COURSE NUMBER & TITLE: WELD 1910-01 SPECIALIZED WELDING & JOINING

SEMESTER/YEAR: Spring 2016

LECTURE HOURS: 2  LABORATORY HOURS: 2  CREDITS: 3

CLASS TIME: 8:50 a.m. - 11:50 a.m.  F  ROOM: WT 128/141

INSTRUCTOR’S NAME: Darin Miller

OFFICE HOURS: As posted on office door

COURSE DESCRIPTION: Emphasizes unique applications of hard-to-join metals and plastics. Utilizing modern technology, students are exposed to new dimensions in welding. Various exercises will cover plasma, submerged arc welding, resistance spot welding, metal surfacing, thermal torch spraying, thermoplastic welding, and non-destructive inspection techniques.

STATEMENT OF PREREQUISITE: WELD 1710, 1780 2510 OR Permission of instructor

GOAL: Various exercises will cover plasma, submerged arc welding, resistance spot welding, metal surfacing, thermal torch spraying, thermoplastic welding, and non-destructive inspection techniques.

OUTCOMES:
1. Understand the use of safety in the welding trade.
2. Understand different methods used to repair cast iron.
3. Understand the use and application of thermoplastic welding.
4. Understand the process of submerged arc welding.
5. Understand the soldering and brazing processes.
6. Understand different methods used to extract broken bolts.
7. Understand the use and application of hard surfacing.
8. Understand different processes used in modern industry.
9. Demonstrate effective oral and written communication
10. Solve problems using critical thinking and creativity
11. Use appropriate technology and information to conduct research

METHODOLOGY: Lecture and laboratory exercises.

EVALUATION CRITERIA: The student will be evaluated on quizzes, tests, and lab projects. The quizzes may be either written or practical.

GRADING SCALE:

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<th>Percentage</th>
<th>Grade</th>
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<tr>
<td>100 - 90</td>
<td>A</td>
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<td>79 – 70</td>
<td>C</td>
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<td>69 – 60</td>
<td>D</td>
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<td>59 - Below</td>
<td>F</td>
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Attendance Policy: Attendance is of utmost importance. Unexcused absences in the excess of 4 will result in the loss of one letter grade. Due to the consideration of the instructor and students, you must be present at the designated starting class time or you will not be allowed to participate unless prior arrangements with the instructor have been made.

Tool Use: Misuse of shop tools will result in the loss of tool privileges.

REQUIRED TEXTS, READINGS, AND MATERIALS:
Welding Principles & Applications, 6th Edition; Jeffus

CLASS POLICIES:
Last Date to Change to Audit Status: Refer to Handbook
Last Date to Withdraw With a W Grade: Refer to Handbook

No cell phones or other electronic devices are allowed in the classroom or laboratories.

SAFETY: Personal and equipment safety standards will be strictly enforced. It is the individual’s responsibility to develop and use a safe work attitude.

STUDENT’S RIGHTS AND RESPONSIBILITIES: Please refer to the Casper College Student Conduct and Judicial Code for information concerning your rights and responsibilities as a Casper College Student.

Chain of Command: If you have any problems with this class, you should first contact the instructor in order to solve the problem. If you are not satisfied with the solution offered by the instructor, you should then take your problem through the appropriate chain of command starting with the department head/Program Director, the Academic Dean, and lastly the vice president for academic affairs.

Academic Dishonesty – Cheating and Plagiarism: Casper College demands intellectual honesty. Proven plagiarism or any form of dishonesty associated with the academic process can result in the offender failing the course in which the offense was committed or expulsion from school. See the Casper College Student Code of Conduct.

Official Means of Communication: Casper College faculty and staff will employ the student’s assigned Casper College email account as a primary method of communication. Students are responsible to check their account regularly.

ADA Accommodations Policy: If you need academic accommodations because of a disability, please inform me as soon as possible. See me privately after class, or during my office hours. To request academic accommodations, students must first consult with the college’s Disability Services Counselor located in the Gateway Building, Room 344, (307) 268-2557, bheuer@caspercollege.edu. The Disability Services Counselor is responsible for reviewing documentation provided by students requesting accommodations, determining eligibility for accommodations, and helping students request and use appropriate accommodations.

TOPICAL OUTLINE:

1. Chapter 1 Introduction to Welding
   LAB Research Paper
2. Chapter 31 Soldering, Brazing, and Braze Welding
   LAB Various Joints Using Above Processes
3. Chapter 8 Plasma Arc Cutting
   LAB Cutting Exercises Using Above Process
4. Chapter 9 Related Cutting Procedures
   LAB Air Arc Cutting Exercise
5. Chapter 27 Other Welding Related Processes
   LAB Hardfacing, Thermal Torch Spraying
6. Chapter 25 Filler Metal Selection
   LAB Usage of Various Filler Metals
7. Chapter 24 Weldability of Metals
   LAB Cast Iron and Metal Identification
8. Chapter 14 Other Constant Potential Welding Processes
   LAB Hand Held Submerged ARC Welding.
9. Chapter 10 Spot Welding & Thermal Plastic Welding
   LAB Various Joints Using Above Processes.
10. Chapter 26 Welding Automation & Robotics