

Lansing Community College

Course Cover Sheet

**M-CAM Training Area:**

☐ CNC/Machining ☐ Multi-Skilled Mechatronics ☐ Production Operation ☒ Welding/Fabrications

Program(s): Welding Basics

Course: Welding Inspection and Print Reading

Course Description:

Welding Inspection and Print Reading Overview is a 16-hour training for participants who have successfully completed Welding Basics. This training will cover the ASME/ANSI/AWS Welding codes, visual Inspection, Destructive/Nondestructive Welding Inspection, Discontinuities, Flaws and Defects, and an overview of print reading for welders.

Delivery method is hybrid.

Date Created: March, 2015

Employer/Industry Partner: Various manufacturing companies in Mid-Michigan. Advisory Board members to LCC's Technical Careers Division.

Faculty Developer(s)/Instructional Designers(s): Cathie Lindquist/Ann Lapo

College Contact: Jill Doederlein

Phone: 517.483.9665

Email: doederj@lcc.edu

Additional Information/Comments: Upon review of the Welding Basics course, it was determined that there were gaps in content. Faculty worked on enhancing the future Welding Basics course with required content for entry-level workers.

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DESCRIPTION:

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TOTAL TIME REQUIREMENT for the course is 16 hours.

PREREQUISITES: Reading Level 4.

OBJECTIVES:

After completing this course, the student should be able to:

- Understand the ASME/ANSI/AWS welding codes.
- Perform visual inspection before, during and after the welding process using the correct methodology.
- Identify discontinuities, flaws and defects.
- Identify allowable defects according to procedure specifications.
- Identify print reading symbols.

MATERIALS:

Online portion of the class:

Software: Internet access, Web browser, Adobe Reader, up-to-date virus protection for the online portion of this course.

- Go to elearning.autoworkforce.org – course 110 to access the lessons, labs specifications and assessments for the AMTEC Welding and Fabrication modules

Hands-on portion of the class:

- Tools and equipment specified in the Resources section—per module — for each hands-on lab.
- Instructor handouts

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Welding Inspection and Print Reading (Lansing Community College)

Program: Welding Basics

Syllabus

GRADING POLICY:

- Satisfactory completion of training (at least 75%) recommended.

| College Grading Standards | Percent |
|---------------------------|---------|
| 4.0 Excellent | 91-100% |
| 3.5 | 86-90% |
| 3.0 Good | 81-85% |
| 2.5 | 76-80% |
| 2.0 Satisfactory | 71-75% |
| 1.5 | 66-70% |
| 1.0 | 60-65% |
| 0.0 | 0-59% |

ACCEPTABLE USE POLICY:

Computer Resources

Use of College-owned computer resources is a privilege extended by the College to students, employees, and other authorized users as a tool to promote the mission of the College. All users agree to be bound by the terms and conditions of the LCC Acceptable Use Policy at the time they complete an account application form. Copies of the LCC Acceptable Use Policy are available at the Library Circulation Desk and may also be accessed on the World Wide Web. The URL is http://www.lcc.edu/policy/policies_1.aspx#ACCEPTABLE_USE_POLICY

Transfer Potential

For transferability information, please consult the Transfer Equivalency Information located at the LCC website at <http://www.lcc.edu/transfer>. For additional transferability information, contact the LCC Academic Advising Center, (517) 483-1904.

The MACRAO Transfer Agreement simplifies the transfer of students from one Michigan institution to another. The most current MACRAO Transfer Agreement information can be found at http://www.lcc.edu/transfer/macrao_agreement.aspx.

Student Code of Conduct and General Rules and Guidelines

LCC supports a positive educational environment that will benefit student success. In order to ensure this vision, the College has established the LCC Student Code of Conduct and the Student General Rules and Guidelines to ensure the protection of student rights and the health and safety of the College community, as well as to support the efficient operation of College programs. In addition, the College has established guidelines for the redress of grievances by individuals accused in such proceedings. A copy of the most current Code can be found on the College's website at http://www.lcc.edu/catalog/policies_procedures/studentrulesguidelines.aspx#code.

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Program Description

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Class Schedule:

Tuesdays and Thursdays

4 hours each class session.

First class will be in S150 (Computer Lab) and includes an introduction to ToolingU online.

Remaining classes will be in S152. (classroom with hands-on activities)

Participants will also have access to Tooling U-SME online for 6 months

- **Tooling U-SME** is the industry leader in manufacturing online training. For more than 80 years, they have worked with manufacturers to build training programs and support workforce learning initiatives.
- Students will have access to the following online modules to enhance classroom training for Welding Inspection and Print Reading Overview:
 - Safety—17 Modules.
 - Welding—22 Modules. Emphasis on modules 1-6.
 - Shop Essentials—20 Modules (includes 2 print reading modules). Emphasis on modules 1, 5, 16
- Tooling U-SME may be accessed from any computer.

Acceptable Use at Lansing Community College:

See lcc.edu/policy/documents/policies/acceptable-use-policy.pdf

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| Subject Matter Expert (SME) Course Review Summary | |
|---|--|
| College: Lansing Community College | |
| M-CAM Training Area: <input type="checkbox"/> CNC/Machining <input type="checkbox"/> Multi-Skilled/Mechatronics <input type="checkbox"/> Production Operation <input checked="" type="checkbox"/> Welding/Fabrication | |
| Degree Program Name: | |
| Title of Course: Welding Inspection and Print Reading | |
| Subject Matter Expert (SME) Reviewer Information Name: Robert C. Hess Title: Senior Instructional Designer/Trainer Phone: 566-322-1033 Email: bob.hess@mhtechnologies.net Organization/Affiliation: MH Technologies | |
| Attach Resume or provide credentials (showing years of experience and work experience that is relevant to course content): | |
| Synopsis of Findings: Welding Inspection and Print Reading Overview: <ul style="list-style-type: none"> ○ Safety—17 Modules from Tooling U ○ Welding—22 Modules from Tooling U ○ Shop Essentials—20 Modules from Tooling U (includes 2 print reading modules) 1. Acceptable for training. | |

Michigan Coalition for Advanced Manufacturing

Reviewers Signature Robert C. Hess

Date: 3/8/17

**Michigan Coalition for Advanced Manufacturing
Subject Matter Expert Course Review**

| 1. Course Overview and Objectives | Exceptional | Satisfactory | Ineffective |
|--|-------------|--------------|-------------|
| The goals and purpose of the course is clearly stated. | | X | |
| Prerequisites and/or any required competencies are clearly stated. | | X | |
| Learning objectives are specific and well-defined. | | X | |
| Learning objectives describe outcomes that are measurable. | | X | |
| Outcomes align to occupational focus (industry skills and standards). | | X | |
| Comments or recommendations: | | | |
| | | | |
| 2. Material and Resources | Exceptional | Satisfactory | Ineffective |
| The instructional materials contribute to the achievement of the course learning objectives. | | X | |
| The materials and resources meet/reflect current industry practices and standards. | | X | |
| The instructional materials provide options for a variety of learning styles. | | X | |
| Resources and materials are cited appropriately. If applicable, license information is provided. | | X | |
| Comments or recommendations: | | | |
| | | | |
| 3. Learning Activities | Exceptional | Satisfactory | Ineffective |
| Provide opportunities for interaction and active learning. | | X | |
| Help understand fundamental concepts, and build skills useful outside of the learning object. | | X | |
| Activities are linked to current industry practices and standards. | | X | |

**Michigan Coalition for Advanced Manufacturing
Subject Matter Expert Course Review**

| Comments or recommendations: | | | |
|---|-------------|--------------|-------------|
| 4. Assessment Tools/Criteria for Evaluation | Exceptional | Satisfactory | Ineffective |
| The course evaluation criteria/course grading policy is stated clearly on syllabus. | | X | |
| Measure stated learning objectives and link to industry standards. | | X | |
| Align with course activities and resources. | | X | |
| Include specific criteria for evaluation of student work and participation. | | X | |
| Comments and recommendations: | | | |
| 5. Equipment/Technology | Exceptional | Satisfactory | Ineffective |
| Meets industry standards and needs. | | X | |
| Supports the course learning objectives. | | X | |
| Provides students with easy access to the technologies required in the course/module. | | X | |
| Comments and recommendations: | | | |

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Robert C. Hess

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Shelby Twp., MI 48317
586-322-1033

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Qualifications

Dedicated, articulate, and enthusiastic with strong analytical and organizational abilities. Effective communication and interpersonal skills. Ability to work independently or as an integral part of a team to accomplish goals. Experience prioritizing and completing numerous concurrent responsibilities while meeting time and organizational goals. Sound professional attitude, strong work ethic and pride in personal performance.

Experience

- | | | |
|--|-------------------------------------|-----------------------------|
| 2015 – Present | M H Technologies LLC | Warren, MI |
| Senior Instructional Designer/Trainer | | |
| <ul style="list-style-type: none">• Perform Needs Analysis and quote training programs• Develop on-line training programs, system manuals, student workbooks, and job aids• Deliver on-site training programs | | |
| 2002 – 2015 | R.C. Technologies | Shelby Twp. MI |
| Business Owner – R.C. Technologies | | |
| <ul style="list-style-type: none">• Research and quote training programs• Development of training programs for Ford Motors, DaimlerChrysler, General Motors, Kuka Robotics, Fame Conveyor, Lamb Technicon, Delphi, Magna, and SPX• Design training programs, system manuals, student workbooks, PowerPoint presentations, and job aids• Deliver on-site training programs• Professional Industrial photography | | |
| 1995 – 2002 | DCT Inc. | Sterling Heights, MI |
| Training Designer | | |
| <ul style="list-style-type: none">• Research and quote training programs• Design training programs, system manuals, student workbooks, and job aids• Deliver on-site training programs | | |
| 1990 – 1995 | Bond Robotics | Sterling Heights, MI |
| Training Manager / Field Service Engineer | | |
| <ul style="list-style-type: none">• Managed Training Department• Research and quote training programs• Design operation and maintenance manuals plus training guides• Deliver all training programs• Perform on-site electrical and mechanical customer support for installation, start-up, and debugging of pressroom automation | | |
| 1986 – 1990 | Robotic Vision Systems, Inc. | Sterling Heights |
| Field Service Engineer / Trainer | | |
| <ul style="list-style-type: none">• Research, installation, programming and training of 3D vision guided robotic welding and sealant systems for military, aerospace, and automotive industry | | |

| | | | |
|------------------|--------------------|--|-----------------------|
| Education | 1977 – 1981 | Ferris State University | Big Rapids, MI |
| | | <ul style="list-style-type: none">• BSEE | |