

REEDLEY COLLEGE
I.T. DIVISION
MFGT. 33A Advanced Welding, Certification & Fabrication
M-W 8:00 AM - 12:50 PM

INSTRUCTOR: Mr. Studebaker
Industrial Technical Building—Welding Department
Office: Room 23
Phone: 638-3641, ext. 3253

DESCRIPTION: Advanced Welding, Certification & Fabrication. 5 units, 10 hours weekly

1. Students will design and fabricate a welding project.
2. Students will learn how to use both jigs and fixtures in the fabrication project.
3. Students will apply the skills of Mig, Tig, FCAW, SMAW welding, oxy-acetylene cutting, and blueprint reading.
4. Students will work towards A.W.S. Welding Certification.
5. Students will fill out Bill of Materials list for a fabricated welding project.
6. Students will estimate both materials and lab cost for fabricated welding jobs.
7. Students will learn the safety procedures as needed to work in both school and industrial shops.

EXPECTED OUTCOMES:

1. Students will have gained the experience in advanced welding skills, certification and fabrication as for their needs.
2. Students will have experience in general welding shop maintenance and repair.
3. Students will be able to estimate the cost of a fabricated welding job.
4. Students will know the correct safety procedures for working in both school and industrial shops.
5. Students will be able to become A.W.S. certificated as for their job needs.

REQUIRED BACKGROUND:

MFGT. 32A Basic Welding (Oxy-acetylene Welding, Cutting Process, SMAW-Arc)
MFGT. 32B Welding (Mig, Tig and Innershield Welding)

MINIMUM STUDENT MATERIALS: (Student Purchased)

1. Textbook: Welding Skills - Miller/Moniz - 3rd Edition
2. Workbook: Welding Skills - J. F. Gosse - 3rd Edition
3. Workbook: Math for Welders - Marion
4. Safety Booklet
5. Notebook - 3 ring and pencil
6. Highlight felt pen
7. Safety glasses
8. Ear plugs
9. Gloves, helmet, goggles
10. Shop Coveralls
11. Tape measure - 16' or 20'

APPROXIMATE COST

NO COST
NO COST
NO COST
TOTAL

HOW CLASS WILL BE CONDUCTED

1. Group lectures, tours, demonstrations
2. Individual instruction
3. Lab work
4. Workbook, quizzes, exams
5. Safety program

ATTENDANCE:

Roll will be taken through the use of a time clock. Each student is expected to punch in at the beginning of each class, and out at the end of each class day.

Any student missing more than 3 days per each 9 weeks of the class, without prior permission, will be counseled by the instructor and if the student misses an additional day, he or she may be dropped from the class.

You are required to find out from the instructor any material missed during absence. Tests may be made up at the instructor's discretion.

Do not leave the classroom or shop area without the instructor's permission.

GENERAL POLICIES:

You are responsible to bring required materials to class. Textbooks and notebooks will be required.

Lockers will be provided for storage of projects and required materials. Students will provide **locks!**

Supplies will be provided by the school for required projects. Projects to be removed from shop will require all material bills to be paid.

School policy prohibits smoking, dipping snuff, eating, and drinking in the classroom and in the lab.

Any conduct that disrupts or distracts the class or is dangerous will not be tolerated.

Willful violations of any safety rule that endangers the health of yourself or others in the class or shop will result in immediate dismissal from the class.

See additional "Policies & Procedures" handout sheet.

GRADING:

1. Fabrication project	-	1400 pts.	16.4%
2. Progress chart	-	1400 pts.	16.4%
3. Student workbook	-	2754 pts.	32.3%
4. Quizzes and exams	-	700 pts.	8.2%
5. Classroom & lab participation, attendance & clean up	-	<u>2265 pts.</u>	<u>26.7%</u>
TOTAL POINTS:		8519 pts.	100%

*** DROP DATE: LAST DAY TO DROP THIS CLASS WITHOUT PENALTY WILL BE THE FRIDAY OF THE 9TH WEEK: FRIDAY, OCTOBER 15, 2004.**

TEXTBOOK: Welding Skills - Miller/Moniz - 3rd edition

WORKBOOK: Welding Skills - J.F. Gosse - 3rd edition

WORKBOOK: Math for Welders - Marion

SAFETY BOOKLET

<u>Week</u>	<u>Topic</u>	<u>Text Chapter</u>	<u>Workbook Chapter</u>	<u>Workbook Page</u>	<u>Agenda</u>
1-2	An Essential Skill	1	1	1-4	Lect.-Demo.
	Welding Safety	2	2	5-8	Safety Inst.
3-5	GMAW - Equipment	19	19	67-70	Lect.-Demo.
	GMAW -	20	20	71-74	Lect.-Demo.
	GMAW -	21	21	75-76	Lect.-Demo.
6-8	GTAW - Equipment	16	16	57-60	Lect.-Demo.
	GTAW - Procedure	17	17	61-64	Lect.-Demo.
	GTAW - Applications	18	18	65-66	Lect.-Demo.
9-12	Math - Whole Numbers, Fractions	---	1-7	7-56	Lect.
	Math - Decimals, Percentage, Materials Cost	---	8-14	57-105	Lect.
13	FCAW - Equip, Operations, Wires	22	22	77-80	Lect.-Demo.
14-15	Welding Performance-Certification	36	36	139-140	Lect.-Demo.
	Distortion Control	43	43	163-164	Lect.-Demo.
16	OPEN				
17	Final Review, Lab Cleanup, Workbook Turn In Deadline				
18	Final Exam				

WORKBOOK ASSIGNMENTS:

DATE TO BE COMPLETED AND TURNED IN

Chapters 1, 2	August 25
Chapters 19, 20, 21	September 15
Chapters 16, 17, 18	September 29
Math 1-7	October 13
Math 8-14	October 27
Chapter 22	November 10
Chapter 36, 43	November 24

Final date to turn in late or incomplete workbook assignments

December 2

*Any assignment turned in up to one week late will receive only 50% credit for the assignment. Any assignment more than one week late will receive no credit!

Workbook questions point values:

T & F	=	3 points each
Multiple choice	=	4 points each
Matching	=	3 points each

MFGT. 33A SEMESTER REQUIREMENTS FOR LAB AND LECTURE

<u>Workbook:</u>	<u>Points</u>
Chapters 1 & 2	246
Chapters 16, 17, 18	311
Chapters 19, 20, 21	347
Chapter 22	136
Chapter 36, 43	119
Math Chapters 1-7	753
Math Chapters 8-14	842
	(TOTAL - 2754)
<u>Quizzes:</u>	
Bill of Materials Extended	100
Math Basics	100
Mig, Tig, Innershield (75/75/50)	200
Metals I.D.	100
Final Exam	200
	(TOTAL - 700)
<u>Lab-Welds from Progress Chart:</u>	
MIG C.S. - chart # 57-63	200
MIG S.S. - chart # 64-70	300
TIG C.S. - chart # 76-82	400
Innershield - chart # 97-103	500
Fabrication Project & Repair Projects	1400
	(TOTAL - 2,800)
<u>Attendance:</u>	
Deduct 25 points for each absence	300
Deduct 25 points for each tardy	300
<u>Clean-up:</u>	
Weekly clean-up - 20 points per week @ 16 weeks	320
End of semester shop clean-up & preventative maintenance	200
<u>Time Clock Usage:</u>	
Forty points (40 points) per week @ 16 weeks	640
<u>Lab & Classroom Participation:</u>	
Follows lab instructions - Returns from break on time -	505
Works with other students on assigned jobs until completed	
	(TOTAL - <u>2,265</u>)
	GRAND TOTAL - <u>8,519</u> pts.

Listed above are the total number of all possible points that can be earned. The following percentages are needed to earn the respective grade.

7669 to 8519 - 90% = A
6815 to 7666 - 80% = B
5963 to 6814 - 70% = C
5111 to 5962 - 60% = D
5110 below - 59% = F

*Extra points may be earned during the semester by attending field trips, doing a short industrial report, or shop maintenance. (All of the above extra points are to be done outside of scheduled class or lab time.) A maximum of 10% (852 pts.) can be earned.