#### Department Coordinator: Kurt J. Billsten

### Phone: 847-925-6149 [kbillste@harpercollege.edu](mailto:kbillste@harpercollege.edu)

### William Rainey Harper College

### Career and Technical Programs Division General Course Outline

|  |  |  |  |
| --- | --- | --- | --- |
| Course Prefix | Course Number | Course Title | *Contact Hours* |
| MFT | 104 | QUALITY AND MEASUREMENT | 1.1*Lecture/Demonstration*   1. 2. *Lab/Studio*  2 Credit Hours |

### Course Description

Prerequisite: Prior or concurrent enrollment in MFT 102.

Provides an introduction to controlling and improving quality in a manufacturing setting. Explores ways that manufacturers use data and analysis to improve quality. Students will have the opportunity to earn the Quality and Measurement Certifications through the Manufacturing Skills Standards Council (MSSC).

### Topical Outline

1. Defining Quality
2. Building Quality into the Product Ill. Quality Management Systems
3. Process Improvements
4. Controlling and Documenting Production
5. Quality Inspections
6. Quality Audits
7. Preventive and Corrective Actions
8. Multi-view Drawings
9. Geometric Dimensioning and Tolerance
10. Basic Measurement
11. Precision Measurement Tools

### Method of Presentation

1. Lecture
2. Class Discussion
3. Other: Demonstration, Problem solving

### Student Outcomes (The student should)

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.

### Method of Evaluation

* 1. *Typical classroom assessment techniques*

\_Projects

\_Class participation

\_Objective tests

\_Studio/Lab performance

\_Final exam

\_Portfolios

\_Essays/Term papers

\_Oral examination

\_Research report

B. *Course content learning outcomes*

\_lLQuizzes

\_Group participation

\_Case study assignments

\_Homework

\_Midterm Exam

\_lLExams

1. *Additional assessment information (optional).*

Student presentations

### Textbook

* 1. *Required*

o Warren Hammer. Blueprint Reading Basics. 3rd Edition. Industrial Press, 2001 ISBN: 9780831131258

o Manufacturing Skill Standards Council. High-Performance Manufacturing. MSSC, 2006

o *Supplementary materials*

***None***

o *Software*

***None***

Prepared by: **Darlene Niebuhr Fall** 2013

CID: 3899

Language on the syllabi course materials developed by INAM funds:

From the grant agreement’s Part IV  Special Conditions, Item 15, Intellectual Property Rights, the following needs to be on all products developed in whole or in part with grant funds:

“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.”