



## WEL120 Oxy-Fuel/Cutting Procedures Syllabus

### Course Information

Credits	3
Campus	Washburn Institute of Technology
Address	5724 SW Huntoon
City/State/Zip	Topeka, Kansas 66604
Office Fax	785-273-7080

### Description

The course will include cutting of ferrous and non-ferrous materials with manual, motor driven, and oxy-fuel shape cutting equipment. Also included are plasma-arc cutting (PAC) and carbon-arc cutting (CAC-A). Safety, equipment, and the basic fundamentals of cutting processes will be introduced. Student will be expected to produce acceptable oxy-fuel, PAC, and CAC-A cuts. This unit follows ANSI / AWS C4.2-90 an American National Standard.

### Textbooks

none

### Student Learning Outcomes:

- A. Communicate effectively
- B. Integrate technology
- C. Learn effectively
- D. Demonstrate cooperative teamwork skills
- E. Apply safety in the workplace
- F. Think critically and creatively
- G. Demonstrate responsible work ethics

### Competencies

#### PERFORMING RELATED ACTIVITIES

1. Cut material using power shear
2. Cut material using 14" chop saw
3. Identify type of metal to be welded
4. Prepare metal for welding
5. Secure parts for welding using clamps and fixtures
6. Locate cracks using proper technique
7. Demonstrate use of welding codes

#### OXYACETYLENE CUTTING EQUIPMENT

8. Roll cylinders to work place, and chain in an upright position

9. Proper assembly of regulators, hoses, torch, and cutting attachments
10. Proper care and cleaning of equipment
11. Adjust gauge and torch settings for proper cutting or welding
12. Cut several 90 degree cuts on mild steel plate
13. Cut several 45 degree bevel cuts on mild steel plate
14. Cut several sizes of holes in mild steel plate

**OXYACETYLENE TRACTOR-TYPE CUTTING EQUIPMENT**

15. Set-up and cut several 90 degree straight cuts
16. Set-up and cut several 30 degree bevel cuts

**PLASMA CUTTING EQUIPMENT**

17. Set-up and care of plasma cutting equipment
18. Demonstrate comprehension of plasma arc cutting theory
18. Demonstrate plasma arc cutting on mild steel
19. Demonstrate plasma arc cutting on aluminum

**AIR-CARBON ARC CUTTING**

20. Set-up the air-carbon arc cutting/gouging equipment
21. Cut several 90 degree straight cuts
22. Gouge out several weld beads to be repaired

## Guidelines for Success

### Assessment Plan

Assessment is an integral part of the educational process at Washburn Tech and accurate feedback is an important tool in continuously improving the institution's technical programs. Students can expect to participate in assessment activities prior to entry into programs, within specific courses and following program completion for specific fields of study.

### Grading Rationale and Grading Scale

<b>Rating Scale</b>	
4	Skilled – can perform task with no additional training
3	Moderately skilled – has performed task during training program; limited additional training may be required
2	Limited Skill – has performed task during training program; additional training is required to develop skill
1	Exposed to content – is familiar with process; no opportunity to develop skill
0	No Exposure – not covered
<b>Directions:</b> Evaluate the student by checking the appropriate number to indicate the degree of competency reached. Rate each task to reflect employability readiness.	

### Attendance

Attendance is required.

## Disability

The Special Support Services (SSS) Office is responsible for assisting in arranging accommodations and for identifying resources at Washburn Institute of Technology for persons with disabilities. Qualified students with disabilities MUST register and provide documentation with the office to be eligible for services. New requests for accommodations should be submitted two months or more prior to the date services should begin; however, contact the SSS Office as soon as a need may arise. Depending on the accommodation request, four to eight week lead time may be needed for timely and effective provision of services. SSS coordinates and assist in arranging services it deems appropriate of eligible students on a case-by-case basis.

If you are a student with a disability that may substantially limit your ability to participate in this class and believe you will need accommodations, it is your responsibility to contact:

Special Support Services Coordinator

Phone: 785-228-6356

E-Mail: [ssscoordinator@washburn.edu](mailto:ssscoordinator@washburn.edu)

