

COURSE SYLLABUS

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| Course Title: | Introduction to Lean Manufacturing | | Date submitted: | 09-02-08 (08-111) | |
| Department: | Business and Technology | | | | |
| Curriculum: | Technology Studies | | | | |
| Course Descriptors: Make certain that the course descriptors are consistent with college and Board of Trustees policies, and the current course numbering system. | Course Code: (eg. ACC 101) | MFG*171 | Prerequisites: | | |
| | Course Type: | L | None | | |
| | A: Clinical B: Lab D: Distance Learning I: Individual/Independent L: Lecture N: Internship M: Seminar P: Practicum U: Studio X: Combined Lecture/Lab Y: Combined Lecture/ Clinical/Lab Z: Combined Lecture/Studio | | | | |
| | Elective Type: | G | | | |
| | E: English FA: Fine Arts HI: History HU: Humanities LA: Liberal Arts FL: Foreign Language M: Math S: Science SS: Social Science G: General | | | | |
| | Credit Hours: | 3 | Corequisites: | | |
| | Developmental: (yes/no) | No | None | | |
| | Contact Hours: | Lecture: 3 Clinical: 0 Lab: 0 Studio: 0 Other: 0 TOTAL: | | | |
| | Class Maximum: | 18 | Other Requirements: | | |
| | Semesters Offered: | F/S | None | | |
| Catalog Course Description: | The purpose of this course is to provide the student with the fundamental knowledge of current continuous process improvement methodologies in use today within competitive manufacturing environments. This introductory course will expose the student to the basic concepts of Lean Manufacturing theory and the various tools and techniques involved with a lean implementation. This course will be presented following the lean-six sigma process methodology of DMAIC (Define, Measure, Analyze, Improve, Control) to ensure that at the completion of the course, the student will be competent to participate effectively as a team member in lean implementation projects. | | | | |
| Topical Outline: List course content in outline format. | <ol style="list-style-type: none"> 1. Overview of Lean Manufacturing – Preparing for the Lean Journey 2. Value Add, Waste and Tools 3. Definition of Customer Needs 4. Value Stream Mapping 5. Value Stream Mapping and Other Analysis Methods 6. Measuring the Current State 7. Identifying Constraints / Bottlenecks Within the System 8. Root Cause Analysis 9. Lean Tools for Continuous Improvement 10. Analyze and Create Flow in the Process 11. Improve the Material Flow / Systematic Inventory Improvements | | | | |

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| | <ol style="list-style-type: none"> 12. Improve the Process 13. Justify the Improvement 14. Calculating and Documenting Improvement 15. Process / Machine Sustainability |
| | <p>Upon successful completion of this course, the student will be able to do the following:</p> <p>COURSE:</p> <ol style="list-style-type: none"> 1. identify and utilize DMAIC problem solving methodology components 2. effectively participate in kaizen events within manufacturing environments 3. appreciate value in a process and identify and eliminate wasteful activities within a process 4. calculate and analyze process related data to help drive improvement 5. maintain and sustain improvements within the manufacturing process area 6. understand the principles of continuous improvement and the culture associated with it <hr/> <p>PROGRAM: <i>(Numbering reflects Program Outcomes as they appear in the college catalog)</i></p> <hr/> <p>GENERAL EDUCATION: <i>(Numbering reflects General Education Outcomes as they appear in the college catalog)</i></p> <ol style="list-style-type: none"> 1. Communication <ol style="list-style-type: none"> 1.2 applies discipline-specific and/or professional techniques to communicate in assigned tasks |
| <p>Evaluation: List how the above outcomes will be assessed.</p> | <p>Assessment will be based on the following criteria:</p> <ol style="list-style-type: none"> 1. Pre-test, Quizzes and Final Exam 2. Class Activities 3. Team Projects 4. Homework |
| <p>Instructional Resources: List library (e.g. books, journals, on-line resources), technological (e.g. Smartboard, software), and other resources (e.g. equipment, supplies, facilities) required and desired to teach this course.</p> | <p>Required: None</p> <p>Desired: None</p> |
| <p>Textbook(s)</p> | <p>None.</p> |