REEDLEY COLLEGE I.T. DIVISION

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

INSTRUCTOR: Mr. FLOTES

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 <u>AWS</u> plate and pipe <u>certification</u>.
- 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.
- Students will have been given the needed skills for successful job interviewing.

REQUIRED BACKGROUND:

MFG. 32A BASIC WELDING

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Previous welding or shop experience with instructor approval.

final examined

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'

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

<u>GRA</u>	ADING	POINTS	PERCENT
1.	Fabrication & repair projects	1200	14.25%
2.	Pipe welding & fitting	500	6.00%
3.	Mig welding	80 0	11.00%
4.	Innershield welding	400	5.50%
5.	Tig welding	800	9.50%
6.	Cutting process - hand, straight line & optic	300 ⁻	3.50%
7.	Time clock & attendance	940	9.00%
8.	Shop clean up	570	6.00%
9.	Text workbooks	1791	20.80%
10.	Quizzes & final exam	950	11.30%
11.	Other (Ind. tours)	_200	2,30%
	TOTAL	8500	= 100.00%

TOTAL

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>	Topic	Text <u>Chapter</u>	Workbook Chapter	Workbook <u>Page</u>	Agenda
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			NO GO TAN	Demo. & Handout Sheets
10-11	FCAW	Handout Materials		1 s	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.
1	Overhead Welding	19	19	41-42	Lect.
18	Review & Lab Cleanup		,		Classroom & Lab
	Final Exam Week			· .	

Student Workbook Assignments:	Date to be completed and turned in:
Chapters 2, 4	January 20
Chapters 25, 29	February 3
Chapters 24, 3	February 24
Handouts	March 9
Chapters 17, 18, 19	March 23
Chapter 30	April 6
Chapters 36, 34	May 4

^{*}Any assignment turned in up to <u>one</u> week late will receive only <u>50%</u> credit for the assignment. Any assignment more than <u>one</u> week late will receive <u>no</u> 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

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Workbook:		Points
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)	
Welds from Progress Chart:	•	
Mig #		800
Tig #		800
Pipe #		500
Innershield #		
Cutting Process - Hand, Optic, Straight Line		400
Fabrication & Repair	,	300
	(TOTAL - 4,000)	1,200
	(101AL - 4,000)	
Attendance:	•	
Deduct 25 points for each absence		300
Deduct 25 points for each tardy	•	300
		•
Time clock usage - 40 pts @ 16 weeks	•	640
Weekly clean-up - 20 pts @ 16 weeks	•	
End of semester clean-up and preventative maintenance		320
		250
Class Participation:	·	,
Following instructions and working with other students		200
	(TOTAL - <u>1,710</u>)	•
,	(10,110)	
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Listed above are the total number of all possible points that can be earned. The following percentages are needed to earn the respective grade.

GRAND TOTAL - 8.522

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.)