

Intro to Welding Syllabus

Instructor Information

Joe Henderson

joe.henderson@hayscisd.net

(512)268-2141 ext. 44442

Description

Introduction to Welding will provide an introduction to welding technology with an emphasis on basic welding laboratory principles and operating procedures. Students will be introduced to the three basic welding processes. Topics include: industrial safety and health practices, hand tool and power machine use, measurement, laboratory operating procedures, welding power sources, welding career potentials, and introduction to welding codes and standards. Introduction to Welding will provide students with the knowledge, skills, and technologies required for employment in welding industries. Students will develop knowledge and skills related to welding and apply them to personal career development. This course supports integration of academic and technical knowledge and skills. Students will reinforce, apply, and transfer knowledge and skills to a variety of settings and problems. Knowledge about career opportunities, requirements, and expectations and the development of workplace skills will prepare students for future success.

Students must complete OSHA 10-Hour safety certification before the end of the NW1 grading period in order to pass the first semester. Students who do not pass the first semester cannot earn credit during the second semester or advance to Welding 1.

Expectations and Goals

- The student demonstrates professional standards/employability skills as required by business and industry.
- The student explores the characteristics of a successful worker in the global economy.
- The student evaluates the function and application of the tools, equipment, technologies, and materials used in welding.
- The student compares and contrasts welding joint design, material symbols, and welds.
- The student applies academic skills in relationship to welding.
- The student applies the concepts and skills of welding projects.
- The student performs oxy-fuel cutting processes on carbon steels.
- The student performs shielded metal arc welding principles and practices on metals.
- The student performs gas metal arc welding principles and practices.

Cell Phone / Electronics Policy

Cell phone / electronics use policy will follow HaysCISD district guidelines for high school use. Students will not be allowed to wear headphones while in the workshop.

Required Personal Protective Equipment

Students will be issued **ONE** pair of ANSI Z87 rated safety glasses which will last them the school year with proper care. *Students who lose or damage their eye protection due to negligence are responsible for replacement. Replacement eye protection must be ANSI Z87 rated.*

Students WILL NOT be allowed to provide their own welding helmet for Intro to Welding.

Students will not be allowed to use headphones while in the shop.

Students must provide (by Monday, September 30):

- Jeans without holes or frays
- Long sleeve cotton work shirt or welding leathers
- Leather shoes or boots (steel toe preferred)

The instructor will provide all other personal protective equipment (PPE) including, but not limited to:

- Hearing protection
- Clear face shields
- Shade 5 tinted face shields
- Shade 10 solid dark welding helmets
- Welding gauntlets
- Leather work gloves
- Respirators for work involving fumes
- Fume extraction hoods

Grading Policy

Student grades are geared toward developing workplace skills. Employers in central Texas are looking for employees who:

1. Show up on time and stay to the end of the workday.
2. Communicate clearly, professionally, and effectively.
3. Complete tasks when told without complaint and show initiative.
4. Pass a drug test - every time.
5. Have a clean driving record.

Student grades will include weekly grades based on:

- **EMPLOYABILITY** (30%) – shows up on time, has all the supplies and equipment necessary to work, takes care of supplies and equipment, cleans up after themselves
 - Student time cards
 - Students are expected to keep a neat and accurate time card each week, to be turned in the first school day of the following week. Timecard grades will be updated in the gradebook by the beginning of class on the last school day of the same week.
- **SAFETY** (35%) – earns 100% on safety exams for each piece of equipment before operating, uses appropriate personal protective equipment at all times while in the shop, reminds others to use appropriate PPE at all times while in the shop, operates shop equipment and handles shop materials and supplies in a safe manner - **SAFETY IS JOB ONE**
 - Students who exhibit unsafe workshop behaviors will receive a safety violation card. This card must be signed by the student, taken home and signed by the parent acknowledging they were

informed of the behavior, and turned in attached to the timecard for the week in which the infraction occurred. Repeated safety violations will not be tolerated. Infractions include:

- No Eye Protection
- Improper Personal Protective Equipment
- Unsafe Tool Use
- Horseplay
- **WORK ETHIC** (30%) – completes tasks in a timely manner, continues to work without needing direct supervision, demonstrates initiative in maintaining a clean and safe work environment
 - Students who exhibit poor work ethic behaviors will receive a work infraction card. This card must be signed by the student, taken home and signed by the parent acknowledging they were informed of the behavior, and turned in attached to the timecard for the week in which the infraction occurred. Infractions include:
 - Tardy/Late to Work
 - Away from Assigned Area/Task
 - Off Task Behavior - CELL PHONE
 - Refusal to Work
- **WORKMANSHIP** (5%) – completes all shop tasks to the best of the student's ability with a focus on quality, demonstrates teamwork, serves as a positive role model for peers
 - **Students must exhibit workshop behaviors which demonstrate a strong work ethic in order to receive a weekly grade above a 95%.** Students exhibiting workplace leadership will receive a commendable behavior card. This card must be signed by the student, taken home and signed by the parent acknowledging they were informed of the behavior, and turned in attached to the timecard for the week in which the commendation was received. Commendable behaviors include:
 - Active Safety Monitor
 - Helped Coworker without Prompting
 - Corrected Coworker's Housekeeping
 - Invaluable Assistance to Instructor

Student major grades will include:

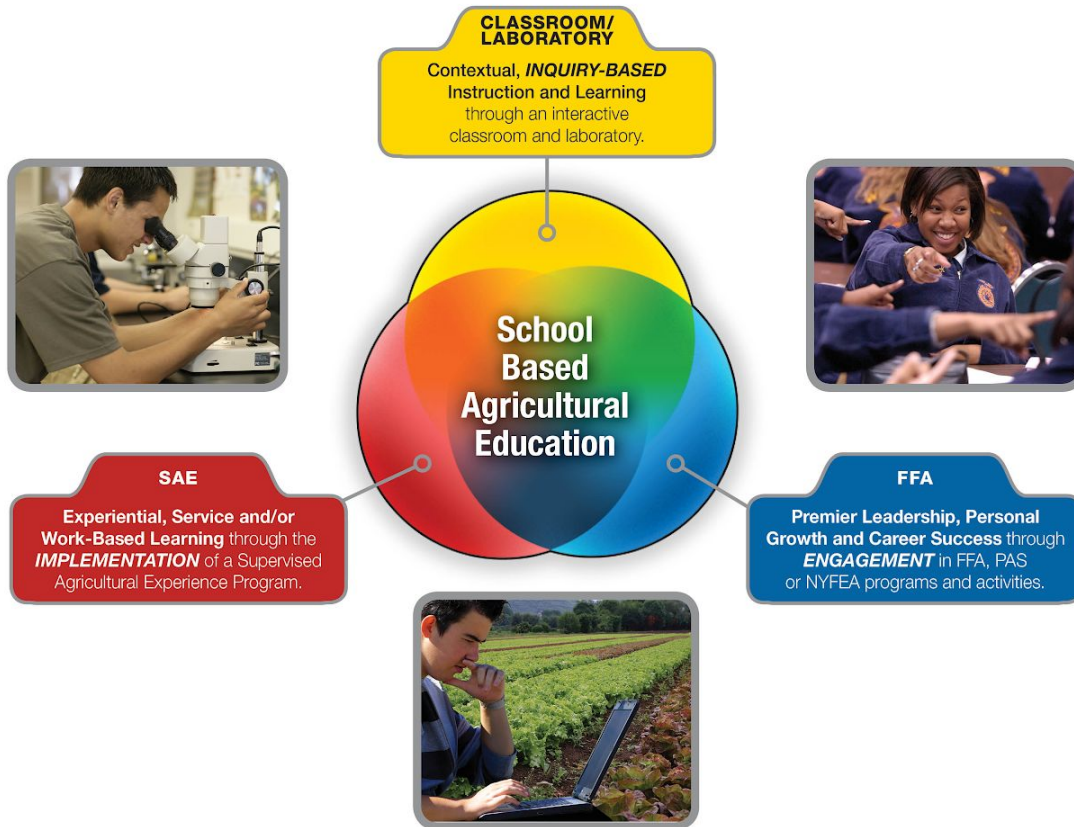
- Knowledge exams and quizzes
- Graded shop skills (welds, cuts, grinds, etc)
- Graded completed projects
- Job application and interview

Career and Technical Student Organization (CTSO)

The FFA is a dynamic youth organization that changes lives and prepares members for premier leadership, personal growth and career success through agricultural education.

FFA develops members' potential and helps them discover their talent through hands-on experiences, which give members the tools to achieve real-world success.

Members are future chemists, veterinarians, government officials, entrepreneurs, bankers, international business leaders, teachers and premier professionals in many career fields. FFA is an intracurricular student organization for those interested in agriculture and leadership. It is one of the three components of agricultural education.



The official name of the organization is the National FFA Organization. The letters “FFA” stand for Future Farmers of America. These letters are a part of our history and our heritage that will never change.

ONLY students who join the FFA are eligible to compete in Leadership and Career Development Events, welding contests, and after school activities.

Students who participate in the FFA may be eligible to earn letterman jackets, NTHS membership, scholarships, and chapter offices.

Welding Shop Safety Regulations

Welding is not inherently dangerous, but it can become very dangerous-even fatal if you are careless and neglect safety precautions. Johnson High School endeavors provide you with proper training and a safe environment, but you must also do your part by abiding by the safety precautions taught by the teachers, adhering to the posted shop safety rules and the following rules listed in this document. If you persistently violate these rules, you may be considered a safety risk and withdrawn from class. By signing my name below, I am attesting that my teacher has made me aware that welding is dangerous if I ignore applicable safety regulations and shop policies. I understand that I will acquire knowledge of these regulations and policies by (1) reading this document, (2) reading various safety directed materials handed out in class, (3) observing all safety and warning signs posted in the shop, and (4) attending safety demonstrations and/or presentations on equipment and shop practices given by my teacher throughout the course. I understand that it is my responsibility to attend class regularly, be alert to my surroundings and remain constantly vigilant to the risks of working in an industrial environment. I understand that "safe practice" is the discretionary interpretation of my instructor, and that if I fail to adhere to these requirements I will be considered a safety risk to myself and others.

1. Wear your safety glasses at all times when you are exposed to flying particles (example - grinding)
2. Know the locations and proper use of fire extinguishers.
3. Do not weld or grind near oxy-fuel tanks, manifold connections, or other potential sources for gas leaks.
4. Be mindful of proper ventilation in your work area.
5. When using portable grinders, be sure that you direct sparks away from others.
6. When using stationary pedestal grinders, be sure that the tool rest is adjusted as close to the grinding wheel as possible without touching it. Always wear safety glasses when grinding or wire brushing.
7. Do not handle oxy-fuel equipment with oil or grease on your hands, clothes or gloves.
8. Do not wear loose or dangling jewelry when welding, handling materials or working with other shop equipment and tools.
9. Do not wear loose or baggy clothing when welding, handling materials or working with other shop equipment and tools.
10. If there is an equipment malfunction, inform your teacher immediately so that it can be repaired and returned to service.
11. Proper clothing must be worn in the shop; these are 100% cotton, long sleeved, button down or snap down shirts, 100% cotton pants or 100% cotton coveralls(no shorts allowed), and close toed shoes or boots.
12. Shirt sleeves are to be rolled down and buttoned.
13. When welding (any type) or cutting, the student will wear leather gloves or gauntlets.
14. When oxy-fuel welding or cutting the student will wear a shade #5 protective eyewear.
15. When arc welding the student will wear an approved welding helmet with at least a shade #10 lenses.
16. When plasma cutting the student will wear at least a #5 protective eye wear and leather gloves.
17. Any student found not working, not following directions or distracting working students will be subject to appropriate disciplinary action.
18. Any student deliberately mishandling shop equipment, tools or other students' work will be subject to appropriate disciplinary action.
19. Any equipment, tools, or materials that are broken or wasted because of mishandling by a student will be repaired or replaced by the student.

20. When in the shop, students will be required to wear clear ANSI Z87 rated safety glasses at all times.

Detach and return this page by Monday, August 19, 2019

As a welding student: I _____ have read all of the above policies and have had them explained to me by the instructor. I will follow the policies or accept the consequences.

I will provide for myself the following personal protective equipment by Monday, September 30, 2019:

- Jeans without holes or frays
- Long sleeve cotton work shirt or welding leathers
- Leather shoes or boots (steel toe preferred)

(Student Signature)

(Date)

As the parent or guardian of the above named student I have read all of the above policies and understand that these policies are to insure the safety of my student and the safety of all other persons in the shop area. I acknowledge and recognize that I have a responsibility to impress upon my student the need to be vigilant and continuously adhere to these safety practices.

I will ensure my student has provided the following personal protective equipment by Monday, September 30, 2019:

- Jeans without holes or frays
- Long sleeve cotton work shirt or welding leathers
- Leather shoes or boots (steel toe preferred)

(Parent/Guardian Signature)

(Date)

Parent/Guardian: Home Phone Number _____

Cell Phone Number _____

Email Address _____