

Advanced Welding 2019-2020

Course Information:

This course is project-based course designed to provide the student with knowledge, skill, and a technology background in order for them to pursue craft, technology training, community college and apprenticeships, or college and university; and to prepare the student for workforce readiness. Possible certifications may be available after completion of coursework or online coursework during the semester. Emphasis will be placed on welding/cutting skills, safety, techniques, and project applications that apply to the manufacturing industry. This course is the prerequisite for the Practicum in Manufacturing/welding.

Teacher Information:

Instructors:

Joe Chambers – josephchambers@misdmail.org

Text, Readings, Materials:

Principles and Applications of Welding, Metal Fabrication Textbook, iTunes U, Google Classroom, AWS SENSE Curriculum, Google Drive.

Required Materials:

Clothing - Jeans (no holes or frayed edges), Long Sleeve Cotton Shirt, and Boots (can be steel toe). Bring in by August 27th.

Technology - We will be using the district issued iPads every day for coursework and online curriculum. If you do not bring it you will not be able to complete assignments for class.

Course Calendar/Schedule:

Safety instruction will be on-going throughout the semester as will testing and text assignments as necessary. This is a tentative schedule that is intended to be flexible and is subject to change depending on needs of students and progressions during the semester.

Week 1: Introductions, team building activities, classroom rules, procedures, and expectations, what is manufacturing, use of technology in this class, and career goals and employability.

Week 2: Safety/Equipment Review, Reading working drawings and weld symbols, Welding Practice-SMAW

Week 3: Welding Practice – SMAW, GMAW

Week 4: Project Planning, Design and Budgeting, Proposals, Ordering Materials.

Week 5: Project Building

Week 6: Intro to FCAW, Welding Practice/GTAW Practice

Week 7: CNC Plasma Cutting using Plasma Cam, using CAD

Week 8: Welding Certifications Practice

Week 9: Welding Certifications

Week 10: Pipe Welding

Week 11: Metal Roses/ Metal ART

Week 12: BBQ Pit/Fire Pit

Week 13: Weld Certifications

Week 14: Oxy-Acetylene Welding

Week 15: TGAW Fundamentals and Practice

Week 16: Projects

Week 17-18: Final Exam and Clean up

During this 18 weeks course we will cover basic safety (including the 10 hour OSHA training course), tool use and identification, job skills, careers in manufacturing, measurement, how to read and draw detail schematics and weld symbols, manufacturing processes such as welding, product design, production, and product marketing, and we will finish the class with a hands on project. We will be working through the AWS (American Welding Society) D1.1 Program to help each student work on getting some of their welding certifications.

Certifications:

10Hr Career Safe OSHA certification – Student should have their OSHA Certification after completing the prerequisite for this course. If for some reason they do not have it, students will be given a voucher to take the online course we will give them some limited class time to work on it. The student will need to work on this on their own time to finish. Students will be given the first six weeks to complete the 10hr training.

AWS Weld Certifications – Students are not guaranteed a certification by the end of this course. It is up to the student to meet all the criteria given to us by the American Welding Society including passing all required written and performance test and paying the \$20 fee for the initial form submission and \$5fee for each additional qualification sent in at a later date. Students will have taken practice test in previous courses, so we will review some and then

begin taking the “General Welding Knowledge” Tests – Safety with a 100% score, Drawing and weld symbol interpretation, thermal cutting process, and welding inspection and testing with at least a 75% score. Students will then take the written knowledge test for Shielded Metal Arc Welding and Gas Metal Arc Welding and have to pass with at least a 75%. After passing written tests students will be given opportunity to take the performance portion. All welds must meet AWS requirements to pass. After SMAW and GMAW have been met we will move on to Flux Cored Arc Welding, Gas Tungsten Arc Welding, and Thermal Cutting with the same written and performance test process.

Grading Policy:

Major Grades – 40% (tests, projects, lengthy assignments, etc...)

Daily Work - 60%

First Six Weeks = 26% Second Six Weeks = 27% Third Six Weeks = 27%

Semester Exam = 20%

A	90-100
B	80-89
C	70-79
F	Below 70

Clubs:

Students are encouraged to join and participate in afterschool activities such as the MISD Shine Runners Solar Car Team, Ben Barber Welding Club, FFA, and Skills USA.

Class Rules:

All regulations found in the Students Technology Use Guidelines, Maintaining a Healthy, Active LAN, and Classroom Management Plan will be in place at all times.

Students will not be allowed usage of any computer in the lab without parent/guardian signature on these documents and on file with the instructor.

The student may make arrangements to come before school, during break times, or after school to do make-up work per the MISD policy as stated within the Student Handbook as long as it is pre-arranged with the instructor. It must be noted that the student is responsible for making these arrangements within the scope and time allowed – not the teacher.

Late work-

- **Teacher designates due date and time for assignment (Beginning of class period, End of class period, designated time of day)**
- **If student fails to meet the due date and time, then the student has till the next class period (next A day or B day) to turn in assignment to be considered one day late.**
- **Students will be assessed a penalty of 30% points for up to one class period late.**
- **Score of a zero may be given for work turned in after one day late.**

Tardiness: Any Tardy to class will be treated per student handbook and regulations. If a Student is tardy 15 minutes after class is scheduled to start or re-start, they will be counted as absent. Any missed exams or assignments will be treaded according to the MISD Policy.

Academic Dishonesty – cheating or plagiarism – is not acceptable. Cheating includes the copying of another student’s work – homework, class work, test answers, projects, etc – as one’s own. Plagiarism is the use of another person’s original ideas or writing without giving credit to the true author. A student found to have engaged in academic dishonesty will be subject to loss of credit for the work in question, as well as disciplinary penalties, according to the Student Code of Conduct.

Work Clothes – Students are required to have proper work wear when we are going into the welding lab. We will not need these clothes every day and the instructor will give notice before any activities are done in the lab. Students must have closed toed shoes (preferably leather boots), long denim pants (without holes or frays), and a long sleeve 100% cotton shirt. Students will be provided one pair of safety glasses if

they lose or break them, the student is responsible for buying another pair or they will not be able to work in the lab and will be given zeros for all lab activities until they are replaced. Students must wear ear protection in the lab when work is being done. Students will be given a pair of reusable ear plugs or ear muffs to use during class.

I look forward to having you (or your student) as a student and working with you for your success in this course.

**Sincerely,
Joe Chambers**

X

Parent

X

Student