

**Course Information**

|                                      |   |
|--------------------------------------|---|
| <b>Course Title</b>                  | Agricultural Construction I   |
| <b>Course Prefix, Num. and Title</b> | AGRI 2303   |
| <b>Division</b>                      | Life Sciences   |
| <b>Department</b>                    | Agriculture   |
| <b>Course Type</b>                   | Academic General Education Course (from ACGM, but not WCJC Core)  |
| <b>Course Catalog Description</b>    | Safety procedures, selection, use, and maintenance of hand and power tools, metal cutting and welding; and construction materials and principles. |
| <b>Pre-Requisites</b>                | None  |
| <b>Co-Requisites</b>                 | None  |

**Semester Credit Hours**

|  |                                  |
|--|----------------------------------|
| <b>Total Semester Credit Hours (SCH): Lecture Hours:</b> | 3:2:2                            |
| <b>Lab/Other Hours</b>                                   |                                  |
| <b>Equated Pay Hours</b>                                 | 3                                |
| <b>Lab/Other Hours Breakdown: Lab Hours</b>              | 2                                |
| <b>Lab/Other Hours Breakdown: Clinical Hours</b>         | Enter Clinical Hours Here.       |
| <b>Lab/Other Hours Breakdown: Practicum Hours</b>        | Enter Practicum Hours Here.      |
| <b>Other Hours Breakdown</b>                             | List Total Lab/Other Hours Here. |

**Approval Signatures**

| <b>Title</b>            | <b>Signature</b> | <b>Date</b> |
|-------------------------|------------------|-------------|
| <b>Prepared by:</b>     |                  |             |
| <b>Department Head:</b> |                  |             |
| <b>Division Chair:</b>  |                  |             |
| <b>Dean/VPI:</b>        |                  |             |
| <b>Approved by CIR:</b> |                  |             |

## Additional Course Information

**Topical Outline:** Each offering of this course must include the following topics (be sure to include information regarding lab, practicum, and clinical or other non-lecture instruction).

### Topical Outline

### Dedicated Instructional Time

|  |             |
|--|-------------|
| Taking linear measurements; using squares, levels, and lines.                              | Two weeks   |
| Woodworking safety, woodworking hand tools, and woodworking fasteners.                     | Three weeks |
| Selection and usage of abrasives, stains, finishes, and wood and metal paint applications. | One week    |
| Selection and use of portable drills, sanders, saws, and routers.                          | One week    |
| Principles of concrete layout and surveying. .   | Two weeks   |
| Principles of basic plumbing and wiring.   | Two weeks   |
| Farm buildings and related structures.   | Two weeks   |
| Selection and use of plywood and lumber  | One week    |
| Welding, safety, and principles of gas, arc. MIG, and TIG welding.                         | Two weeks   |

### Laboratory:

1. Measurement/squaring.
2. Calculating/Determining area, acreage/perimeter
3. Use of screws, nails, nuts, bolts, and glue.
4. Wood and metal sanding, preparation and painting techniques.
5. Using portable hand tools.
6. Surveying
7. Concrete construction
8. Plumbing and wiring.
9. Selecting plywood and treated lumber.
10. Welding equipment and safety.
11. Metal welding and cutting.

### Course Learning Outcomes:

#### Learning Outcomes – Upon successful completion of this course, students will:

1. Demonstrate proper safety procedures in agricultural construction laboratory.
2. Identify layout tools used for linear measuring, leveling, and squaring.
3. Describe principles involved in linear measurements, squaring, leveling, etc.
4. Identify woodworking fasteners and hand tools.
5. Understand and implement the methods for using hand tools and fasteners.
6. Demonstrate knowledge regarding various methods of using abrasives, finishes and paints.
7. Understand selection and demonstrate usage of portable drills, saws, sanders, and routers.
8. Understand the differences and demonstrate knowledge regarding the different types of welding such as Gas, Arc, MIG, and TIG.
9. Illustrate the principles of surveying and knowledge regarding the uses of application of concrete layout and structures.
10. Apply basic wiring and plumbing technique

### **Methods of Assessment:**

1. Lab, exams, & class discussions
2. Lab, exams, & class discussions
3. Lab, exams, & class discussions
4. Lab, exams, & class discussions
5. Lab, exams, & class discussions
6. Lab, exams, & class discussions
7. Lab, exams, & class discussions
8. Lab, exams, & class discussions
9. Lab, exams, & class discussions
10. Lab, exams, and class discussions

### **Required text(s), optional text(s) and/or materials to be supplied by the student:**

Agricultural Mechanics, Fundamentals and Applications, Current edition. Cengage Learning. Ray V. Herren.

### **Suggested Course Maximum: 24**

### **List any specific or physical requirements beyond a typical classroom required to teach the course.**

The lecture room should include sufficient dry erase (or chalk) board for notes and illustrations, a computer with internet access and overhead computer projector, and a traditional overhead projector.

### **Laboratory classroom required**

### **Course Requirements/Grading System:**

Students are required to read the publications assigned to them. Throughout the semester, the students have 4 major lecture exams, attendance/participation, several quizzes and assignments

Evaluative Procedures:

Lecture grade makes up  $\frac{1}{2}$  of the final grade.

Lab grade makes up  $\frac{1}{2}$  of the final grade.

Lecture grade is determined by 4 major exams and class attendance/participation, each counting for  $\frac{1}{5}$  of the total lecture grade.

Lab grade is determined by participation and completion of lab assignments.

The grade classifications as outlined in the College Catalog are employed:

A – 90 – 100% Excellent

B – 80 – 89% Good

C – 70 – 79% Average

D – 60 – 69% Poor

F – Below 60% Failure

W – Withdrawn

### **Curriculum Checklist:**

**Administrative General Education Course** (from ACGM, but not in WCJC Core) – No additional documents needed.

**Administrative WCJC Core Course.** Attach the Core Curriculum Review Forms

- Critical Thinking
- Communication
- Empirical & Quantitative Skills
- Teamwork
- Social Responsibility
- Personal Responsibility

**WECM Course** -If needed, revise the Program SCANS Matrix and Competencies Checklist