

AGET 120 Course Syllabus

Course Description: Shop skills essential to mechanized agriculture, including welding, metal and wood fabrication tools, tool sharpening, and threading. Proper selection, use, repair, and safety of the tools and machines will be emphasized. 2.0 hours lecture, 3.0 hours laboratory.

The course is designed to meet the portion of the California agricultural credential requirements for agriculture in Standard 7 dealing with shop skills. The knowledge and skills in agricultural mechanics are fundamental to most areas of agriculture. Additionally, it is essential that students are prepared to safely operate agricultural tools and equipment.

Instructor: Michael Spiess

Office Hours and Contact Information: Monday-Thursday 1000-1050 in Plumas 213, Tuesday 1300-1350 in Shop II.

E-mail: mspiess@csuchico.edu.

Web site: <http://www.agedweb.org>

Phone: 898-4554.

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: Tuesday and Thursday 1100-1150 at Plumas 303, Lab Tuesday 1400-1650 in Shop II.

Course Objectives: Students will:

- Have an understanding of basic shop tasks commonly found in agriculture
- Be able to perform basic shop tasks common to agriculture
- Develop the ability to work safely in a shop environment.
- Demonstrate their ability to layout projects from drawings.
- Be able to create drawings of simple projects.
- Be able to correctly identify common tools and materials
- Develop an understanding of projects and materials that will enable them to create a bill of materials for common farm or classroom projects
- Be able to solve project construction problems such as efficient use of materials, materials selection, etc.

The course includes the study and practice of the following skills:

- Safe use, care, and maintenance of hand/power tools and shop equipment common to the agricultural/horticultural industry.
- Agricultural applications of electric welding, oxy-fuel cutting, and oxy-fuel brazing.
- Cold metal and sheet metal skills.
- Agricultural applications of plumbing and electrical skills.
- Agricultural applications of wood working and construction procedures.
- Applications of land measurement and surveying principles.
- Mixing, pouring, and finishing concrete.
- Drafting and creating and interpreting drawings.

Lab Dress: Old clothes, shop coats, or coveralls. No loose clothing. Long hair must be restrained. Closed toe shoes are required, work boots are recommended. Safety glasses will be worn at all times.

Safety: Safety is a primary concern while working in the shop. Students that are not working in a safe manner will be required to leave the shop. This includes failure to wear adequate eye protection. Many of the machines in the shop 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 the suppliers listed below.

Required Equipment:

- 6' x 1/2" steel tape measure or larger
- Scribe or scratch awl
- Pencil
- OSHA approved clear safety glasses or goggles (prescription or dark glasses are not acceptable). Glasses must have side shields.
- It is highly recommended that students purchase a 12" combination square (comes with a scribe).

Equipment can be purchased at Home Depot, Lowe's, or other supplier.

Required Texts: Herren & Cooper, Agricultural Mechanics Fundamentals & Applications, 5th edition.. Students are expected to have read the assigned reading before lecture. They should be able to answer the questions at the end of each chapter. Quiz and test materials will be drawn from the text, lecture, and other materials provided in the course.

Introduction to Agricultural Mechanics Lab Manual (available at the AS Bookstore and online in WebCT). Students are required to bring the lab manual to lab.

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 WebCT. 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 WebCT) 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:

- Tool ID & Materials pictures.
- Lecture Notes (in MS-Word) provided as a study aid only.
- Lab Exercises
- Grades (generally posted after the 4th week)
- Assignments
- A current course activity schedule
- Other resources and required reading.
- Resource materials for safety presentations

Extra Credit Service Learning Activity:

Students may elect to participate in a service learning activity for a minimum of 5 hours during the semester. The purpose of this activity is to relate course content to a service activity. Service involving building construction, landscape construction, or other activity that uses the skills taught in this course. The recommended activity is participation in a current Habitat for Humanity project. However, any community service (not for profit) activity related to the course content is acceptable (**prior approval required**). The service experience is useful as an expansion of the student's in-class experience and because opportunities exist for teachers of mechanized agriculture to provide service

learning experiences to their students. See <http://www.csuchico.edu/hfh/> Forms for this activity can be found on the course web site.

Unit Exams: Beginning in week two, a short "unit test" will be given at the beginning of class every Thursday. This will cover the material from the previous weeks reading, lecture, and lab. No make-ups will be allowed. Students with excused (prior notice required) absences will be given an alternate assignment. Questions will be a combination of short answer, multiple choice, problems, and tool ID.

Safety Demonstrations: Students are required to present a safety demonstration in lab. These demonstrations should include a discussion of the safe operation procedures for the tool(s) chosen as well as a demonstration of safe operation. Resource materials (and grading criteria) are available on the course web site. Additional resources can be found in the text and on the WWW. No makeups are possible since the safety demonstration is an integral part of the lab instruction. If a student will miss their assigned lab then they should switch topics with another student and notify the instructor. Assigned dates are on the lab schedule.

Course Management:

- Students are strongly advised not to miss labs since this time may be difficult or impossible to make up.
- No makeup of test, quizzes, etc. will be allowed unless by prior permission of the instructor.
- Cleanup of the shop is part of the laboratory exercise. Students not participating in shop cleanup will have points deducted from their project grades.
- No written assignments will be accepted after the last lecture meeting. Late assignments are subject to a 20% penalty. No lab projects will be accepted after the Final Exam.
- Tests will be a combination of multiple choice, short answer, and problems. They will include identification of tools and materials.
- **Lab projects are due in the following lab.** Lab projects are typically graded one to two weeks after the lab day. Lab projects will be scored according to the criteria included with the lab. If a project score is protested, then the entire project will be re-graded.
- Student grades will be posted on WebCT web site 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. It is highly recommend that students keep copies of assignments.
- Use of the shop outside of the scheduled class time will be permitted provided that an instructor is in the building (i.e. during office hours) and at least two students are in the shop (for safety). Students are expected to work safely and thoroughly cleanup. Abuse of this privilege will result in loss of the privilege.
- It is the student's responsibility to meet all appropriate deadlines for adding, withdrawing, etc. These deadlines can be found on the University web site at: <http://www.csuchico.edu/schedule/>
- Use of tobacco products is not allowed during class.
- Students are expected to turn off all pagers, cell phones and other electronic devices during class time. Use of cell phones, pagers, and similar electronic devices during class are disruptive to the class and prohibited.
- 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.
- The class follows the standards set in the **Code of Students Rights and Responsibilities (EM 96-38)** and students are subject to disciplinary action for violation of that code.

Grading:

Grades will be determined by:

	Approximate Points
Written assignments	100-150
Safety Presentation (lab)	25
Unit Exams	325
Project Plan	50
1 final exam (comprehensive including tool & material ID)	150
Lab exercises	430

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+
63% - 66%	D
60% - 62%	D-
Below 60%	Failure

University Policies

University policies will be enforced in the course (see Catalog).

Cheating and Plagiarism: Cheating and plagiarism are considered as the most serious offenses in the teaching-learning process, as it erodes the integrity of the student/faculty relationship. Students are reminded that the University Policy on Academic Honesty will be enforced in this class. The policy is available in the Catalog. *Students are reminded that turning in someone else's homework or project is considered cheating.* If there is evidence that you have been involved in any form of academic dishonesty, you will receive an "F" grade for the course, be locked from WebCT, and a report will be provided to Student Judicial Affairs for further action.

Students with Disabilities: Upon identifying themselves to the instructor and the university, students with disabilities will receive reasonable accommodation for learning and evaluation. (Contact Disability Support Services)

Academic Rigor

Academic rigor means the consistent expectation of excellence and the aspiration to significant achievement. It should pervade the entire atmosphere of the University--teaching and learning, curriculum, evaluation of student and faculty, outreach, admissions, advising, and student life.

Rigorous Learning

Rigorous students are part of the equation of rigorous teaching and learning. A rigorous education is vigorous, difficult, deeply satisfying work, and it requires a lifestyle conducive to achieving excellence. College is not a temporary diversion or a period of entertainment, but a fundamental piece of student character, citizenship, and employment future. A diploma and good grades from a demanding institution count for something. Rigorous students

- Set high personal standards, develop a strong sense of purpose, come to class well-prepared, and complete assignments on time.
- Develop an effective relationship with the instructor, in and outside of class, and make the most of University advising and other services.
- Treat fellow students and the classroom environment with complete respect. Give each class full attention and participation. Do not miss class, arrive late, or leave early.
- Accept continuing responsibility for learning and for grades earned.
- Approach each class in a professional manner, as if the class were real employment. Treat a full-course load as full-time work and spend no less time on it. Determine exactly what is expected.
- Experiment with all teaching and learning strategies used in classes, and also determine which work best for them.
- Demonstrate complete honesty and integrity.

Rigorous Teaching

Rigorous faculty are role models for the behaviors and accomplishments the University seeks to promote. They demonstrate a high level of professionalism and commitment to the University and to their discipline and inspire in students an excitement about learning. Guiding students toward excellence, they

- Communicate high expectations and demonstrate them through a demanding syllabus and well-prepared classes.
- Encourage student-faculty contact in and out of class and offer conscientious advising and consistent availability.
- Encourage collaboration and active learning, fully involving students in the learning experience.
- Provide students early, prompt, and frequent feedback and develop appropriate assessment strategies.
- Emphasize time on task, clearly communicate time required for learning, make it clear that full-time study is full-time work, and design learning experiences so that homework matters.
- Develop approaches and strategies geared to diverse talents and ways of learning, while maintaining high standards of accountability.
- Reduce opportunities to engage in academic dishonesty and challenge its occurrence.

Course Schedule

Tool ID Assignments refers to tools or materials in the listed category on the [Tools](#) and [Materials](#) web site.

Week	Topic	Reading*		Tool ID Category
		4 th Ed.	5 th Ed.	
8/21/2006	Introduction, Safety, Measuring, Reading Drawings, Ropework and Knots	Unit1-6 See Rope Reference on web site	Unit1-6 See Rope Reference on web site	Rope
8/28/2006	Introduction to Tools and Materials, Project Layout	Unit 7-8	Unit 7-8	Cold and Hot Metal Tools
9/4/2006	Land Measurement	See Land Measurement Reference	See Land Measurement Reference	Surveying
9/11/2006	Electricity	Unit 31-34	Unit 32-35	Electrical Tools and Materials
9/18/2006	Concrete/Forming	Unit 38	Unit 39	Concrete Tools and Materials
9/25/2006	Woodworking / Drawing	Unit 9-11, Unit 17	Unit 9-11, Unit 17	Fasteners (Materials)
10/2/2006	Sheet metal / Bills of Materials	Unit 12-13, Unit 18-19	Unit 12-13, Unit 18-19	
10/9/2006	Introduction to Welding	Unit 22-26	Unit 22-26	Welding Tools
10/16/2006	Cold Metal / Hot Metal	Unit 16	Unit 16	Cold & Hot Metal Tools
10/23/2006	Tool Sharpening, Care of Tools	Unit 20-21	Unit 20-21	
10/30/2006	Plumbing	Unit 35-36	Unit 36-38	Plumbing Tools and Materials
11/6/2006	Lumber	Review Unit 9	Review Unit 9	Wood/Construction
11/13/2006	Woodworking/Construction	Unit 39-40	Unit 40-42	
11/20/2006	Thanksgiving Break			
11/27/2006	Painting materials and methods, Glazing	Unit 27-28	Unit 27-28	Painting Tools
12/4/2006	Project Design Review			
12/11/2006	FINAL EXAM Thursday 1000-1150, All Lab Projects Due			

*Complete before first lecture of the assigned week.

** Students should be prepared to demonstrate the hazards and safe use of their assigned tool at the beginning of the lab.

Lab Schedule

Week of	Lab Topic	Safety Demonstration Schedule	Demonstration by:
8/21/2006	Shop Tour & Safety Orientation, Measuring		
8/28/2006	Ropework & Securing Loads		
9/4/2006	Tool Sharpening Template	Sheet Metal and Shear, Portable Drills	
9/11/2006	Land Measurement	Drill Press, Circular Saw	
9/18/2006	Electrical	Electrical, Band Saw	
9/25/2006	Concrete (location TBA)	Concrete & Mixer, Power Miter Saw	
10/2/2006	Woodworking	Saber Saw, Table Saw	
10/9/2006	Sheet Metal	Brake & Spot Welder, Plasma Cutter	
10/16/2006	Arc Welding / Gas Welding & Cutting	Oxy-Acetylene, Arc Welding Equipment	
10/23/2006	Arc Welding / Gas Welding & Cutting	National FFA	
10/30/2006	Cold Metal / Hot Metal / Metal Fasteners	Hydraulic Shear	
11/6/2006	Tool Sharpening	Grinders	
11/13/2006	Plumbing	Plumbing	
11/20/2006	NO LAB		
11/27/2006	Rafter / Wood Fasteners/Paint Prep	Painting, Sanders	
12/4/2006	Painting / Shop Cleanup	Jointer/Surface Planer	

Course Schedule: The course schedule is subject to change. Changes will be announced in class and posted on the course web site.