# Course Syllabus

**Course Title:** Advanced Lean Manufacturing  
**Department:** Business and Technology  
**Curriculum:** Technology Studies  
**Date submitted:** 04/01/09 (09-51)

**Course Code:** MFG*271  
**Course Type:** L  
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  
AH: Art History  E: English  FA: Fine Arts  G: General  
HI: History  HU: Humanities  LA: Liberal Arts  
FL: Foreign Language  M: Math  S: Science  
SS: Social Science

**Credit Hours:** 3  
**Developmental:** No  
**Lecture:** 3  
**Clinical:** 0  
**Lab:** 0  
**Studio:** 0  
**Other:** 0  
**Contact Hours:** TOTAL: 3

**Class Maximum:** 18  
**Semesters Offered:** F, Sp

**Prerequisites:**  
C- or better in Introduction to Lean Manufacturing (MFG*171) or permission of Technology Program Coordinator.

**Corequisites:** None

**Other Requirements:** None

**Catalog Course Description:**  
The purpose of this course is to provide the student with the knowledge to implement lean improvements within the production environment using a systematic approach. This course will follow an improvement project (from the student's current employer or case study) through the five stages of the DMAIC problem solving methodology. At the completion of the course, the student will be competent to effectively lead a lean implementation project within a company. Prerequisite: C- or better in Introduction to Lean Manufacturing (MFG*171).

**Topical Outline:**  
1. Overview Principles of Lean Leadership  
2. Strategic Policy Development  
3. Project Selection  
4. Tools of Project/Team Management  
5. Planning and Conducting Kaizen Events  
6. Effective Presentations  
7. Developing the Lean Practitioner’s Toolbox  
8. Lean Production Analysis Tools (DMAIC)  
9. Lean Production Models  
10. Leading Change
<table>
<thead>
<tr>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>11. Workplace Health and Safety</td>
</tr>
<tr>
<td>12. Financial Rewards of Change</td>
</tr>
<tr>
<td>13. Control Management Systems</td>
</tr>
<tr>
<td>14. Team Presentations</td>
</tr>
<tr>
<td>15. Lean Beyond the Production Floor</td>
</tr>
</tbody>
</table>

Upon successful completion of this course, the student will be able to do the following:

**COURSE:**
1. serve as project team leader for a kaizen event
2. manage/facilitate team dynamics
3. determine proper tool usage from the lean toolset for a given project
4. analyze process/project using lean tools
5. develop plans for improvements of process/project
6. document team project improvements for sustainability

**PROGRAM:** (Numbering reflects Program Outcomes as they appear in the college catalog)
None

**GENERAL EDUCATION:** (Numbering reflects General Education Outcomes as they appear in the college catalog)
2. Critical Thinking
2.4. Solves problems and makes decisions
2.4.2. Level 2: identifies appropriate strategies for solving problems

**Evaluation:**
List how the above outcomes will be assessed.

- Pre-test, quizzes and final exam
- Class Activities
- Team Projects
- Homework

**Instructional Resources:**
List library (e.g. books, journals, online resources), technological (e.g. Smartboard, software), and other resources (e.g. equipment, supplies, facilities) required and desired to teach this course.

**Textbook(s)**
Refer to current Academic Year Printout.