

**Ag Engineering and Fabrication 1 – Ag 120**

**Mr. Johnson**

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**Google Classroom: 4<sup>th</sup> Hr: z4lns3h**

**Course Description** - Students in this course will learn mig welding, arc welding, oxy-fuel cutting, plasma arc cutting, equipment operation, plumbing, cold metal, hot metal, and project construction skills. Students will learn to read working drawings and complete project plans. FFA activities and agricultural mechanics are emphasized. A Supervised Occupational Experience is required. The purchase of project materials 2<sup>nd</sup> semester is the responsibility of the student/parent/guardian.

**STANDARD 1.0 EXAMINE THE NATURE, SCOPE, AND ROLE OF AGRICULTURE IN THE SOCIETY AND THE ECONOMY**

1.1 Investigate the impact of the agricultural industry on population, food, energy, and environment

1.6 Investigate how the agriculture sector provides employment opportunities to the labor force

**STANDARD 2.0 EXAMINE THE IMPACT OF TRENDS, TECHNOLOGIES, AND POLICIES ON AGRICULTURE**

2.1 Identify the major milestones and technological advancements on agriculture and the impact to society (e.g., advances in mechanization)

2.9 Describe the effect of agriculture on the web cycle

**STANDARD 14.0 DEMONSTRATE OPERATION OF TOOLS, EQUIPMENT, AND INSTRUMENTS**

14.1 Demonstrate safe operating instructions and procedures as recommended by the manufacturer

14.2 Utilize service manuals to perform preventative maintenance and determine scheduled service on tools, equipment, and instruments, including small engines

14.3 *Identify, safely use, and Maintain* hand tools and power equipment (i.e., hand saws, power saws, welders, leaf blowers, etc.)

14.4 Demonstrate a variety of metal fabrication, welding, soldering, cutting, and finishing processes (i.e., SMAW, GMAW, GTAW, fuel-oxygen, plasma arc torch, etc.)

14.7 Utilize manufacturers' guidelines to diagnose, troubleshoot, and repair machinery, equipment, and power source systems

Extra:

Construct a project using metal fabrication skills – draft a plan, calculate the materials needed, calculate the cost, plan the steps.

**Grading** - Students will earn points by written assignments, quizzes, tests, projects and hands on activities in the laboratory. Approximate point values are as follows:

Assignment Type	1st Semester	2 <sup>nd</sup> Semester
Written assignments, quizzes, tests, article summaries, career reports	600 points	500 points
Laboratory projects	500 points	1000 points
Laboratory work	700 points	1300 points
Quarterly leadership	100 points	100 points
Final Exam / Required Forms completed	400 points	300 points
Supervised Agricultural Experience	100 Points	100 points

MCF Project		200 points
Employability	300poitsts	300 points
Interactive Notebook	350 points	350 points
Total points possible	3150 points	4150 points

A large portion of the grade is based on laboratory activities. Proper preparation, punctuality, and participation will greatly affect the laboratory points, thus the final grade. School rules will apply to absences, tardiness, and make up work. It is the student's responsibility to make up all work missed in a timely fashion. Students will be given employability points for the course. These employability points could include being on time, attitude, attendance, being prepared for class, participating in class discussion, working with classmates, clean up, attitude to list a few.

Students will also be required to conduct a Supervised Agricultural Experience. This is a work/research/ or entrepreneurial project in agriculture. They will keep records and be graded on completion and number of hours involved in the project each semester.

School policies for late assignments will be implemented. Incomplete assignments are not accepted.

**Course Procedures** - Performance objectives for this course can only be completed by student participation in planned activities. Student grades will be based upon the completion of assignments given both in class and in the laboratory. Students are expected to dress appropriately for activities planned and work conducted. Safety procedures will be emphasized at all times. Students **cannot** make-up work when they do not dress out or choose not to work that day. Students that choose to not work in a safe manner will be removed from the work area and given written assignments due that day. Students that are not dressed properly and/or show up late will lose daily points that cannot be made up. If a student falls behind in their skill development, work outside of class time will be necessary to get caught up and earn the appropriate grade. A locker and lock is provided for students to store their personal work clothes.

Students will not receive credit for partial work. The final project must be completed, safe, paid for and taken home before a grade will be issued on the project.

**Late work:** Assignment point value will be reduced 10% a day it is not turned in to the teacher. In order for a student to receive the opportunity for an extra credit assignment, the original assignment must be completed and turned in to the teacher in person.

**Make up:** for missed lab days (Work Points): Come at lunch or after school to make up the work time.

**See Also – Ag Engineering Course Requirements document**