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, Lecture/Lab
John Pitter, Lab

Office Hours and Contact Information:
Current contact information and office hours are available on Blackboard. See the Contact Me folder.

Note: Email is a good way to contact the instructors 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.

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.
• Understand how machinery is used in sustainable agricultural practices.
• Be able to solve problems common to machinery setup and operation.

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. *Introduction to Crop Production*. John Deere Publication.
- On-Line text. 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 entire 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 Blackboard. **These materials are an integral part of the course and students will be expected to review it regularly.** Written report assignments are expected to be typed. Labs with questions may be handwritten as long as the handwriting is neat. If in doubt type your answers. 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 Blackboard) 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/](http://www.csuchico.edu/stcp/labs/)). Information on other computer resources for students is available at: [http://www.csuchico.edu/stcp/](http://www.csuchico.edu/stcp/). On the web site (Blackboard) students will find:

- Assessments -
- 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 complete grading sheet in the Lab Manual. Note: Not all lab exercises may be completed.

**Lab Attendance:**
An important part of the class is lab participation. In lab you will work with machinery and study the concepts of machine operation in hands on activities. The lab component is an integral part of the class; attendance will be taken and graded.
Quizzes
Approximately 15% of your grade is based on quizzes. Starting week #2 the first class of the week will begin with a quiz. Quiz material will focus on the assigned reading and the previous week’s lab. Problems may be included.

“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. 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. Topics will be posted electronically to the course web site to receive full credit (see assignment). Note: Topics missed without prior notice cannot be made up. Students are responsible for signing up (first 2 weeks of class), keeping track of the presentation date, bringing the grade sheet and copy for the lab instructor plus copies for all the students in your lab.

Grading:
Lab activities will be graded by the lab instructor, lecture activities will be graded by the lecture instructor. All grades will be posted to Blackboard.

Grades will be determined by:    Grades will be assigned using the following scale:

<table>
<thead>
<tr>
<th></th>
<th>Approximate Points **</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Online Assessments</td>
<td>100</td>
<td>94% - 100% A</td>
</tr>
<tr>
<td>Class Quizzes</td>
<td>280</td>
<td>90% - 92%  A-</td>
</tr>
<tr>
<td>Assignments</td>
<td>110</td>
<td>87% - 89%  B+</td>
</tr>
<tr>
<td>Notebook</td>
<td>50</td>
<td>83% - 86%  B</td>
</tr>
<tr>
<td>1 final exam (comprehensive)</td>
<td>150</td>
<td>80% - 82%  B-</td>
</tr>
<tr>
<td>Tailgate Topic*</td>
<td>50</td>
<td>77% - 79%  C+</td>
</tr>
<tr>
<td>Lab Attendance*</td>
<td>75</td>
<td>73% - 76%  C</td>
</tr>
<tr>
<td>Lab exercises (50 each)*</td>
<td>750</td>
<td>70% - 72%  C-</td>
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</tbody>
</table>

* Graded by the lab instructor, ** total points may vary depending on the number of assignments.

Course Management:
• Labs are due in the lab the week following the activity. Late labs are not accepted.
• 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.
• Blackboard quizzes/surveys 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.
• Quizzes/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 Blackboard 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. Contact the appropriate instructor.
• 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:
# Course Schedule

The course schedule is subject to change. Lab changes will be announced in class and posted on the course web site (see announcements).

- Assignments are found on Blackboard and actual due dates are listed there.
- Code to Reading: T=Tractors text, C=Crop Production text, O=Online Reading, L=Lab Manual.
- Lab schedule WILL change based on weather and availability of equipment. A copy of the schedule should be placed in your lab manual.

<table>
<thead>
<tr>
<th>Week Of</th>
<th>Lecture Topic</th>
<th>PowerPoint</th>
<th>Reading (Quiz)</th>
<th>Lab</th>
<th>Assignments*</th>
</tr>
</thead>
<tbody>
<tr>
<td>8/25/2014</td>
<td>Introduction to Course Simple Machines/Terms</td>
<td>Introduction How Machines Work Basic Terms</td>
<td>O – Simple Machines/Terms T - Chap 1</td>
<td>Getting to Know Tractors</td>
<td>MS Online Experience Survey/Syllabus Quiz</td>
</tr>
<tr>
<td>9/8/2014</td>
<td>Tractor Pre-Start and Safety</td>
<td>Tractor s</td>
<td>T – Chap. 3</td>
<td>Operation #1</td>
<td>JP Start Tailgate Topics (lab)</td>
</tr>
<tr>
<td>9/15/2014</td>
<td>Tractor Controls Attachments and Field Operations</td>
<td>Tractor s</td>
<td>T – Chap 4</td>
<td>Operation #2</td>
<td>JP</td>
</tr>
<tr>
<td>9/22/2014</td>
<td>Safety Training Programs</td>
<td>Safety Programs</td>
<td>T – Chap.5</td>
<td>Ballasting</td>
<td>MS</td>
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<tr>
<td>9/29/2014</td>
<td>Engines &amp; Engine Systems</td>
<td>Tractor</td>
<td>T – Chap 6</td>
<td>Operation #3</td>
<td>JP WWW Equipment I (Tractors)</td>
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<tr>
<td>10/6/2014</td>
<td>Power Transmissions / Hydraulic Systems</td>
<td>Tractor</td>
<td>T – Chap 7</td>
<td>Hydraulics</td>
<td>MS</td>
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<tr>
<td>10/13/2014</td>
<td>Spray Systems</td>
<td>Sprayers</td>
<td>C – Chap 5</td>
<td>Sprayer Calibration</td>
<td>MS</td>
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<tr>
<td>10/20/2014</td>
<td>Tillage</td>
<td>Tillage</td>
<td>C – Chap 3</td>
<td>Hay Equipment</td>
<td>JP Sample Safety Plan</td>
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<tr>
<td>10/27/2014</td>
<td>Hay Equipment</td>
<td>Hay Equipment</td>
<td>C – Chap 7</td>
<td>Fertilizer Calibration</td>
<td>MS</td>
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<tr>
<td>11/10/2014</td>
<td>Planters</td>
<td>Planters</td>
<td>C – Chap 4</td>
<td>Unit Planters /Grain Drill</td>
<td>JP Tailgate Topics Posted (Monday)</td>
</tr>
<tr>
<td>Date</td>
<td>Topic</td>
<td>Class/Chap</td>
<td>Additional Topics</td>
<td>Other Notes</td>
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<tr>
<td>11/17/2014</td>
<td>Combines</td>
<td>Combines</td>
<td>C – Chap 6</td>
<td>Unit Planters/Grain Drill</td>
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<tr>
<td>11/24/2014</td>
<td>Thanksgiving</td>
<td></td>
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<tr>
<td>12/1/2014</td>
<td>Intro to Precision Agriculture &amp; Guidance Systems / VRT Technologies</td>
<td>Intro to Precision Ag</td>
<td>C – Chap 8</td>
<td>Combines</td>
<td></td>
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<tr>
<td>12/8/2014</td>
<td>Cotton Harvest / Maintenance Programs, Equipment Management</td>
<td>Cotton / Preventive Maintenance / Equipment Management</td>
<td>T-Chap. 8, C – Chap 9 O - Five Strategies for Extending Machinery Life, O – Preventive Maintenance &amp; Equipment Management</td>
<td>GPS Leveling &amp; Guidance</td>
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<tr>
<td>Final</td>
<td>See schedule in student center.</td>
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<td>Final exam is required and will be given to all students at the scheduled time unless the student has a serious and compelling reason.</td>
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* See Blackboard for actual due dates, these dates are approximate.