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**MFG 104**

**Quality/Continuous Improvement (MSSC-M2)**

**Fall Semester - 2013**

**COURSE CATALOG DESCRIPTION:**

Provides an introduction to controlling and improving quality in a manufacturing setting. Explores ways that manufacturers use data and analysis to improve quality. Introduces the student to lean manufacturing techniques. Based on the Manufacturing Skill Standards Council (MSSC) Certified Production Technician curriculum Students will qualify to sit for MSSC-M2-Quality and Continuous Improvement Certification through Manufacturing Skill Standards Council (MSSC). 3 Credit Hours

**PREREQUISITES:**

None

**TEXT/REFERENCES:**

Manufacturing Skill Standards Council *High-Performance Manufacturing*, Portable Production Skills ISBN 0-07-861487-2 Copyright 06 Publisher McGraw Hill Paperback

Manufacturing Skill Standards Council *High-Performance Manufacturing, Manufacturing Applications*, Portable Production Skills ISBN 0-07-861183-0 Copyright 06Publisher McGraw Hill Paperback

‘Lean Production Simplified’ by Pascal Dennis. Copyright 2002–Productivity Press ISBN1563272458

**OTHER REQUIREMENTS:**

In order to successfully complete this course, students must have or have access to:

1. Notebook and writing utensil
2. A computer and the internet

**COURSE GOALS/OBJECTIVES:**

Students who satisfactorily complete this course will be able to perform these goals without the use of reference materials unless otherwise noted. Individual levels of performance will comply with standards set within the textbook, through classroom and on-line learning activities.

1. Explain the key elements of a quality system.
2. Identify the steps involved in building quality into a product.
3. Explain the importance of data collection and analysis to quality.
4. Identify the roles of management and production workers regarding quality.
5. Identify methods of inspecting materials, processes, and final products.
6. Understand basic measurement in manufacturing.
7. Read basic drawings for manufacturing.
8. Understand geometric dimensioning and tolerance.
9. Purpose, history, and terminology of lean production.
10. What’s in a lean toolbox.
11. Qualify to sit for MSSC-M2-Quality and Continuous Improvement Certification through Manufacturing Skill Standards Council (MSSC).

**COURSE OUTLINE:**

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| Week One: | Focus on Quality | Ch 16.1 |
|  | Quality Management Systems & Quality Improvements | e-learning MSSC-OQ7  Ch 16 |
|  | Improving Quality | Ch 16.2 |
|  | Introduction to SPC | e-learning MSSC-OQ8 Ch 16.2 |
| Week Two | Control Charts | e-learning MSSC-OQ9 |
|  | Quality Inspections and Quality Audits | Ch 17.1 & Ch 17.2 |
|  | Preventive and Corrective Actions. Continuous Improvement, verification and documentation | Ch 18.1 & Ch 18.2 e-learning MSSC-OQ10 |
| Week Three | **Test over Chapters 16, 17, 18 & OS7-10** |  |
|  | Plant Visit |  |
| Week Four | Purpose and History of Lean Production, Terminology used in the Lean production. | Topics from ‘Lean Production Simplified’ |
| Week Five | What is in a Lean Toolbox and discussion on success stories. | Topics from ‘Lean Production Simplified’ |
| Week Six | Blueprint Reading 1 & 2 -Multi-view Drawings | e-learning MSSC-OQ1  e-learning MSSC-OQ2 |
|  | Blueprint Reading 3 Geometric Dimensioning | e-learning MSSC-OQ3 |
| Week Seven | Basic Measurement | e-learning MSSC-OQ4 |
|  | Precision Measurement Tools | e-learning MSSC-OQ5 |
|  | Dimensional Gauging | e-learning MSSC-OQ6 |
|  | Blueprint reading and measurement exercises | Based on above e-learning |
| Week Eight | **Final** |  |
|  | MSSC-M2-Quality and Continuous Improvement Certification On-line assessment | 90 minutes |

**STUDENT CONTRIBUTIONS:**

1. Attendance: All students are expected to attend each lecture session.  Three consecutive class sessions missed or five total absences within the term may result in an immediate administrative withdrawal.  Make-up will be required at the discretion of the instructor.  Students are expected to attend all laboratory sessions.   Make-up will be required for all missed lab sessions.
2. Participation: All students are expected to participate in online and class discussions and daily activities.
3. Homework Assignments: All homework and outside assignments are due on or before the date set by the instructor. All in-class assignments are due on the day of the assignment. Late assignments will not be accepted.
4. Exams: All exams should be taken on assigned day. Special arrangements must be made prior to the exam time and are at the discretion of the instructor.

**DROP POLICY:**

Following a withdrawal for courses eight weeks or longer, grades are recorded as follows:

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| Drop during first ten days of the semester. | No grade recorded; class does not appear on transcript. |
| Drop up to midterm. | W |
| Drop after midterm, up to 75% completion of the course. | WI |
| Drop after 75% completion of the course. | Grade earned, A-B-C-D-F, as outlined on the syllabus. |

**REASONABLE ACCOMMODATIONS**

Reasonable accommodations are available for students who have a documented disability. All accommodations must be approved by the Coordinator of Disability Services (located in the Support Services Office Room C122) 217-641-4343. Late notification may cause the requested accommodations to be unavailable.

**COURSE EVALUATION**

Grades will be determined by the following criteria:

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| --- | --- | --- |
|  | Attendance/Daily activities | 25% |
|  | Tests/Section Quizzes | 50% |
|  | Homework | 25% |
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The final letter grade will be determined according to the following scale:

A 90-100%

B 80-89%

C 70-79%

D 60-69%

F 59% and below

**COURSE SCHEDULE:**

This course is a combination of classroom sessions and on-line sessions.

**METHODS OF PRESENTATION:**

1. Discussion

2. Online MSSC System

3. Group Activities

**ASSESSMENT OF STUDENT LEARNING:**

John Wood Community College values continuous improvement of student learning. The College assesses student learning at several levels:  general education, program, and course.  The goal of these assessment activities is ongoing improvement of teaching and learning at John Wood Community College.

**JWCC Core Values**

**Self-development, Excellence, Accountability, Integrity**

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.