding of tractor selection criteria and operating costs.
- Have a basic understanding of machine maintenance programs.
- Be able to identify machinery commonly use in California.
- Have a basic understanding of the setup and adjustment of sprayers, planters, fertilizer applicators, and tillage equipment.

Dress:

Labs will often be conducted at the Farm and will include tractor and machinery operations. Old clothes are recommended and closed toe shoes are required.

Safety:

Safety is a primary concern while operating equipment. Students that are not operating in a safe manner will not be allowed to participate and a no lab points will be given. Chronic problems with safe operation will result in a grade of "F" and removal from the course. Many of the machines are loud and prolonged exposure may cause hearing damage. Class exposure is brief, but students may wish to use hearing protection for some lab exercises. Hearing protection devices are available from local tool and equipment suppliers.

Required Texts & Equipment:

- John Deere. Tractors, 3rd Edition. John Deere Publication.
- On-Line text. A large part of the class text is on-line (Vista) and students are responsible for reading this material.
- Agricultural Machine Systems Lab Manual and Course Reference (available at the bookstore). Students are required to bring the lab manual to lab.
- Scientific Calculator. Students are required to bring the calculator to class and lab. NOTE: A cell phone is not a substitute for a calculator.

Web Site and Computer Use:

Computers are an integral part of agricultural mechanics industry and students are expected to use this technology as part of the course. Some materials for this course are found on the course web site delivered by Vista. **These materials are an integral part of the course and students will be expected to review it regularly.** Written assignments are expected to be typed. Generally, assignments will be provided in MS-Word format allowing the student to print and edit the document. Students not familiar with computers or use of the Web (or Vista) are strongly encouraged to seek training (see instructor for further information). Computer portions of this course can be completed on a home computer with an internet connection or in a campus computer lab (see <http://www.csuchico.edu/stcp/labs/>). Information on other computer resources for students is available at: <http://www.csuchico.edu/stcp/>.

On the web site students will find:

- Weekly quizzes (beginning the first week of class). Quizzes cover assigned reading materials and must be completed before the first lecture of the week.
- Online reading.
- Lecture Notes provided as a study aid only.
- Lab Exercises (PDF), useful if a clean copy is needed.
- Grades (generally posted after the 4th week)
- Assignments
- A current course activity schedule (syllabus and announcements)
- Other resources that will help students complete assignments.

Lab Manual:

Students are required to keep a binder of lab materials and machinery handouts. This notebook will be a useful study guide for the course and a future reference. For full credit binders will include completed lab assignments, equipment handouts & other readings (from web site), and tailgate topic sheets, other assignments separated by tabs. See grading sheet in the Lab Manual. Note: Not all lab exercises will be completed.

“Tailgate” Safety Talks:

Each student is required to prepare and present a 3 minute safety talk in lab. This exercise is designed to simulate the role typical of a manager/supervisor training employees. Topics must be **directly related** to agricultural machinery. Students will post handout to Vista. A template is available on the course web site. Tailgate talks should address the safety problem and provide some background, provide some talking points, and list some questions. Topics will be 1-2 pages in length and students are expected to handout to the rest of the students in the lab. Topics will be posted electronically to the course web site to receive credit.

Grading:

Grades will be determined by:

	Approximate Points
Vista Quizzes	140
Written assignments and unannounced quizzes (0-4)	50 to 150
Tailgate Topic	50
Midterm (2)	200
Notebook	50
1 final exam (comprehensive)	150
Lab Attendance	75
Lab exercises	420

Grades will be assigned using the following scale:

94% - 100%	A
90% - 92%	A-
87% - 89%	B+
83% - 86%	B
80% - 82%	B-
77% - 79%	C+
73% - 76%	C
70% - 72%	C-
67% - 69%	D+
60% - 66%	D
Below 60%	Failure

Course Management:

- Students are expected to turn off all pagers, cell phones and other electronic devices during class time. Please NO TEXTING or laptop use.
- Students are strongly advised not to miss labs since this time may be difficult or impossible to make up.
- No written assignments will be accepted after the assigned due date without prior permission of the instructor.
- No makeup of quizzes, written assignments, labs, etc. will be allowed unless by prior permission of the instructor.
- Vista quizzes cannot be taken after the due date.
- Cleanup of the shop is part of the laboratory exercise. Students not participating in shop cleanup will have points deducted from their lab grades.
- Tests will be a combination of multiple choice, problems, and/or short answer. They may include identification of equipment and parts from lab.
- Student grades will be posted on Vista and it is the responsibility of the student to check their grade for accuracy. If a student feels an error in grading has been made, the student has one week from the time of the assignment is returned to them (or the grade is posted on the web, whichever is later) to request a review of the grade. The request must be in writing – attached to the original assignment—and must include a specific statement as to what is in error, how it should be corrected, and what supporting evidence is available.
- Use of tobacco products is not allowed during class/lab.
- Students are expected to pay attention and participate in class meetings.
- All class participants are expected to exhibit respectful behavior to other students and the instructor.
- All students have the right and privilege to learn in the class, free from harassment and disruption.
- Inappropriate or disruptive behavior will not be tolerated, nor will lewd or foul language.

Policies Common to the University and College of Agriculture

University and College Policies will be enforced in this course. See:

http://www.csuchico.edu/ag/_assets/documents/syllabi/COCommonSyllabusPolicies.pdf

Course Schedule

The course schedule is subject to change. Changes will be announced in class and posted on the course web site (see announcements). Assignments are found on Vista and actual due dates are listed there. Code to Reading: T=Tractors text, O=Online, L=Lab Manual. Lab schedule WILL change based on weather and availability of equipment.

Week Of	Lecture Topic	PowerPoint	Reading (Online-Quiz)	Monday Lab	Wednesday Lab	Assignments
8/24/2009	Introduction to Course Simple Machines/Terms	Introduction How Machines Work Basic Terms	O – Simple Machines/Terms T - Chap 1	Getting to Know Tractors	Getting to Know Tractors	Experience Survey
8/31/2009	Nut (Almond) Harvesting Systems /Introduction to Tractors	Tractor / Almond Harvesting	T – Chap. 2	Almond Harvesting	Almond Harvesting	Math Quiz
9/7/2009	Tractor Pre-Start and Safety	Tractor	T – Chap. 3	Holiday No Lab	No Lab	Safety Test
9/14/2009	Tractor Controls Attachments and Field Operations	Tractor	T – Chap 4	Operation #1	Operation #1	Start Tailgate Topics (lab)
9/21/2009	Midterm Safety Training Programs	Safety Programs	T – Chap.5	Operation #2	Operation #2	WWW Equipment I (Tractors)
9/28/2009	Engines & Engine Systems	Tractor	T – Chap 6	Operation #3	Operation #3	
10/5/2009	Power Transmissions / Hydraulic Systems	Tractor	T – Chap 7	Ballasting	Ballasting	
10/12/2009	Spray Systems	Sprayers	O – Chemical Applications	Hydraulics	Hydraulics	
10/19/2009	Tillage	Tillage	O - Tillage	Sprayer Calibration	Sprayer Calibration	Sample Safety Plan
10/26/2009	Midterm Hay Equipment	Hay Equipment	O – Hay Equipment	Laser Level & Guidance	Laser Level & Guidance	
11/2/2009	Fertilizer Applicators	Fertilizer Applicators	O - Radial Tractor Tires -- Performance That Counts and Gear Up and Throttle Down -- Saving Fuel.	Simple Machines (Furlough No lab meeting)	Hay Equipment	Fertilizer Calibration

Week Of	Lecture Topic	PowerPoint	Reading (Online-Quiz)	Monday Lab	Wednesday Lab	Assignments
11/9/2009	Intro to Precision Agriculture & Guidance Systems / VRT Technologies	Intro to Precision Ag	O-Precision Ag	Hay Equipment	Simple Machines (Holiday No lab meeting)	WWW Equipment II (Hay Equipment)
11/16/2009	Planters	Planters	O - Planters	Unit Planters /Grain Drill	Unit Planters /Grain Drill	
11/23/2009	Thanksgiving					
11/30/2009	Combines	Combines	O - Combines	Unit Planters /Grain Drill	Unit Planters /Grain Drill	Tailgate Topics Posted (Monday) WWW Equipment III (Combine)
12/7/2009	Cotton Harvest / Maintenance Programs, Equipment Management	Cotton / Preventive Maintenance / Equipment Management	T-Chap. 8, O - Five Strategies for Extending Machinery Life, O – Preventive Maintenance & Equipment Management	Combine Setup & Adjustment	Combine Setup & Adjustment	Lab books due (Monday)
12/14/2009	Final Monday 12:00-1:50	Final exam is required and will be given to all students at the scheduled time unless the student has a serious and compelling reason.				