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# AGRI 421 Course Syllabus

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## Course Description:

Curriculum development and methods of teaching and motivating students in agricultural mechanics. 2.0 hours seminar, 3.0 hours laboratory.

## Prerequisites:

**Students should have completed AGET 120 and AGET 150 (or equivalent courses) before taking this class.**

## Instructor:

Michael Spiess

## Office Hours and Contact Information:

Current contact information and office hours are available on Blackboard. 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:

Tuesday 1700-2150 in Shop II. **Attendance is also REQUIRED at the Chico State Field Day (Saturday) See schedule for date.**

## 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 using computer aided drawing tools.
- 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.
- Utilize various teaching procedures and techniques.
- Develop teaching objectives in Ag mechanics.
- Develop a file of appropriate lesson plans.

- Select tools and materials used in effective shop classes.
- Identify factors lending to an effectively laid-out shop facility.
- Lead a discussion of student evaluations of demonstrations and lessons. Analyze lessons that incorporate the use of technology according to best practices and research findings.
- Practice and model safety procedures in Ag mechanics shop lessons.
- Successfully teach a "typical high school" lesson dealing with situations including, but not limited to: discipline, time limits, evaluation, management, etc.
- Teach several lessons involving demonstrations in Ag shop.
- Organize, plan and prepare for teaching Ag mechanics skills.
- Select technological resources to support and enhance learning aligned with agricultural mechanics instruction and adopted state standards.
- Use established selection criteria to evaluate electronic digital media including multimedia tools, Internet resources, computer-assisted instruction
- Use computer productivity tools (e.g. Office) for agricultural mechanics instruction and in the management of SAE and shop programs.
- Demonstrate competence using technology during demonstrations and lessons. Identify exemplary practices of computer-based technology in teaching and learning. Use online tools to create lesson plans.
- Use computer-based collaborative tools (such as threaded discussion group, listservs, online chat and audio/video conferences) as a regular part of the course (Blackboard) and the National Association for Agricultural Education Communities of Practice.
- Demonstrate competence in the use of electronic research tools (such as Internet searches) and assess the authenticity reliability, and bias of information gathered. Demonstrate the use of R-2 and other data sources available to California Agricultural Teachers.

What the student should know:

- The steps to follow in developing teaching objectives and lesson plans in Ag mechanics instruction.
- The clinical teaching procedures and elements of good teaching as applied to non-classroom instruction.
- The development of a shop program budget and how to purchase tools, materials and supplies.
- Shop management and organization techniques.
- The appropriate use of technology in agricultural mechanics instruction.
- The general purposes and objectives of Ag mechanics instruction in Agricultural Education.
- The teacher's legal responsibility for conducting shop and fieldwork activities.
- Fully understand the California Educational Code relative to eye protection.
- The importance of giving prompt attention to student first aid needs.
- The obligation of the teacher relative to teacher liability in school shop accidents.

**Required Texts:**

Storm, *Managing the Occupational Education Laboratory*, Praken Publications, Inc. 1993.

Herren, *Agricultural Mechanics Fundamentals & Applications*, 4<sup>th</sup> or 5<sup>th</sup> edition (or similar text)

AGRI 421 Supplemental Readings & Reference (available in Blackboard, Adobe Acrobat Reader is required).

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CAD Software. TurboCAD (older edition) is available at [www.amazon.com](http://www.amazon.com) and AutoCAD can be obtained for free (student version).

## Required Materials & Equipment:

Students are responsible for obtaining materials for lab assignments (lessons). SAFETY GLASSES are required for every class. Students must wear closed toed shoes in the shop.

## 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 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 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/>). Information on other computer resources for students is available at: <http://www.csuchico.edu/stcp/>

On the web site students will find:

- Lecture Notes (PDF) provided as a study aid only.
- Assignments and Exercises
- Grades (generally posted after the 4<sup>th</sup> week)
- A current course activity schedule
- Other resources and **required reading**.
- Resource materials

## Class Attendance:

*Much of the course content is composed of demonstrations and lessons given by the students and the instructor. Class participation and feedback is a key part of the curriculum. Students will be graded on attendance.*

## Course Management:

- Assignments are due on the due date and will not be accepted late.
- Use of the shop outside of the scheduled class time will be permitted provided that an instructor is in the building 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.
- Cleanup of the shop is commonly part of the class activity. Students not participating in shop cleanup will have points deducted from their grades.

- Students are expected to complete the assigned reading prior to class and actively participate in discussion of the reading.
- Student collaboration is encouraged; however each student must do their own work. (e.g. graphs, written answers, etc.)
- Student grades will be posted on the Instructor's 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 tobacco products is not allowed during class or lab.
- Students are expected to turn off all pagers, cell phones and other electronic devices during class time. No texting please.
- In class use of laptop computers is limited to use related to the course. **NO email, IM, etc.**
- 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.

### **Demonstrations:**

Each student will deliver one or two demonstrations (15-20 minutes). One demonstration/lesson will be small engine related and the other in the shop skills area. One presentation will include a “project” of your own design with complete plans and a sample of the completed project. Students will provide materials for the demonstrations and lessons.

Demonstration/lesson assignments are due at the time of presentation and copies for the class members are expected. Handouts and lesson plans will included as part of the “binder” assignment.

### **Course Binder:**

Students are expected to keep a contemporaneous binder of lessons, assignments, and handouts during the class. The CDE portfolio is included in the Binder. Materials in the binder will be used in class discussion and must be brought to class. These materials will be useful references for new teachers.

## Grading:

Grades will be determined by:

	Approximate Points
Safety Test	20
Binder	65
Midterms/quizzes	100
Demonstration (1-2)	60 each
Project & Plan	150
Field Day Summary, rubrics, and other assignments	200-300
Demonstration	100-150
Attendance & Feedback (10 points each)	

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

## Policies Common to the University and College of Agriculture

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

## Professional Conduct

As future teachers students are expected to perform as professionals. Assignments should be turned in on time and completed in a professional manner. Students are expected to treat their peers professionally and provide constructive feedback. See Blackboard for more information.

## Course Schedule

The course schedule is subject to change. Changes will be announced in class and posted on the course web site (announcements). Reading should be completed before first lecture of the assigned week. "Online" reading will be posted on the web site.

Week Of	Topic	Reading*	Assignments**	Activity
1/23/2012	Introduction to Class Career Development Events in Ag Mechanics/Demonstrations / Professional Conduct	CATA Code on CalAgEd	CDE Portfolio Getting Connected	Field Day Planning & Organization, Signup for Demos
1/30/2012	Grading Rubrics for Ag Mechanics / Student Learning Outcomes / Into to the Project	Review CA Curriculum on CalAgEd	(project) Part 1/ CDE Test Questions Due	Safety Quiz, Grading Rubric Activity #1/ CDE Discussion /Tool Inventory Assignment
2/6/2012	Teacher Prep Ag Mechanics Standards / Curriculums in other States / California Curriculums for Ag Mechanics	Standards on CalAgEd / Safety Issues	Demo#1 Plan Due	Grading Rubric Activity #2 / Test Questions / Plan / Rubric Discussion
2/13/2012	Academic Standards	See CDE site, Curriculum on CalAged	CDE Rubric/Plans Due/Materials Ordered/Part 2	3 <sup>rd</sup> Rubric Activity (SLOs) / Field Day Prep
2/20/2012	Lesson Planning / Shop Materials Planning / Internet Resources (CRAPP)	Tort Reading	Ag Mechanics Program	Field Day Prep / Tool ID Test/ Tort Reading Discussion
2/27/2012	Instructional Strategies: Stations/ Shop Safety and the Teacher's Responsibility	Chapter 6, 7, 9	Part 3	Field Day Prep
3/5/2012	Equipment Selection / CAD / Small Engines Curriculum	Chap 2	Demo Plan #2 due	<b>Sat. 3/10 REQUIRED</b>
3/12/2012	Managing Facilities / CAD	Chap 5, Teacher Attitudes	Field Day Evaluation Due/ Part 4	CAD Activity
3/19/2012	Spring Break			

Week Of	Topic	Reading*	Assignments**	Activity
3/26/2012	Tool and Materials Control	Chap 4	Part 5	Small Engine Demos
4/2/2012	Curriculum Development Shop Design & Layout	Chap 3		Part 6 (bring materials)
4/9/2012	Material and Tool Planning: Budgeting, Material Acquisition and Control	Chap 8	Shop Capital Budget/Part 7	Project Demos
4/16/2012	No Lecture		Field Trip	Field Trip (AAAE Meeting)
4/23/2012	Ag Mechanics Instruction supports academic skills	Chapter 12	Field Trip Report Due/Part 8	Shop Inventory / Tool Storage
4/30/2012	Budget Discussion/Record Book Discussion	On CalagEd	Part 9	Shop Hazard Assessment
5/7/2012	Service Learning		Part 10	Project Demos
5/16/2012	Final <b>Wednesday</b> 6-7:50 p.m.		Final Project Due	Binder Due (includes CDE portfolio)

\*Complete before first lecture of the assigned week. \*\* Assignments can be found on the course web site and may change during the semester. See the calendar for current schedule. Assignments and due dates are approximate, see Blackboard Assignments.

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