**Auburn University**

**Syllabus**

1. Course Number: CTCT 4140

Course Title: Agricultural Structures and Metal Fabrication Technology

Credit Hours: 3 semester hours (Lecture 3).

Prerequisites: None

Co-requisites: None

2. Term:  Fall 2018 (Syllabus Prepared August 2018)

**Day/Time:** Class Hours: Tuesday 4:30-8:00 P.M.

Lab Hours: Same

**Meeting Place:** Bottoms STEAM Lab, 32.629318- 85.50024

**Instructor:** Michael K. Riley, Ph.D.

Adjunct Professor, Auburn University

Office Address: Faculty Office: Haley Center

Contact Information: Cell Phone: 706-977-3726

Email: mkr0012@auburn.edu

Office Hours: By appointment

3. Text and Major Resources:

Resources will be provided as needed, no required textbook.

This course will require the use of Canvas. Canvas can be accessed from the Auburn University website through AU Access.

**4. Course Description:**

Materials selection and construction procedures for carpentry, masonry, electrical wiring, plumbing, and metal fabrication.

1. **Objectives:**

Upon completion of this experience, students will be able to:

* + 1. Calculate a bill of materials for structures and metal fabrication projects.
    2. Determine concrete volume yield and ingredients.
    3. Design and build agricultural structures and models according to specifications and codes.
    4. Demonstrate the use of measuring instruments in structures & metal fabrication situations.
    5. Demonstrate the use of carpentry tools for agricultural construction
    6. Demonstrate the use of power carpentry equipment.
    7. Demonstrate the assembly of flooring, wall, and roofing systems in agricultural structures technology.
    8. Demonstrate the ability to design and wire basic electrical circuits.
    9. Demonstrate the ability to perform basic plumbing procedures.
    10. Demonstrate the use of oxy-fuel gas welding equipment.
    11. Demonstrate the use of shielded-metal arc welding equipment.
    12. Demonstrate the use of metal inert gas (MIG) welding equipment.

1. **Course Content:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Session#** | **Course Topic** | **Readings** | **Assignment** |
| **Module 1**  **Tuesday**  August 21 | Syllabus and Course Expectations | Syllabus | Develop an 8-10 slide Safety Practices Power Point. |
| **Module 2**  **Tuesday**  August 28  Sept. 4 | Shop Safety and Orientation  Hand and Power Tool Safety | General Shop Safety Power points  Safety power-point and videos | Safety Test |
| **Module 3**  **Tuesday**  Sept. 11  Sept.18 | Stationary Power Tool Operation | Individually assigned stationary power tools. | Presentation |
| **Module 4**  **Tuesday**  Sept. 18  Sept. 25 | Woodworking Project |  | Complete the designated project |
| **Module 5**  **Tuesday**  Oct 2 | Foundation, Floors and Walls | Assigned Study | Foundation, Floors and Walls Exercise |
| **Module 6**  **Tuesday**  Oct 9 | Rafter and Stair Stringer Exercise | Assigned Study | Complete the layout of a rafter and a stair stringer. |
| **Module 7**  **Tuesday**  Oct 16 | Masonry Exercise | Assigned Study | Complete the six block corner exercise. |
| **Module 8**  **Tuesday**  Oct 22 | Electricity Exercise | Assigned Study | Complete electrical wiring exercise. |
| **Module 9**  **Tuesday**  Oct 29 &  November 6 | Metalworking Lab | Assigned Study | Demonstrate the use of the Oxyacetylene torch, SMAW welder, and Plasma Cutting. |
| **Module 10**  **Tuesday**  Nov. 13 &  Nov. 26 | Independent Project |  | Final Project |
| **Final Dec. 4** | Final | Final | Final |

**7. Assignments/Projects:**

1. Attend all class sessions and participate in all class discussions and laboratory assignments including lab maintenance exercises.
2. Prepare a general shop safety power-point
3. Prepare a stationary power tool presentation
4. Complete a woodworking project
5. Complete assigned building construction exercises.
6. Complete an electrical wiring exercise.
7. Complete assigned metalworking exercises
8. Construct an independent project of choice.

**8.** **Rubrics and Grading Scale:**

|  |  |  |
| --- | --- | --- |
| **Graded Activity** | **Points for each activity** | **Total points available** |
| Hand and Power Tool Safety Exam | 100 |  |
| Safety PPT | 100 |  |
| Stationary power tool presentation | 100 |  |
| Foundation, Flooring, Walls exercise | 50 |  |
| Rafter and Stair Stringer Exercise | 50 |  |
| Concrete and Masonry Exercise | 50 |  |
| Electricity Exercise | 50 |  |
| Plumbing Exercise | 50 |  |
| Oxy-gas welding Setup Exercise | 50 |  |
| SMAW/GMAW Exercise | 100 |  |
| Participation | 100 |  |
| Final Project | 100 |  |
| Final | 100 |  |
|  | Total Points Available | 1,000 |

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. Assignments are due on announced dates. Unexcused late assignments are unacceptable. 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. Students must satisfy all course objectives to pass the course.

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

**Excused Absences**:  Students are granted excused absences from class for the following reasons:  Illness of the student or serious illness of a member of the student’s immediate family, the death of a member of the student’s immediate family, trips for student organizations sponsored by an academic unit, trips for University classes, trips for participation in intercollegiate athletic events, subpoena for a court appearance, and religious holidays.  Students who wish to have an excused absence from this class for any other reason must contact the instructor in advance of the absence to request permission.  The instructor will weigh the merits of the request and render a decision. When feasible, the student must notify the instructor prior to the occurrence of any excused absences, but in no case shall such notification occur more than one week after the absence.  Appropriate documentation for all excused absences is required.  Please see the [*Student Policy eHandbook*](http://www.auburn.edu/student_info/student_policies/) for more information on excused absences (http://www.auburn.edu/student\_info/student\_policies/).

**Make-Up Policy:**Arrangement to make up missed major examination (e.g. hour exams, mid-term exams) due to properly authorized excused absences must be initiated by the student within one week from the end of the period of the excused absences.  Except in unusual circumstances, such as continued absence of the student or the advent of University holidays, a make-up exam will take place within two weeks from the time that the student initiates arrangements for it. Except in extraordinary circumstances, no make-up exams will be arranged during the last three days before the final exam period begins.  The format of the make-up exam will be (as specified by instructor).

Course contingency: If normal class and/or lab activities are disrupted due to illness, emergency, or crisis situation, the syllabus and other course plans and assignments may be modified to allow completion of the course. If this occurs, and addendum to your syllabus and/or course assignments will replace the original materials.

**10. Academic Honesty Statement:**

All portions of the Auburn University student academic honesty code (Title XII) found in the [*Student Policy eHandbook*](http://www.auburn.edu/student_info/student_policies/)will apply to this class.  All academic honesty violations or alleged violations of the SGA Code of Laws will be reported to the Office of the Provost, which will then refer the case to the Academic Honesty Committee.

**11. Students with Disabilities Statement:**

“Students who need accommodations are asked to electronically submit their approved accommodations through AU Access and 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 alternate time can be arranged. To set up this meeting, please contact me by e-mail. If you have not established accommodations through the Office of Accessibility, but need accommodations, make an appointment with the Office of Accessibility, 1228 Haley Center, 844-2096 (V/TT).”