



# AGTC 202: FARM EQUIPMENT CONSTRUCTION

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**Proposer:**

Name:	Email:
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**Effective Term:**

Fall 2019

**Credit Status:**

Credit - Degree Applicable

**Subject:**

AGTC - Agricultural Technology

**Course Number:**

202

**Catalog Title**

Farm Equipment Construction

**Catalog Description**

This is a study of the basic principles for the construction of farm implements such as feeding equipment, tractor implements, farm trailers or other useful tools on the farm. The course content includes: safety, developing a working drawing, a bill of materials, constructing the project and finishing the project.

**Method of Instruction:**Laboratory  
Lecture and/or Discussion**Course Units/Hours:****Course Units Minimum:**

3

**Lecture Hours Minimum (week)**

3

**Lab Hours Minimum (week)**

1

**Total Contact Hours Minimum (semester)**

70

**Total Outside Hours Minimum (semester)**

105

**Total Student Learning Minimum Hours (semester)**

175

**Repeatability:**

No

**Open Entry/Exit:**

No

**Field Trips:**

Not Required

**Grade Mode:**

Standard Letter

**TOP Code:**

011600 - \* Agricultural Power Equipment Technology

**SAM Code:**

C - Clearly Occupational

**Course Content****Methods of Assessment:**

Problem solving assignments or activities  
 Short answer quizzes or exams  
 Skill demonstrations

**Course Topics:**

Course Topics	
1	Safety first
2	Drawing and sketching
3	Bill of materials
4	Use of shop tools
5	Project construction
6	Project Finishing

**Course Objectives:**

Course Objectives	
1	Students will demonstrate safe working procedures in the shop environment by wearing appropriate personal protective equipment at all times.
2	Students will identify and demonstrate proper reading and interpreting of commercial fabrication blueprints.
3	Students will demonstrate basic drawing and sketching skills by creating a drawing of their project and applying AWS welding symbols to the drawings.
4	Students will develop bill of materials, including amount and cost of the material.
5	Students will demonstrate proper use of hand tools and power tools.
6	Students will demonstrate proper layout, fit up of and tacking of project components.
7	Explain and demonstrate use of proper squaring and leveling procedures.
8	Apply and demonstrate advanced fabrication skills on student project.
9	List, delineate and describe methods of finishing materials used in project construction, including wood, plastics, and metals.
10	Discuss and describe application and choice of finish for project.

**Course Outcomes:**

Course Outcomes	
1	Upon completion of this course students will be able to explain and demonstrate safe work habits.
2	Upon completion of this course students will be able to demonstrate the drawing of basic fabrication plans and to apply those plans to construction of farm equipment.
3	Students will be able to develop a bill of materials to estimate construction cost of farm equipment.
4	Upon completion of this course students will be able to demonstrate proper layout procedures including leveling, squaring and tack up.
5	Upon completion of this course students will be able to finish a piece of farm equipment.

**Assignments:**

Assignment Type:	Details
Reading	In a possible reading assignment, students will read an article from an AG equipment dealership magazine on an equipment design and be ready to discuss the development of that implement in class.
Writing	In a possible writing assignment students will write a one-page summary on the equipment development article they have reviewed as homework.
Homework	In a possible homework assignment, students will be required to review a section in an operator's manual for the plasma torch and be ready to demonstrate its operation in the next class sections.
Other	In a possible lab, students will lay out, square and plumb all parts of an agriculture implement. After checking for fit, students will tack project together, in preparation for complete welding.

**Textbooks or other support materials**

Resource Type:	Details
Books	Welding Principles and Applications L. Jeffus Thomson Delmar Learning ISBN-13: 978-1305494695 8th edition, 2016

**Other Degree Attributes**

Degree Applicable  
Not a Basic Skills Course

**Banner Title:**

Farm Equipment Construction

**Curriculum Committee Approval Date:**

03/12/2019

**Academic Senate Approval Date:**

03/27/2019

**District Governing Board Approval Date:**

04/08/2018

**Course Control Number:**

CCC000604418