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###### COURSE SYLLABUS

###### Semester: Spring Year: 2013

**Mission Statement:**

Richard J. Daley College provides high-quality education which leads to academic success, career development, and personal enrichment that fulfill diverse community needs.

###### Course (Discipline): Manufacturing Technology Number: 151 Section: IAI#: N/A

**Course Title:** Introduction to Welding **Length of Course (Weeks):** 16

**Credit Hours:** 3 **Lecture Hours:** 0 **Lab Hours:** 6 **Contact Hours:** 6

**Meeting Day(s): \_\_\_** **Times: \_\_\_\_** **Building: AVI Classroom #:** 1111

**Syllabus can be found on Blackboard website at** [**https://ccc.blackboard.com/webapps/login/**](https://ccc.blackboard.com/webapps/login/)**.**

###### Dean, College to Careers in Advanced Manufacturing \_\_Ray Prendergast\_\_\_\_\_\_\_

###### E-mail Address: rprendergast@ccc.edu Phone #: 773-838-7786

#### Address: 7500 South Pulaski Road Chicago, IL 60652

#### Office hours:

**Course Description**:

This is a beginning welding course that teaches basic welding skills that lead to an American Welding Society qualification in Gas Metal Arc Welding (GMAW or MIG). Topics include metallurgy, welding processes, welding safety, and steel designations.

**Course Prerequisites**:

Eligibility for Reading 99; or Consent of Department Chairperson.

**Students Course is Expected to Serve:**

This course is intended to serve students who would are interested in careers in manufacturing technology, engineering or construction

**Course Objectives**: At the end of the course students will:

* Explain the main types of welding processes ie. GMAW, GTAW, SMAW.
* Illustrate the types of material that can be and are most commonly welded.
* Weld steel plate to American Welding Society standards using the GMAW process.

**Student Learning Outcomes:**

**Completers of this course will be able to:**

* Set-up and operate a Gas Metal Arc Welding (GMAW) machine .
* Prepare work for welding and produce an acceptable weld.
* Weld a “tee” using steel plate to AWS D1.1 specifications.

**Recommended Texts and Course Materials:**

***Text:***

Cary, H.B., and Helzer, S.C. (2004). *Modern Welding Technology, 6th Edition.* New York, NY: Prentice-Hal, a division of Pearson Education. ISBN13: 978-0131130296.

**Additional Course Requirements:**

N/A

**Recommended Methods of Instruction:** Lecture, shop work (lab). Shop work includes a class project.

**Recommended Methods of Assessment:**

Student learning will be assessed through written exams, and shop projects.

Midterm and final course grades will be based on the following assessments:

Attendance

Homework

Shop work

Written tests

Welding test (hands on)

Grading Scale:

90-100% = A

80-89 = B

70-79 = C

60-69 = D

Below 60 = F

See the Policy on grade designations and grade appeals at:

<http://www.ccc.edu/colleges/daley/departments/Pages/Grade-Appeal-Policy-and-Procedure.aspx>

**NOTE:** Type or copy and paste the link above into a web browser to view its content.

### Topical Outline / Course Calendar:

Week 1 course intro lab – intro to welding equipment

Week 2 personal and shop safety lab

Week 3 types of welds (i.e. – GMAW, GTAW) lab – intro to class project

Week 4 GMAW techniques and positions lab

Week 5 Physics of welding periodic table lab

Week 6 Alloys and welding lab

Week 7 Welding and cutting gases lab

Week 8 Midterm exam lab

Week 9 GMAW equipment and supplies lab

Week 10 GTAW and SMAW equipment lab

Week 11 Plasma and gas cutting lab

Week 12 Welding positions and joints lab

Week 13 Metallurgy lab

Week 14 Electricity lab

Week 15 Hands on exam – ‘tee’ weld lab class project work

Week 16 Final exam - written lab class project work

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