CASPER COLLEGE
COURSE SYLLABUS

COURSE NUMBER AND TITLE: WELD 1700-60 GENERAL WELDING

SEMESTER/YEAR: Fall 2006

LECTURE HOURS: 1 LABORATORY HOURS: 1 CREDITS: 2.5

CLASS TIME: 8:00 - 10:50 a.m. TTH
8/29/06 – 10/17/06

ROOM: WT 141

INSTRUCTOR’S NAME: Darin Miller

INSTRUCTOR’S CONTACT INFORMATION:
Office Location: WT 145
Office Phone: 268-2278
Email: dmiller@caspercollege.edu

OFFICE HOURS: See current schedule posted on office door.

COURSE DESCRIPTION: This course includes the study of Oxyacetylene Welding, cutting
and brazing, OAW, OAC and Shielded Metal Arc Welding (SMAW) processes.

STATEMENT OF PREREQUISITES: None

GOAL: The student will develop the necessary skills to produce quality welds on mild steel
joints utilizing both processes.

OUTCOMES: To provide the student with a thorough understanding of the OAW, OAC, and
SMAW processes. Areas of instruction include welding safety, acetylene welding and cutting
mild steel plate and pipe, fillet and groove welds on mild steel plate using OAW, braze welding,
and SMAW, the AWS electrode classification system as it applies to all processes mentioned.

METHODOLOGY: One (1) lecture hour per week and a one (1) hour lab for 16 weeks, or
can be structured to fit industry needs for specific apprenticeship programs.

EVALUATION CRITERIA: Students will be evaluated on quizzes, tests, and lab projects.
The quizzes and tests may be either written or practical. The final exam will be worth 30% of
the final grade.

GRADING SCALE

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Grade</th>
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<tbody>
<tr>
<td>100 - 90</td>
<td>A</td>
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<tr>
<td>89 - 80</td>
<td>B</td>
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<td>79 - 70</td>
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<td>69 - 60</td>
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<td>59-below</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: Basic SMAW, Griffith, Rodan & Briggs;
Basic Oxyacetylene Welding, Griffith, Rodan & Briggs

CLASS POLICIES:
Last Date to Change to Audit Status: See current Casper College catalog.
Last Date to Withdraw With a W Grade: See current Casper College catalog.
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, then the division chair, 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.

*ADA Accommodations Policy:* It is the policy of Casper College to provide appropriate accommodations to any student with a documented disability. If you have a need for accommodation in this course, please make an appointment to the instructor at your earliest convenience.

**CALENDAR OR SCHEDULE INDICATION COURSE CONTENT:**

**TOPICAL OUTLINE:**

<table>
<thead>
<tr>
<th>Text:</th>
<th>Basic Oxyacetylene Welding (Week 1-8)</th>
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<tbody>
<tr>
<td>WEEK</td>
<td>CHAPTER</td>
</tr>
<tr>
<td>1 - 2</td>
<td>1 The Oxyacetylene Welding Process</td>
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<td>2 Oxygen and Acetylene Cylinders</td>
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<td>3 Welding Gases</td>
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<td>4 Oxygen and Acetylene Regulators</td>
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<td>5 Types and Uses of Welding Torches</td>
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<td>6 Welding Tips</td>
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<td>7 The Oxyacetylene Welding Flame</td>
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<td>8 Setting Up the Equipment and Lighting the Torch</td>
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<td>3 - 4</td>
<td>14 Running Beads and Observing Effects</td>
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<td>16 Tacking Light Steel Plate and Making Butt Welds</td>
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<td>17 Flat corner Welds</td>
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<td>18 Lap Welds on Light Steel Plate</td>
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<td>19 Tee or Fillet Welds on Light Steel Plate</td>
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<td>5 - 6</td>
<td>9 Flame Cutting</td>
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<td>12 Piercing and Hole Cutting</td>
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<td>28 Brazing with Bronze Rod</td>
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<td>29 Running Beads with Bronze Rod</td>
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<tr>
<td>7 - 8</td>
<td><strong>TEST #1</strong></td>
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### Text: Basic Arc Welding (SMAW) (Week 9 - 16)

<table>
<thead>
<tr>
<th>Week</th>
<th>Topic</th>
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| 9 - 10 | The Arc Welding Process  
Sources of Electricity for Welding  
The Welding Circuit  
Fundamentals of Arc Welding |
| 11 - 12 | Padding a Plate  
Outside Corner Weld  
Single Pass Lap Joint |
| 13 - 14 | TEST #2  
Single Pass Fillet Weld  
Multiple Pass Lap Joint  
Multiple Pass Fillet Weld |
| 15 - 16 | FINAL TEST |

### REQUIRED WELDMENTS

#### OXYACETYLENE WELDING:
- 1G BUTT JOINT
- 1F CORNER JOINT
- 2F LAP JOINT
- 2F TEE JOINT

#### BRAZE WELDING:
- 1G BUTT JOINT
- 2F LAP JOINT
- 2F TEE JOINT

#### SHIELDED METAL ARC WELDING:
- 1F CORNER JOINT
- 2F LAP JOINT
- 2F TEE JOINT
- 2F LAP JOINT (Multiple pass)
- 2F TEE JOINT (Multiple pass)