INTRODUCTION TO AGRICULTURAL MECHANICS

Hobbs High School

Advisor- Shawn Dennis

INTRO TO AGRICULTURE MECHANICS

- **COURSE TITLE: INTRO TO AGRICULTURAL MECHANICS**
- **GRADUATION REQUIREMENT MET: Elective**
- **PREREQUISITE: None**
- **GRADE LEVELS: 10,11,or12**
- **CREDITS: .5per semester**
- **FEES: $20.00**
- **This course provides for the skill and knowledge development applicable to the tools and equipment used in the agricultural industry. IN learning to apply basic industrial knowledge and skills (engines, power, welding, and carpentry) a broad range of topics may be explored, including the operation, mechanics, and care of tools and machines; the construction and repair of structures; introduction to electricity and power. Procedures for safe operations in the agricultural mechanics laboratory are included in this course. Students enrolled in this course will be given dual credit through ENMU after completing requirements.**

INTRODUCTION TO AGRICULTURE MECHANICS

- This class is designed to introduce students to fields involved in an agricultural mechanics career.
- Class consists of 40-60% classroom instruction on Safety and Construction Math
- $20 shop fee
- Proper safety PPE required (Welding Jacket, Gloves, Shoes and Safety Goggles.
- Hands on shop time (20-40%) of class time.
- FFA competition is strongly encouraged

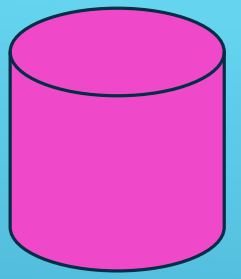
- Shop safety is taught in preparation for a safety certification opportunity with OSHA.
- Proper usage of tools found in the shop.
- Tool identification of hand tools and machine tools.

INTRODUCTION TO AGRICULTURE MECHANICS – (SHOP SAFETY)

$a^2 + b^2 = c^2$

$A = \pi r^2$

$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$

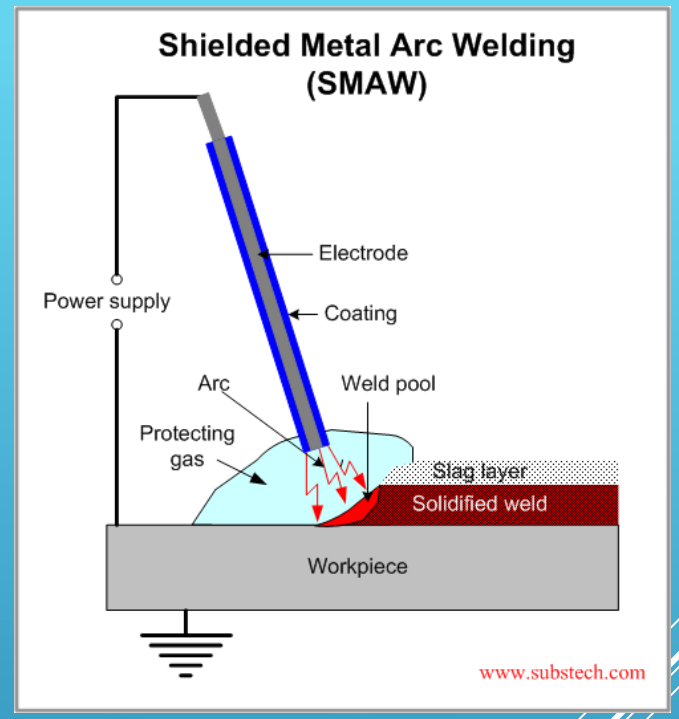


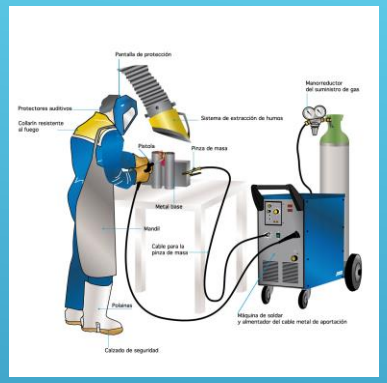
- Sections are taught in construction math.
  - Figuring volume, area, linear, figuring a bill of materials, reading measurement devices.
  - Calculators encouraged

INTRODUCTION TO AGRICULTURAL MECHANICS – (CONSTRUCTION MATH)

INTRODUCTION TO AGRICULTURAL MECHANICS / ARC WELDING (SMAW)

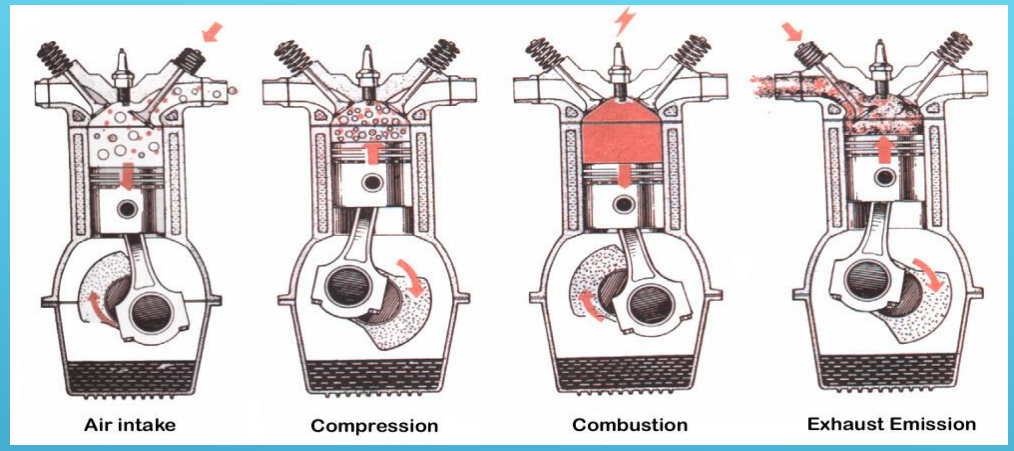
- Introduction to SMAW (Arc welding)
- Hands on approach
- Introduction to metallurgy
- Selection of electrodes
- Flat, horizontal, vertical in the different welding positions





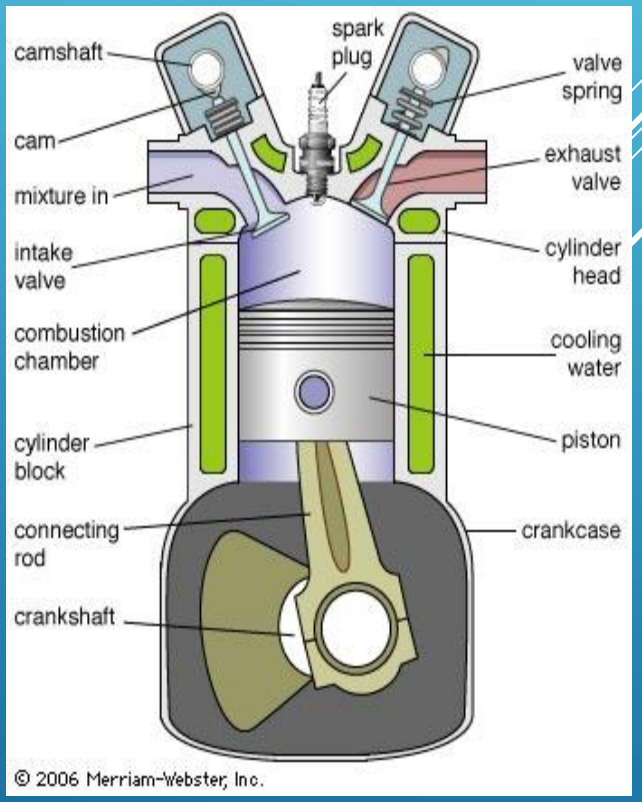
- Introduction to the mig (GMAW) welder
- Proper usage of the mig welder
- Troubleshooting the mig welder
- Mig welding at the vertical, flat and horizontal positions

INTRODUCTION TO AGRICULTURAL MECHANICS – MIG WELDING (GMAW)



- Introduction to the 2 stroke, and 4 stroke internal combustible engine.
- Troubleshooting the internal combustible single cylinder engine.
- Replacing and gapping the spark plug and filters
- Checking the fuel line
- Using measurement devices

INTRODUCTION TO AGRICULTURAL MECHANICS – (SMALL GAS ENGINES)



- Calculating proper mixtures when pouring concrete.
- Setting forms
- Using a transit
- Setting a foundation and pouring slabs
- Setting forms and pouring walls.

INTRODUCTION TO AGRICULTURE MECHANICS (CONCRETE & MASONRY)

- Calculating pressure flow
- Plumbing tool Identification
- Different types of irrigation Procedures
- Administering water lines
- Connecting PVC-CPVC pipe

INTRODUCTION TO AGRICULTURAL MECHANICS – (PLUMBING/IRRIGATION)