**Weld 102 - Master Syllabus**

**Course:** WELD 102 – Shielded Metal Arc Welding Advanced **Course Credits:** 2-6-4

**Course Prerequisite:** Weld 101 **ICCB Code: PCS #** 480508

**Mode of Delivery:** Lecture / Lab **IAI #:** (if applicable)

**Developer:** Richard Carter (217) 875-7211, ext. 408 **Dev/Rev Date: 12/10/14**

**Projected Date of Initial Offering:**

**Course Description: Course Description: WELD 102 – Shielded Metal Arc Welding Advanced**

is designed to prepare students to perform ASME code welds in the 2-G,3-G, and 4 G positions. This class prepares the students for pipe welding. Offered in Fall, Spring and Summer.

Applicable toward graduation where program structure permits:

Certificate or Degree -All certificates, AAS,ALS

Group Requirement -Not applicable

Area of Concentration - Not applicable

**Course Objectives/Outcomes:**

|  |  |
| --- | --- |
| **Course Outcomes: (6-8 measurable outcomes)** | **RCC Cross-Disciplinary Outcomes:** |
| Identify safe welding practices and procedures conforming to American Welding Society (AWS) Z 49 standards. | **1,4** |
| Demonstrate knowledge of code practices and procedures in American Welding Society (AWS) D1.1Structural Steel Welding Code | **1,4** |
| Interpret both basic and advanced welding fabrication~~s~~ blueprints including: welding symbols, weld testing symbols, structural steel shapes, and welding specifications | **1,4** |
| produce quality single vee open butt welds in the 2-g, 3-g and 4-g positions | 1,2,3,4 |
| produce quality single vee welds with backing in the 2-g, 3-g and 4-g positions | **1,2,3,4** |
| make welds using e-7018, e-6010-5p and e-309 stainless electrodes | 1,2,3,4 |
| make welds that will pass testing in accordance with Section 9 of the ASME Boiler code. | 1,2,3,4 |
| use grinding and cutting equipment in a safe manner | 1,2,3,4 |

**Cross-Disciplinary Outcomes**

1. *The degree-seeking student will be able to communicate effectively (read, write, speak and listen).*
2. *The degree-seeking student will think critically and creatively.*
3. *The degree-seeking student will manage technology and evaluate information in various research and applied contexts.*
4. *The degree-seeking student will act professionally and responsibly.*

|  |  |  |
| --- | --- | --- |
| **RCC Cross-Disciplinary Outcome** | **When will it be taught?** | **How will it be assessed?** |
| Communicate Effectively | Ongoing throughout the class | By evaluating the students ability to comprehend written tasks in lab as well as daily usage of industry terminology |
| Think Critically and Creatively | Ongoing throughout the class | By evaluating the students ability to overcome challenges with material placement and body positioning to complete hands on skill tests |
| Manage Technology | Ongoing throughout the class | By evaluating the students ability to setup the equipment to overcome challenges this varies from hand skill to hand skill |
| Act Professionally and responsibly | Ongoing throughout the class | By evaluating the students interaction with other students, being professional and responsible is needed for everyone’s safety in the lab environment |

**Topical Outline:**

|  |  |
| --- | --- |
| **Topic** | **Textbook Chapters** |
| Shielded Metal Arc Equipment, Setup and Operation | Chapter 3 |
| Shielded Metal Arc Welding of Plate | Chapter 4 |
| Advanced Shielded Metal Arc Welding | Chapter 6 |
| Shop Math and Weld Cost | Chapter 18 |
| Reading Technical Drawings | Chapter 19 |
| Welding Joint Design | Chapter 20 |
| Fabricating Techniques and Practices | Chapter 21 |
| Welding Codes, Standards and Costs | Chapter 22 |
| Testing and Inspection of Welds | Chapter 23 |
| Welder Certification | Chapter 24 |
| Welding Metallurgy | Chapter 25 |
| Weldability of Metals | Chapter 26 |
| Filler Metal Selection | Chapter 27 |
| Other Welding Processes | Chapter 29 |

**All Welding courses are Fast Track courses.** The student may complete the class as soon as all of the book work and performance skill tests have been graded and receive a satisfactory grade by the instructor.

(**NOTE:** The above lesson outline is a proposed schedule and may be adjusted according to the needs of the class and circumstances that may interfere with the regularly scheduled classes; snow, storms, power outages, etc.)

**Methods of Evaluation:**

* Written tests and quizzes through the Canvas Learning Management System
* Student must satisfactorily pass all hand skills with a minimum of 70% or instructor’s satisfaction
* Student must have a minimum combined book work total grade of 70% to satisfactorily complete the course

Grading

|  |  |  |
| --- | --- | --- |
| 90% - 100% = A | 70% - 79% = C | Theory Quizzes/Exam 40% |
| 80% - 89% = B | 69% and below = F | Skill Tests 60% |
|  |  |  |

**Textbooks:**

* Welding Principles and Applications, Seventh Edition, Larry Jeffus. Delmar Cengage Learning.
* ISBN 10: 1-111-03917-8. ISBN 13: 978-1-111-03917-2.

**Required Materials:** Required personal protective equipment (PPE) in the welding lab is:

* 1. Welding jacket
  2. Welding gloves
  3. Cotton denim pants
  4. Cotton shirts
  5. Welding beanie
  6. Safety glasses
  7. Leather Boots
  8. Welding hood with a minimum shade #10 installed

**Attendance Policy:** The following attendance procedures are implemented throughout the semester:

* ***Students will be dropped for three (3) consecutive misses or three (3) absences with no notification or five (5) total absences in one semester.***
* Notice of absence is expected. Call or e-mail notification is preferred.
* Attendance will be taken at the beginning of each scheduled class session and lab session.
* Tardiness will be counted as an absence and starts once attendance has been taken.
* A class session includes participating in both lecture and lab in its entirety; missing a portion of either will be counted as an absence.
* ***All students must have a Richland ID card and use it to swipe in and out of the Weld Lab (E127). Any student not swiped in or out will be counted as absent.***
* There is 10 minutes grace time on lab to change clothing and boots each day.
* Any student missing duty on the clean-up roster will be counted as absent.
* Special circumstances will be granted as deemed necessary with instructor approval.

*Regular attendance is necessary for satisfactory completion of a course. An instructor may drop a student who has failed to attend the first two class sessions. At midterm the College will drop any student who has failed to meet the attendance standard or attain sufficient progress as certified by the instructor. During the allotted timeframe as determined by the President of the College or the President’s designee, an instructor may drop a student who has failed to meet attendance standards or attain sufficient progress in the course but is not required to do so. This report will be used to determine certain financial aid awards.*

**Online Attendance Policy**

Online students are subject to the attendance policy for online courses as stated in the College Catalog. Student attendance in an online course is defined as active participation in the course. Participation in this course may take the form of posting to discussion forums, submitting assignments to drop boxes, or completing quizzes or exams. Students need to participate each week in some way to satisfy the attendance requirement. ***(Note: logging into the course does not qualify as participation and will not be counted as meeting the attendance requirement.)***

A student *can* be dropped seven calendar days after the start of the semester for the following reasons:

1. Failure to meet the attendance requirement (as defined above) during the first week of class, ***OR***
2. Failure to start the mandatory Canvas orientation during the first week of class, if not previously completed, ***OR***
3. Failure to contact the instructor during the first week of class regarding an inability to complete either #1 or # 2 above.

At midterm the College will administratively drop any student who has failed to meet the attendance requirement as set forth by the instructor. After midterm, students who stop participating in a class without officially dropping a class and who are not administratively dropped may receive a grade of “F” for the course. This may also have an impact on certain financial aid awards. It is ultimately the responsibility of the student to drop a course.

Any student who cannot meet the attendance requirements for a given week should contact his or her instructor immediately.

**Human Relations Policy: (required)**

* This course incorporates concepts regarding all races, creeds, sexes, and ethnic groupings and the belief that they must learn to live together.

**RCC Core Values:**

* Commitment - We are dedicated to meeting the needs of the communities we serve.
* Respect - We recognize the expertise of all members of the College community and encourage individual contributions.
* Excellence - We strive to develop and pursue higher standards.
* Accountability - We assume and demonstrate responsibility for our actions.
* Diversity - We believe that our similarities and differences are opportunities for establishing a common bond and strengthening the College.

**RCC Academic Integrity Policy:**

* + - * Duplicate the current Richland Board Policy 4.15.6 and College Catalog.

*All students are expected to maintain academic integrity in their academic work and honesty in all dealings with the College. A student who cheats, plagiarizes, or furnishes false, misleading information to the College is subject to disciplinary action up to and including failure of a class or suspension/expulsion from the College.*

**Safety & Labs/Clinicals**

* + - * Include information on safety, labs
      * Assumption of Risk if class-organized travel off campus
      * Insurance for certain classes, available for all students

**Learning Feedback System**

Students now have the opportunity to evaluate courses each semester through the Learning Feedback System available online. Faculty will announce when the Learning Feedback System is available for the course and explain the process for accessing the LFS. Some faculty may also use the LFS at midterm. Students are notified by e-mail when the LFS is available.

**myRichland**

Richland uses myRichland as the information portal for students. Users can access a wide variety of web-based services, including online registration, academic information, Richland e-mail, the Canvas Learning Management System, and the Library research databases. Academic information available includes current semester schedule, unofficial transcripts, grade point average projection, financial aid information review, online payment services, and degree auditing to determine degree completion progress. Student grades are posted only on myRichland. Grades will not be mailed to students unless requested.

Students with a “hold” placed on their records due to a financial obligation to the College or other unmet requirement will be unable to view academic records.

**Support Services**

**College Telephone Number: 217-875-7211**

**(Operator—217-875-7200, 7:30 a.m. to 9 p.m. M-Th, 7:30 a.m. – 5 p.m. F)**

**Academic Success Center**

**Accommodations,** Room C148, Ext. 379

Responsibilities: Services for students with documented disabilities, including advisement, counseling, adaptive equipment and materials, instructional aids, tutors, note takers, interpreters, and testing accommodations

**Testing,** Room S116, Ext. 238

Responsibilities: Placement testing in English, mathematics, reading, health courses; make-up testing as arranged by instructor; testing for online courses

**Tutoring,** Room S118, Ext. 419

Responsibilities: Tutoring on walk-in or appointment basis, study groups, computers

**Student Success Center (Temporary Location: Workforce Development Institute—WDI)**

**Advising and Registration**, WDI, Ext. 267

Responsibilities: Advisement, registration, general student services

**Campus Life**, Room C131, Ext. 243

Responsibilities: new student orientation, clubs and organizations, student leadership and service opportunities

**Career Services**, WDI, Ext. 305, 243

Responsibilities: Career exploration, job search, internships, resumé review

**Counseling Services**, WDI, Ext. 252

Responsibilities: Academic advising, personal counseling

**Financial Aid and Veteran Affairs,** WDI, Ext 274

Responsibilities: federal and state aid, veteran and entitlement benefits, scholarships

**On-campus Student Employment,** WDI, Ext. 205

Responsibilities: coordinates student part-time, temporary employment on campus

**Student Records**, WDI, Ext. 257

Responsibilities: grades, transcripts, graduation

**Transfer Center**, WDI, Ext. 222

Responsibilities: Transfer information, college visits, and campus representatives on campus

**Veteran Services**, WDI, Ext. 307, 205

Responsibilities: assist veterans with comprehensive college services

**Learning Resources Center (Library)**, Room C152, Ext. 303

Responsibilities: Manages print and electronic resources for students, faculty, and the broader College community. Offers research assistance, information literacy sessions, course reserves, and individual and group study areas.

**Online Learning Support**, [ochelp@richland.edu](mailto:ochelp@richland.edu) Room W143, Ext. 376

Responsibilities: Assists students with navigation in an online course, access and navigation in the student information system, and technical questions regarding personal computer system requirements and troubleshooting. Assistance is also given to students in hybrid and technology enhanced courses. Staff provide technical support through e-mail, telephone, and walk-in service.

The best way for students to contact the Online Help Desk:

From Canvas – click on the “Help” link in the upper right corner and choose Report a Problem.

Non-Canvas related issues: e-mail [ochelp@richland.edu](mailto:ochelp@richland.edu). The Request goes directly to the Help Desk e-mail and is checked regularly.

**Open Computer Labs**

Students may use computers in the Learning Resources Center (Library) and in the Academic Success Center. Wi-Fi is also available throughout the main campus.

**Perkins Program**: The Perkins program is a federally-funded program designed to assist students in helping them become academically successful. For a student to be eligible for the Perkins Program they must be enrolled in an occupational program.

If a student is enrolled in an occupational area, they are automatically enrolled in the Perkins Program. Students may call the Perkins Program Coordinator for more information at 875-7211, Ext 223 or stop by the office at E185.

All students should apply for financial aid (forms can be obtained from Student Development and Services on the first floor). Funding for the Carl Perkins Program is based on the number of students requesting financial aid.

Services include but are not limited to workshops, field trips, resume writing assistance, tutoring, class supplies, and emergency book and/or transportation assistance.

**Student Support Services/TRiO Program,** Room C143, Ext. 440.

Responsibilities: Program designed for college students identified as first-generation, low-income, and/or with disabilities, offering academic and personal support.

**Financial Aid:**

All students are encouraged to apply for state and federal financial assistance by completing the Free Application for Federal Student Aid (FAFSA) applications. This application may be obtained from the Financial Aid Office (Room C129) in the center court area of campus or at [www.fafsa.ed.gov](http://www.fafsa.ed.gov). By filling out this one application, students can become eligible for aid from numerous state and federal aid agencies, like PELL, MAP, SEOG, and IIA. Early application is important so don’t delay.

The Richland Foundation is also an excellent source of scholarships for Richland students. For a listing of available scholarships and scholarship applications visit the Foundation webpage on the Richland Community College website at <http://www.richland.edu/foundation>.

**INAM Grant**

This workforce solution was funded by a grant awarded by the U.S. Department of Labor’s Employment and Training Administration. The solution was created by the grantee and does not necessarily reflect the official position of the U.S. Department of Labor. The Department of Labor makes no guarantees, warranties, or assurances of any kind, express or implied, with respect to such information, including any information on linked sites and including, but not limited to, accuracy of the information or its completeness, timelines, usefulness, adequacy, continued availability, or ownership. This solution is copyrighted by the institution that created it. Internal use, by an organization and/or personal use by an individual for  non-commercial purposes, is permissible. All other uses require the prior authorization of the copyright holder.