

# **SYLLABUS WELD 100**

## **WELDING BLUEPRINT READING**

(Effective Winter 2013)

6 Credits

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IBEST Academic Support Instructor for Welding: Tricia McIntosh (tmcintos@ghc.edu)

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### **COURSE DESCRIPTION**

Weld 100, Welding Blueprint Reading, 6 credits *Prerequisite: Placement in MATH 60 and ENGL 60; or instructor permission.* Introduction to shop drawings, welding symbols, and basic blueprints. Emphasis is on interpretation of drawing information in order to determine individual part, joint, and weld dimensions. 3 lecture hours, 6 lab hours. Vocational program course. May be used as a general elective in the AA degree.

### **LEARNING OUTCOMES**

To meet the course standards and demonstrate the ability to meet the outcomes expectation of this course (A4-Competency in the Discipline, B2-Literacy, C2-Critical Thinking, D2-Social and Personal Responsibility), the welder will:

1. Demonstrate personal responsibility by being on time, maintaining proper attendance, and properly following written and oral instructions. (D)
2. Interpret line types, dimensioning techniques, and symbols used on shop drawings, and basic blueprints. (A, B)
3. Interpret drawing information in order to determine individual part, joint, and weld dimensions. (A, C)

### **COURSE RESOURCES - TEXTBOOK**

Welding Print Reading, latest edition, by J. R. Walker and W. R. Polanin. Goodheart-Willcox Company, Inc. publishers. This is a workbook that contains required assignments. A book that has not already been written in is required.

### **COURSE RESOURCES - OTHER INSTRUCTIONAL MATERIAL**

A Texas Instruments TI-30X IIS (or equivalent) calculator, ruler (triangle style preferred), scissors, 11" x 17" tablet of 1/4" graph paper, 8"-12" plastic triangles (45/45/90 and 30/60/90), a compass capable of a 6" radius, and a circle drawing template (up to 2 1/4" diameter preferred) are required. A 2' carpenter's square, an exacto-style knife, and a tape measure are also helpful, though they are not required.

### **ACADEMIC INTEGRITY**

All forms of cheating, falsification, and plagiarism are against the rules of this course and of Grays Harbor College. Students who are unsure what constitutes academic dishonesty

are responsible for asking the instructor for clarification. Instances of intentional academic dishonesty will be dealt with severely.

**DISABILITIES**

Students who have documented disabilities that require accommodations in compliance with the Americans with Disabilities Act should contact the Disability Support Services coordinator as well as the instructor of the course in order to ensure that together we create an optimal environment for educational achievement.

**TEACHING / LEARNING METHODS**

The methods of instruction are lecture, discussion, classroom exercises, written homework, and demonstrations. Classroom exercises are emphasized.

**GRADING SYSTEM**

To earn any letter grade below, you must accomplish *ALL* of the minimum requirements listed directly below any letter grade.

	<u>MINIMUM REQUIREMENTS FOR GRADE OF:</u>			
	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
Maximum absences	1	2	3	3
Drawing and Loose Print Projects Completed	All	92.5%	85%	80%
Material ID Assignments and Textbook Print Assignments Completed	100%	100%	100%	100%
Homework Assignments Completed On Time	All	-1	-2	-3

The *lowest* letter grade earned in any row is the overall grade for the course.

**WORK HABITS**

Attendance, punctuality, and other appropriate work habits are critically important for success on the job. Industry is demanding and so are the standards of this welding program. You are expected to be here on time, clean, fed, wide awake, thinking about course tasks, and with neatly, correctly, and entirely completed homework ready for turn in.

The main goal of this program is to build technical and workplace skills. The strict enforcement of work habits standards and grading criteria is intended to maximize your likelihood of success in the industry. Focus, a “can-do” attitude, and prioritization of the profession is both expected and necessary in order to be successful.

Blueprint reading is not a team sport. Find your own answers and don't provide them to others. The other guy can't hide what he didn't learn when he gets on the job. Don't converse with the other welders while in the classroom. Many students will find the projects very challenging, and perhaps impossible with any distracting chatter.

Some welders will need to put in considerable extra time in order to stay caught up on their projects. Some will take twice as long as others to do the same project. If that is you, then putting in the extra time is the expectation. Don't wait until half way through the quarter, when it is already too late, to get started. Blueprints and blocks do not leave the classroom.

### **HOMEWORK**

Homework must be completed entirely in order to receive credit for being turned in on time. Be prepared to explain how you arrived at what you believe are the correct answers. Providing nonsense answers on an assignment so it erroneously appears to have been "completed" will be considered falsification and disciplinary action will follow accordingly.

In case of an absence, it is your responsibility to find out what homework assignments were given. All homework that is/was required of the rest of the class will also be due from you the day you return. At break it would be a good idea to get a few phone numbers of some of the other welders in the class in case you need them later.

### **IBEST**

All students enrolling in the welding program will be IBEST tested. Welders who qualify will be allowed to participate in IBEST, including the IBEST support class at 12 – 1. IBEST offers additional training and help in skills that are important to success in industry, such as math.

This training is outside of normal welding class hours. It is voluntary, free, and participation and performance are not a part of the evaluated grade criteria in the welding courses. Participation is highly encouraged. Effort is made to keep the training useful and applicable to welding trade problems. Also, it can be helpful in achieving a higher CPT score, and therefore possibly eliminating the need to take one or more general education course.

### **ATTENDANCE POLICY**

Attendance is graded. There are no excused absences. Arriving late or leaving early will count as ½ an absence per occurrence. Being sent home will be counted as an absence. Some of the scheduled lab hours will be optional, and these optional periods will be announced throughout the quarter. If a problem arises that will cause you to miss enough class to seriously affect your grade, see admissions to request an official withdrawal.

### **LAYOUT AND DRAWING PROJECTS**

Layout projects tolerance is 1/16".

Drawing projects must be accurate in line type and location, located correctly on the paper, and drawn neatly with a straight edge, compass, and circle template as appropriate.

### **COURSE SCHEDULE**

Weld 100 is taught for 4 hours and 15 minutes a day, Mondays and Wednesdays.

Each homework assignment is due at 2:30 pm on Wednesdays.

During Finals Week we will meet at our regular time on Wednesday.

## **DRAWING AND LOOSE PRINT PROJECTS**

There are 40 projects – 18 drawings and 22 print projects

### **Drawings of Items 1 - 18**

Show Front, Top, Bottom, Left Side, and Right Side views

(# 5 and #6 are from Pictorial drawings on Pages 74 and 75 in the text.)

### **Loose Print Projects**

1. Roller Stand 1
2. Roller Stand 2
3. Engine Mount Plate A
4. Engine Mount Plate C
5. Engine Mount Left Top Plate
6. Pipe Hanger Plate A
7. Pipe Hanger Plate R
8. Pipe Hanger Plate T
9. Die Stand Frame 3
10. Die Stand Frame 4
11. Die Stand Frame 5 (1/2 scale)
12. Mold Positioner Base Support
13. Mold Positioner End Plate
14. Mold Positioner Rotation Assembly Plate
15. Mold Position Part P
16. Trolley  $\frac{3}{4}$ " plate left
17. Trolley  $\frac{3}{4}$ " plate right
18. Trolley  $\frac{3}{4}$ " plate center
19. Trolley bent side plate (1/2 scale)
- \*20. Utility Trailer Worksheet
- \*21. Engine Mount Worksheet
- \*22. Mold Positioner Worksheet

\*All items with an asterisk must be completed entirely and correctly to pass the course.

## **MATERIAL ID ASSIGNMENTS**

- \*1. Material ID Assignment #1 – Metal type (HRS, CR, P&O, SS, Al, Galvanized)
- \*2. Material ID Assignment #2 – Pipe, tube, structural shapes, and metal type

## **TEXTBOOK PRINT ASSIGNMENTS**

- \*1. Lathe Bed Assembly Print (Unit 17)
- \*2. Spacer Support H.D. Print (Unit 25)
- \*3. Bracket Print (Unit 25)
- \*4. Pump Plate Print (Unit 25)
- \*5. Exhaust Support Assembly Print (Unit 25)

\*All items with an asterisk must be completed entirely and correctly to pass the course.