

## **New York City College of Technology**

Entertainment Technology Department

300 Jay Street, Room V-205 Brooklyn, NY 11201

(718) 260-5588 <http://www.entertainmenttechnology.org/>

### **ENT 2140 - Basic Welding**

Credits: 1 cl hr, 2 lab hrs, 2 cr

Pre-requisite: ENT-1110

#### **Course Description:**

Study of welding techniques including MIG and electric arc welding, use of circuit and current controls, protective devices and care of equipment and accessories. Metallurgical considerations, electrode and base metal, electrode classifications and welding symbols. Carbon arc welding, oxy-acetylene cutting, MIG, physical testing and analysis of weld specimen are included.

#### **Required Texts:**

*Welder's Handbook* by Richard Finch ISBN – 978-1-55788-513-5

*Backstage Handbook* by Paul Carter, 3<sup>rd</sup> Edition. Broadway Press. ISBN: 978-0911747393

#### **Required Equipment:**

25' tape measure, metal scribe, lab notebook, pen or pencil, sharpie, safety glasses, work gloves, appropriate attire (will be discussed in class)

**NOTE: You are required to bring your equipment to every class meeting!**

#### **Attendance/Promptness:**

If you have a legitimate reason for missing a class/assignment or if you will be late, you must contact me (see above) before class begins. It is City Tech policy that if you unexcused absences for more than 10% of a class, you will fail the class. For a class that meets once a week, you will fail if you have 3 or more unexcused absences

#### **Grades:**

Your grade will be determined as follows:

Class Preparation (appropriate attire, all materials, etc.)	10%
Lab Notebook	10%
Lab Projects	25%
Homework/Quizzes	10%
Mid-Term Exam	10%
Final Exam	10%
Final Project – practical project	25%

NOTE: If you miss a quiz or test due to an unexcused absence, you will receive a zero for that test or quiz, and you must propose an extra credit project as a make-up. Quizzes are typically given to ensure that you do the reading, and may contain questions not covered in class. Do the reading!

ENT-2140 Basic Welding Course Outline			
Date	Topic	Due	Assigned
1	Intro, safety, materials, welder overview		Read ch. 1,2,5,8 Blackboard Safety Quiz
2	MIG Welding Intro	Safety Quiz	
3	MIG – Joints 1		
4	MIG – Joints 2		
5	MIG – Joints 3		
6	MIG – Dissimilar materials		
7	Drawings, Cutting, Jigging		Final Project Cut List
8	Mid-Term	Final Project Cut List	
9	Lab work (Final)	Cutting Complete (EoC)	
	<b>No Class - Spring Recess</b>		
	<b>No Class - Spring Recess</b>		
10	Lab work (Final)	Drilling/Jigging Complete (EoC)	
11	Lab work (Final)		
12	Lab work (Final)	Welding 50%	
13	Lab work (Final)		
14	Lab work (Final)	Finishing/Sanding	
15	Final Exam	Final Project	

### **Show Attendance Policy (Departmental Policy)**

*If you are going to work in the Entertainment Industry, it is as important to be an educated and engaged audience member as it is to have a clear understanding of what happens backstage. Also, when your peers and/or faculty are working hard on a live event for the department, they must be rewarded with your strong support and encouragement, even though you may have nothing to do with that project. There is nothing worse, after working a “zillion” hours on a project, than to have a small audience.*

*Therefore, as part of completion of this course you will be REQUIRED to attend at least one of the department's and Theatreworks' live events. The Haunted Hotel also must be visited at least once each year. Please come and show your support as often as you can!*

### **Learning Outcomes**

<b>After taking this class, the student will be able to...</b>	<b>This will be demonstrated by...</b>
Accurately measure, mark and cut metal.	Lab work
Prepare joints for welding.	Lab work
Work safely in a metalworking shop.	Lab work, quizzes
Identify and operate MIG, FCAW, and Arc welding machines	Lab work, quizzes
Choose appropriate welding processes based on the needs of a project.	Final project, quizzes

### **Gen Ed Learning Outcomes**

<b>After taking this class, the student will be able to...</b>	<b>This will be demonstrated by...</b>
Communicate using written and visual means	Reading drawings, making sketches, preparing lab notebook
Employ quantitative analysis to solve problems	Lab work, final project, quizzes