

REEDLEY COLLEGE

I.T. DIVISION

MFG. 33A WELDING FABRICATION - MIG, TIG, INNERSHIELD

M-W 8:00 AM - 12:50 PM

**INSTRUCTOR:** Mr. Studebaker  
Office: Industrial Technology Bldg.-Welding, Room 23  
Phone: 638-3641, ext. 3253

**DESCRIPTION:** Welding 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 fill out Bill of Materials list for a fabricated welding project.
5. Students will estimate both materials and lab cost for fabricated welding jobs.
6. 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 of fabricating a welding project.
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.

**REQUIRED BACKGROUND:**

MFG. 32A Basic Welding,  
MFG. 32B Welding Fabrication, Mig/Tig, Innershield

**MINIMUM STUDENT MATERIALS:** (Student Purchased)

1. Textbooks - GTAW, GMAW, FCAW - Minnick
2. GTAW, GMAW, FCAW Handbooks - Studebaker
3. Safety Booklet
4. Notebook - 3 ring and pencil
5. Highlight felt pen
6. Safety glasses
7. Ear plugs
8. Gloves, helmet, goggles
9. Shop Coveralls
10. Tape measure - 16' or 20'

Approximate cost

N.C.
N.C.
N.C.
N.C.

TOTAL

**TEXTS:** GMAW Text - Minnick; GMAW Handbook - Studebaker  
 GTAW Text - Minnick; GTAW Handbook - Studebaker  
 FCAW Text - Minnick; FCAW Handbook - Studebaker  
 Safety Booklet

WEEK	TEXT	TOPIC	CHAPTER	HANDBOOK	AGENDA
<b>GMAW</b>					
1-2	GMAW	Process - Safety	1,2	All Questions	Demo.
3	GMAW	Mig Setup & Control	3,4,5	All Questions	Lect. - Demo.
<b>FCAW</b>					
4-5	FCAW	Process - Safety	1,2	All Questions	Demo.
6	FCAW	Equip. Setup & Control	3	All Questions	Lect. - Demo.
<b>GTAW</b>					
7-8	GTAW	Process - Safety	1,2	All Questions	Lect. - Demo.
9	GTAW	Equipment	3	All Questions	Lect. - Demo.
10	GTAW	Shielding Gases	5	All Questions	Lect. - Demo.
<b>FCAW</b>					
11	FCAW	Shielding Gases - Filler Materials	4,5	All Questions	Lect.
12	FCAW	Procedure and Techniques	7	All Questions	Lect. - Demo.
<b>GMAW</b>					
13-15	GMAW	Welding CS, SS, Al.	8,9,10	All Questions	Lect. - Demo.
16-17		Bill of Materials Sheets Estimating Fabrication Jobs	Handouts Sheets Handouts Sheets		Lect. Lect.
18		Review & Lab Clean up	-----		Classroom & Lab

**WELDING TEXT ASSIGNMENTS:**

Chapters - GMAW	Date to be completed & turned in
1,2	Aug. 25
3,4,5	Sept. 8
<b>Chapters - FCAW</b>	
1,2	Sept. 22
3	Sept. 29
<b>Chapters - GTAW</b>	
1,2	Oct. 13
3	Oct. 27
5	Nov. 3
<b>Chapters - FCAW</b>	
4,5	Nov. 17
7	Dec. 1
<b>Chapters - GMAW</b>	
8,9,10	Dec. 8

Final day to turn in any book assignments is December 8.

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

## MFG. 33A SEMESTER REQUIREMENT FOR LAB AND LECTURE

<u>Classroom/Text Assignments</u>	<u>Points</u>
<u>GMAW</u>	
Chapters 1,2	106
Chapters 3,4,5	192
Chapters 8,9,10	164
<u>FCAW</u>	
Chapters 1,2	117
Chapters 3,4,5	147
Chapter 7	52
<u>GTAW</u>	
Chapters 1,2	152
Chapters 3,5	315
Quizzes-Mig 50 pts., Tig 50 pts., FCAW 50 pts., Gases 50 pts., Metals 50 pts., Bill of Materials 100 pts., Safety 100 pts.	450
Final Exam	150
	(TOTAL 1,845)
<u>Welds from Progress Chart:</u>	
Inner shield # _____	
Mig C.S. # _____	500
Mig S.S. # _____	200
Tig C.S. # _____	300
Fabrication Project	400
	720
	(TOTAL 2,120)
<u>Classroom &amp; Lab Participation</u>	
Follow instructions and works with other students	550
<u>Attendance</u>	
Attendance	
Deduct 25 pts. for each absence	300
Deduct 25 pts. for each tardy	
Time clock usage - 40 pts @ 16 weeks	640
Weekly clean-up - 20 pts @ 16 weeks	320
End of semester clean-up	225
	(TOTAL 2,035)
	<u>GRAND TOTAL 6,000</u>

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

5400 to 6000 - 90% = A  
 4800 to 5399 - 80% = B  
 4200 to 4799 - 70% = C  
 3600 to 4199 - 60% = D

\*Extra points may be earned during the semester by attending field trips, doing a tech. report, or shop maintenance, outside of scheduled class or lab time. Maximum of 10% of the Grand Total Points (600 points) can be earned.