

**TPA 3311c – Stage Technology Topics**  
**TR 11:00-12:20 PM PA 103**  
**Credits: 03**  
**Professor: Thomas Shorrock**  
**Office: PA 113C, Hours: TR12:30-3:30**

**Summer 2013**  
[shorrock@fau.edu](mailto:shorrock@fau.edu)  
**Prerequisites: TPA 2000 and TPA 2200**  
**home.fau.edu/shorrock/web**  
**phone: 561-297-3810**

**Catalog Description:** Course covers special topics areas, such as computer-aided design, welding, structural engineering, advanced carpentry skills, or scenic automation. Course may be repeated for credit with new topic only.

This course is an introduction to the four common welding process used in theatrical welding (SAW, GMAW, SMAW) and how to work in each process. Thorough the course you will develop skills that will prepare you for working in theatre construction or taking a certification exam.

**Text Books:**

The following book is required for class. This book was selected based on a thorough weighing of cost and quality. It is a great value. You may note that there are fewer bells and whistles than many other (costly) textbooks, but given the price differences you can buy many actual bells and whistles. My calculations suggest you could buy at least nine cowbells from the savings. And, as we all know, you can never have too much cowbell.

*Welder's Handbook, 2<sup>nd</sup> Ed.* Finch ISBN: 1557882649 Amazon.com (Used)

**Your grade in this class will be based upon the following criteria:**

**Lab Projects: (4 X 100 points each – 10% each - 400 Points):**

There are four lab projects spaced throughout the semester. Each project will focus on a particular welding process at the time.

**Exams (4 X 100 points each - 10% each - 400 Points):**

There are four exams that are spaced throughout the semester to test your understanding and knowledge of each welding process.

**Final Project (20% - 200 Points):**

You will build a project that consists of 80% steel that the department needs within production use. You will use all three process that we cover in the course to construct the project. You are responsible for drafting up plans, creating the materials list and construction of the project during shop hours. More details will come, but feel free to chat with Jay about ideas early.

***Class Grading Scale: (There is no curve in this class)***

**A 1000-900    B 899-800    C 799-710    D 709-650    F 649-0**

***A special note:***

This class will involve working with materials and equipment that can cause permanent, irreparable harm to you or others instantly. These dangers include, but are not limited to: 1st to 3rd degree heat burns, 1st to 3rd degree electrical burns, 1st to 3rd degree ultraviolet burns, eye injury, loss of sight, suffocation, and exposure to suspect/known carcinogens. Failure to follow safety rules and best practices as established by the instructor may result in dismissal from the day or the class.

## Course Outline

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Date	Topic	Pages
1/8	Intro to course, Review	
1/10	Safety Practices	
1/15	Physical and mechanical properties of metals	
1/17	Steels	
1/22	Chapter Shapes and cutting metal (partial lab)	
1/24	Exam #1: Welding Theory	
1/29	Gas Process Safety	
1/31	Gas Process Theory	
2/5	Lab: Gas Process Brazing	
2/7	Lab: Gas Process Cutting	
2/12	Chapter 14 Lab: Heat Treating/Cast Iron <i>Project #1: Welding Finger</i>	
2/14	Electrical Principles in welding (Covers SAW)	
2/19	GMAW Process Safety	
2/21	GMAW Theory	
2/26	Lab: GMAW Lightweight Welding	
2/28	Lab: GMAW Heavyweight Welding <i>Project #2: The perfect Square</i>	
<b>3/5</b>	<b>Spring Break, no classes</b>	
<b>3/7</b>	<b>Spring Break, no classes</b>	
3/12	Exam #2 GMAW Welding	
3/14	SMAW Process Safety	
3/19	SMAW Theory	
3/21	Lab: SMAW Striking the arc	
3/26	Lab: SMAW lightweight welding	
3/28	Lab: SMAW Heavyweight Welding <i>Project #3: SMAW Process</i>	
4/2	Exam #3 SMAW Process	
4/4	Plasma Torch cutting theories & partial lab	
4/9	Reading Welding Plans	
4/11	Final Project handout and discussion	
4/16	Catch up day.	
4/18	Final Project Approval and Construction Begins	
4/23	Individual meetings on project progress.	
<b>4/30</b>	<b>Final Exam due, 10:30-1:00 PM</b>	

**Attendance policy:**

The Department of Theatre attendance policy is: Three absences will lower your final grade by one letter grade. Each subsequent absence will lower your final grade by one letter grade. Five absences will result in automatic failure. Three tardies equals one absence. If you arrive to class after roll is taken, it is your responsibility to check in at the end of class to make sure your attendance is recorded. See University policies in the FAU Student Handbook <http://www.fau.edu/handbook/>

Students will not be penalized for absences due to participation in University-approved activities, but proof of involvement must be provided. Reasonable accommodation will be made for student absences due to religious observance(s). Also, note that grades of Incomplete (“I”) are reserved only for students who are passing the course but have not completed all the required work because of exceptional circumstances. Incompletes should be pre-arranged with the instructor before the end of the term.

**Students with Disabilities:**

In compliance with the Americans with Disabilities Act (ADA), students who require special accommodation due to a disability to properly execute course work must register with the Office for Students with Disabilities (OSD) -- in Boca Raton, SU 133 (561-297-3880); in Davie, MOD 1 (954-236-1222); in Jupiter, SR 117 (561-799-8585); or at the Treasure Coast, CO 128 (772-873-3305) – and follow all OSD procedures. More information available at <http://osd.fau.edu/>

**FAU Code of Academic Integrity:**

Students at Florida Atlantic University are expected to maintain the highest ethical standards. Academic dishonesty, including cheating and plagiarism, is considered a serious breach of these ethical standards, because it interferes with the University mission to provide a high quality education in which no student enjoys an unfair advantage over any other. Academic dishonesty is also destructive of the University community, which is grounded in a system of mutual trust and places high value on personal integrity and individual responsibility. Harsh penalties are associated with academic dishonesty. For more information, see the Code of Academic Integrity in the University Regulations at: [http://www.fau.edu/regulations/chapter4/4.001\\_Code\\_of\\_Academic\\_Integrity.pdf](http://www.fau.edu/regulations/chapter4/4.001_Code_of_Academic_Integrity.pdf)