MASTER SYLLABUS

COURSE NUMBER – COURSE NAME
WELD 202 – Code and Inspection

Created by: Christopher Mayville

Updated by:

Canino School of Engineering Technology

Department: Mechanical & Energy Technology

Semester/Year: Spring 2021
A. **TITLE:** Code and Inspection

B. **COURSE NUMBER:** WELD 202

C. **CREDIT HOURS:** (Hours of Lecture, Laboratory, Recitation, Tutorial, Activity)

   # Credit Hours: 2
   # Lecture Hours: 2 per week
   # Lab Hours:  per week
   Other:  per week

   **Course Length:** 15 Weeks

D. **WRITING INTENSIVE COURSE:** Yes ☐ No ☒

E. **GER CATEGORY:** None: ☒ Yes: GER
   *If course satisfies more than one:* GER

F. **SEMESTER(S) OFFERED:** Fall ☒ Spring ☐ Fall & Spring ☐

G. **COURSE DESCRIPTION:**

Welding codes and inspection processes are covered.

H. **PRE-REQUISITES:** None ☐ Yes ☒ If yes, list below:

WELD 112

**COORDINATE:** None ☒ Yes ☐ If yes, list below:
### I. STUDENT LEARNING OUTCOMES: *(see key below)*

By the end of this course, the student will be able to:

<table>
<thead>
<tr>
<th>Course Student Learning Outcome [SLO]</th>
<th>Program Student Learning Outcome [PSLO]</th>
<th>GER [If Applicable]</th>
<th>ISLO &amp; SUBSETS</th>
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<td>Identify welding defects and their cause.</td>
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<td>4-Soc Respons ISLO ISLO</td>
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<td>Write and interpret a Welding Procedure Specification.</td>
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<td>Identify destructive and nondestructive weld testing procedures.</td>
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| 1      | Communication Skills  
Oral [O], Written [W] |
| 2      | Critical Thinking  
Critical Analysis [CA], Inquiry & Analysis [IA], Problem Solving [PS] |
| 3      | Foundational Skills  
Information Management [IM], Quantitative Lit/Reasoning [QTR] |
| 4      | Social Responsibility  
Ethical Reasoning [ER], Global Learning [GL], Intercultural Knowledge [IK], Teamwork [T] |
| 5      | Industry, Professional, Discipline Specific Knowledge and Skills |

*Include program objectives if applicable. Please consult with Program Coordinator*
J. **APPLIED LEARNING COMPONENT:**  
Yes ☐ No ☒

If YES, select one or more of the following categories:

- ☐ Classroom/Lab
- ☐ Internship
- ☐ Clinical Placement
- ☐ Practicum
- ☐ Service Learning
- ☐ Community Service

- ☐ Civic Engagement
- ☐ Creative Works/Senior Project
- ☐ Research
- ☐ Entrepreneurship
  
  (program, class, project)
K. **TEXTS:**


L. **REFERENCES:**

None

M. **EQUIPMENT:** None ☒ Needed:

N. **GRADING METHOD:** A-F

O. **SUGGESTED MEASUREMENT CRITERIA/METHODS:**

Homework, quizzes, and tests

P. **DETAILED COURSE OUTLINE:**

1. Codes, Standards, Procedures, and Specifications
   - American Petroleum Institute (API)
   - American Society of Mechanical Engineers (ASME)
   - American Welding Society (AWS)
   - AWS SENSE (Schools Excelling through National Skills Education)
2. Welding Procedure Qualification
   - Welding Procedure Specification (WPS)
   - Procedure Qualification Record (PQR)
   - Qualifying and Certifying
3. Quality Control Procedures
4. Weld Defects
5. Destructive Testing
   - Tensile
   - Fatigue
   - Shearing
   - Nick-Break
   - Guided-Bend
   - Free-Bend
   - Alternate Bend
   - Etching
   - Impact
6. Nondestructive Testing
   - Visual
   - Penetrant
   - Magneting Particle
   - Radiographic
   - Ultrasonic
   - Eddy Current
7. Leak Checking
8. Hardness Testing

Q. **LABORATORY OUTLINE:** None ☒ Yes ☐