Ag Engineering and Fabrication 1 – Ag 120

Mr. Johnson
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Google Classroom : 4th Hr: **mrprll4** 6th Hr: **gsuf3sp**

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 2nd 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.

AZ CTE Professional Skills

1.0 COMPLEX COMMUNICATION: Employs complex communication * skills in a manner that adds to organizational productivity. *Complex Communication refers to the need to combine traditional communication skills with technical workplace content transmitted via rapidly evolving technologies to increasingly diverse audiences.

2.0 COLLABORATION: Collaborates, in person and virtually, to complete tasks aimed at organizational goals.

3.0 THINKING AND INNOVATION: Integrates expertise in technical knowledge and skills with thinking and reasoning strategies to create, innovate, and devise solutions.

4.0 PROFESSIONALISM: Conducts self in an appropriate manner reflective of the organizational expectations.

5.0 INITIATIVE AND SELF-DIRECTION: Exercises initiative and self-direction in the workplace.

6.0 INTERGENERATIONAL AND CROSS-CULTURAL COMPETENCE: Interacts effectively with different cultures, generations, and individuals with disabilities to achieve organizational mission, goals, and objectives.

7.0 ORGANIZATIONAL CULTURE: Functions effectively within an organizational culture.

8.0 LEGAL AND ETHICAL PRACTICES: Observes laws, rules, and ethical practices in the workplace.

9.0 FINANCIAL PRACTICES: Applies knowledge of finances for the profitability and viability of the organization.

Grading - Students will earn points by written assignments, quizzes, tests, projects and hands on activities in the laboratory.

Assignment Weight	1st Semester	2nd Semester
Weighted 60%	Written assignments, quizzes, tests, Daily wk points Leadership points Supv Experience Project Interactive Notebook Employability Skills	Written assignments, quizzes, tests, Daily wk points Leadership points Supv Experience Project Interactive Notebook Employability Skills
Weighted 30%	Laboratory projects	Laboratory projects
Weighted 10%	Final Exam	Final Exam

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: A conference with the teacher is necessary to discuss the ability to complete assignments late. Assignment point value will be reduced 5% a day it is not turned in to the teacher to a max of 60%. All Late work must be turned in before the end of the 9 week grading period.

Make up: for missed lab days (Work Points): Come at lunch or after school to make up the work time. Other Assignments will be posted in Google Classroom

Tutor time: Available upon appointment Mon, Tues, & Thu. 7:00 – 7:20AM and 2:30 – 3:00

See Also – Ag Engineering Course Requirements document