1. **Course Number:** CTCT 7100 / 7106
   **Course Title:** Teaching Mechanical Technology
   **Credit Hours:** 3 semester hours (Lecture 2, Lab 2)
   **Prerequisites:** None
   **Corequisites:** None

2. **Date Syllabus Prepared:** July 2008

3. **Texts:**
   - Or Theil, David *Power Tool Maintenance*, Available on line
   - Or White, John. *Care and Repair of Shop Machines* Available on line
   - 2008 *Alabama State Course of Study for Agriscience Education*. Alabama State Dept of Education

4. **Course Description:**
   Theory and practice of managing agricultural mechanics laboratories, theories of machine operation, and practice of maintaining laboratory equipment.

5. **Course Objectives:**
   After completing this class, students will be able to:
   
   a. relate instructional planning to laboratory management.
   b. develop an agricultural mechanics instructional program.
   c. schedule an agricultural mechanics laboratory program.
   d. organize the laboratory and students for instructional purposes.
   e. plan and deliver safety instruction.
   f. develop a system for securing and controlling laboratory equipment, tools and supplies.
   g. secure, evaluate, and select references for agricultural mechanics instruction.
   h. explain actions for which teachers must accept responsibility and liability.
   i. describe the principles of operation of laboratory equipment.
   j. identify functions of laboratory equipment.
   k. identify the nomenclature of laboratory equipment.
   l. describe and perform maintenance practices for laboratory tools and equipment.

6. **Course Content:**

I. **Course Introduction (week 1)**
   A. Course orientation
   B. Course expectations

II. **Instructional Planning for Agricultural Mechanics (weeks 1 to 3)**
   A. Curriculum planning
   B. Learning environments
   C. Lesson planning
   D. Selecting references for agricultural mechanics

III. **Developing the Instructional Program (weeks 4 and 5)**
   A. Developing long-range plans
   B. Selecting lesson topics
   C. Selecting student activities
   D. Program scheduling
   E. Student management
IV. Safety Issues in Agricultural Mechanics (weeks 6 and 7)
   A. Personal safety protection
   B. OSHA
   C. Establishing a school safety program
   D. Teacher responsibility and liability

V. Planning for Building and Facilities (weeks 8 and 9)
   A. Determining building needs
   B. Environmental control
   C. Arranging laboratory equipment
   D. Color coding

VI. Laboratory Equipment Maintenance (weeks 10 to 15)
   A. Planer operation, principles, and maintenance
   B. Table saw operation, principles and maintenance
   C. Radial arm saw operation, principles and maintenance
   D. Jointer operation, principles and maintenance
   E. Band saw operation, principles and maintenance
   F. Drill press operation, principles and maintenance
   G. Grinder operation, principles and maintenance
   H. Welder operation, principles and maintenance
   I. Portable power tool operation, principles and maintenance

Final Examination in Week 16.

7. Course Requirements:
   A. Attend all class sessions and participate in all class discussions and assignments.
   B. Complete a mid-term examination
   C. Complete a comprehensive final examination.
   D. Complete all in-class and out-of-class assignments
   E. Complete all laboratory assignments.

8. Grading and Evaluation Procedures:
   The final grade for the course will be based on the following:
   
<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Comprehensive final examination</td>
<td>10%</td>
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<tr>
<td>In-class and out-of-class assignments</td>
<td>45%</td>
</tr>
<tr>
<td>Lab assignments</td>
<td>45%</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>100%</strong></td>
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   Any assignment presented or turned in late will be penalized 10% for each class period late. Late assignments presented or turned in late after two class sessions will not be accepted.

   The following grading scale will be used:

   90 - 100% = A
   80 - 89.9% = B
   70 - 79.9% = C
   60 - 69.9% = D
   Below 60% = F

9. Class Policy Statements:

   Participation: Students are expected to participate in all class discussions and participate in all exercises. It is the student’s responsibility to contact the instructor if assignment deadlines are not met. Students are responsible for initiating arrangements for missed work.

   Attendance/Absences: Attendance is required at each class meeting. If an exam is missed, a
make-up exam will be given only for University-approved excuses as outlined in the Tiger Cub. Arrangement to take the make-up exam must be made in advance. Students who miss an exam because of illness need a doctor’s statement for verification of sickness and should clear the absence with the instructor the day they return to class. Other unavoidable absences from campus must be documented and cleared with the instructor in advance.

Unannounced quizzes: There will be no unannounced quizzes.

Accommodations: Students who need accommodations are asked to arrange a meeting during office hours the first week of classes, or as soon as possible if accommodations are needed immediately. If you have a conflict with my office hours, an alternative time can be arranged. To set up this meeting, please contact me by e-mail. Bring a copy of your Accommodation Memo and an Instructor Verification Form to the meeting. If you do not have an Accommodation Memo but need accommodations, make an appointment with the Program for Students with Disabilities at 1244 Haley Center, 844-2096 (V/TT).

Honesty Code: The University Academic Honesty Code and the Tiger Cub Rules and Regulations pertaining to Cheating will apply to this class.

Professionalism: As faculty, staff, and students interact in professional settings, they are expected to demonstrate professional behaviors as defined in the College’s conceptual framework. These professional commitments or dispositions are listed below:

- Engage in responsible and ethical professional practices
- Contribute to collaborative learning communities
- Demonstrate a commitment to diversity
- Model and nurture intellectual vitality

Distance Learning Students: Unless specific instructions have been given for a designated course, students in distance education courses shall take all closed resource examinations under the supervision of an approved proctor. Examples of approved proctors include a school superintendent, a principal of a high school, or a dean or department head of a college. Proctors shall be verified and exams shall be sent directly to the proctor who will manage the examination in a secure manner, requiring students to present a picture ID.

10. Justification for Graduate Credit:

CTCT 7100 (Teaching Mechanical Technology) expands on previous coursework and experiences received in preservice teacher preparation. Students enrolled in this course take a closer look at the theory and principles of power equipment. Students will also develop instructional strategies and plan facilities for safely and efficiently providing safety instruction in laboratories.