

REEDLEY COLLEGE
I.T. DIVISION
MFG. 32B WELDING (MIG, TIG, INNERSHIELD & CERTIFICATION)
T-TH 8:00 AM - 12:50 PM

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

DESCRIPTION: Welding (MIG-TIG-Innershield and Certification). 5 units, 10 hours weekly

1. Advance shop welding practices in electric arc welding (SMAW) on M.S. plate and pipe. Welding will be done in flat, horizontal, vertical and overhead position with emphasis on working towards AWS plate and pipe certification.
2. Advance shop oxy-acetylene cutting practice using hand torch, straight line cutter, optic cutter and plasma cutting equipment.
3. Basic shop welding in Mig and Innershield welding on M.S., stainless steel and aluminum. Welding will be done in flat and vertical position.
4. Basic shop welding in Tig welding on M.S., stainless steel and aluminum plate. Welding will be done in the flat position.
5. Students will work fabrication and repair jobs as they apply to the welding field.
6. Students will fill out a job application and review basic job interview skills.

EXPECTED OUTCOMES:

1. Students will be able to select and use proper tools and power machines correctly as needed in the welding field.
2. Students will be able to select, adjust and use properly the welding wire, rods and welding power sources.
3. Students will be able to perform fusion welds on plate and pipe in SMAW, Mig, Tig and Innershield in the flat, horizontal, vertical and overhead positions on M.S., stainless steel and aluminum.
4. Students will be able to use the oxy-acetylene and plasma cutting equipment with proficiency.
5. Students will have been given the opportunity to acquire both college welding and state AWS welding certifications.
6. Students will have acquired some experiences in fabrication and repair jobs.
7. Students will have been given the needed skills for successful job interviewing.

REQUIRED BACKGROUND:

MFG. 32A BASIC WELDING

or

Previous welding or shop experience with instructor approval.

final exam date

MINIMUM STUDENT MATERIALS:

- 1. Textbook - Welding Skills - R.T. Miller
- 2. Student Lab Manual - Welding Skills - J.F. Gosse
- 3. Notebook - 3 ring and pencil
- 4. Highlight felt pen
- 5. Safety glasses
- 6. Ear plugs
- 7. Gloves
- 8. Helmet
- 9. Goggles
- 10. Shop coveralls
- 11. Tape measure - 16' or 20'

APPROXIMATE COST

NO COST
NO COST
NO COST
NO COST

TOTAL

HOW CLASS WILL BE CONDUCTED

- 1. Lectures, individual tours, demos
- 2. Individual instruction
- 3. Lab work
- 4. Workbook, quizzes, exams

GRADING

- 1. Fabrication & repair projects
- 2. Pipe welding & fitting
- 3. Mig welding
- 4. Innershield welding
- 5. Tig welding
- 6. Cutting process - hand, straight line & optic
- 7. Time clock & attendance
- 8. Shop clean up
- 9. Text workbooks
- 10. Quizzes & final exam
- 11. Other (Ind. tours)

	<u>POINTS</u>	<u>PERCENT</u>
1.	1200	14.25%
2.	500	6.00%
3.	800	11.00%
4.	400	5.50%
5.	800	9.50%
6.	300	3.50%
7.	940	9.00%
8.	570	6.00%
9.	1791	20.80%
10.	950	11.30%
11.	200	2.30%
TOTAL	8500	= 100.00%

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.

*** DROP DATE: LAST DAY TO DROP THIS CLASS WITHOUT PENALTY WILL BE THE FRIDAY OF THE 9TH WEEK: FRIDAY, MARCH 10, 2000.**

TEXT: Welding Skills

MANUAL: Welding Skills - Workbook

<u>Week</u>	<u>Topic</u>	<u>Text Chapter</u>	<u>Workbook Chapter</u>	<u>Workbook Page</u>	<u>Agenda</u>
1-2	Welding Safety	2	2	3-4	Lect./Demo.
	Joint Design	4	4	9-11	Lect./Demo.
3-5	GMAW	25	25	54-58	Lect./Demo.
	Pipe Welding	29	29	67-69	Lect./Demo.
6-9	GTAW	24	24	51-53	Lect./Demo.
	Welding Metallurgy	3	3	5-8	Lect./Demo.
	Steel ID & Selection	---	---	---	Demo. & Handout Sheets
10-11	FCAW	Handout Materials			Demo. & Handout Sheets
12-13	Certification of Welder	36	36	88-90	Lect.
	Testing Welds	34	34	82-84	Lect.
14-15	Cutting Operations	30	30	70-72	Lect./Demo.
16-17	Horizontal Welding	17	17	37-38	Lect.
	Vertical Welding	18	18	39-40	Lect.
	Overhead Welding	19	19	41-42	Lect.
18	Review & Lab Cleanup	---	---	---	Classroom & Lab
	Final Exam Week	---	---	---	

Student Workbook Assignments:

Chapters 2, 4
 Chapters 25, 29
 Chapters 24, 3
 Handouts
 Chapters 17, 18, 19
 Chapter 30
 Chapters 36, 34

Date to be completed and turned in:

January 20
 February 3
 February 24
 March 9
 March 23
 April 6
 May 4

*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

MFG. 32B SEMESTER REQUIREMENTS FOR LAB AND LECTURE

<u>Workbook:</u>	<u>Points</u>
Chapters 2, 4	270
Chapters 25, 29	406
Chapters 24, 3	375
Handout	200
Chapters 17, 18, 19	173
Chapter 30	143
Chapters 34, 36	224
Safety Test	75
Quizzes - Mig, Tig, Metallurgy, Joints & Pipe Fitting, FCAW, Testing Welds, Materials Cost	750
Final Exam	200
	(TOTAL - 2,816)
<u>Welds from Progress Chart:</u>	
Mig # _____	800
Tig # _____	800
Pipe # _____	500
Innershield # _____	400
Cutting Process - Hand, Optic, Straight Line	300
Fabrication & Repair	1,200
	(TOTAL - 4,000)
<u>Attendance:</u>	
Deduct 25 points for each absence	300
Deduct 25 points for each tardy	
Time clock usage - 40 pts @ 16 weeks	640
Weekly clean-up - 20 pts @ 16 weeks	320
End of semester clean-up and preventative maintenance	250
<u>Class Participation:</u>	
Following instructions and working with other students	200
	(TOTAL - 1,710)
	GRAND TOTAL - <u>8,522</u>

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 8522 - 90% = A

6817 to 7668 - 80% = B

5965 to 6816 - 70% = C

5113 to 5964 - 60% = D

*Extra points may be earned during the semester by attending field trips, doing a term paper, or shop maintenance outside of scheduled class or lab time. Maximum of 10% can be earned. (_____ pts.)