ISOM 482, 001  Lean Production Concepts and Practices
Spring Quarter, 2014
Wednesday 6 – 9 pm; Corboy Law Center - Room 322

John Nicholas, instructor
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Office Hours, Mon, 10-4, Wed 10-5:30, Tue/Thu 2:30-4; other hours by appointment
http://www.luc.edu/quinlan/faculty/johnnicholas/

Catalog Description
Methods for managing operations in manufacturing and service organizations based upon the Toyota Production System. Topics include the principles lean production: employee empowerment, workplace organization, smooth process flow, pull production, setup reduction, TPM, cellular manufacturing, standard operations, visual management, and supplier partnerships.

Course Overview
The major topic of the course is the philosophy and practice of lean production (LP), which is based on the Toyota Production System (TPS). The course shows how LP achieves competitive advantage through reduced cost and time in operations and improves quality and delivery of services and products. Lean production is exciting! It is perhaps the most revolutionary concept in management since Ford introduced mass production. Although LP was developed in manufacturing, it is being adopted in a wide variety of services such as health care. Applications in both service and manufacturing will be discussed.

Course Objectives and Learning Outcomes
By the end of this course you will
- Understand concepts and tools for reducing waste and continuously improving operations based upon lean production, Toyota’s success-proven approach.
- Understand the competitive advantage for organizations that practice LP
- Learn how to apply at least a few of the tools of LP from personal experience
- Understand the issues and difficulties in implementing LP

Required Materials

Highly recommended:
Quinlan School of Business Policies:

Course Requirements and Grading Criteria

- 35% Written assignments, explained below
- 30% Exam
- 35% Written Report, explained below
- 5% Participation

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Attendance

Class attendance and participation are fundamental components of learning, so punctual attendance at all classes, for the full class meeting period, is expected of Quinlan students. Faculty may set participation policies unique to their courses and use class participation as a component of the final grade. The student is responsible for any assignments or requirements missed during an absence.

Make-Up Examinations

Loyola University academic policy provides that tests or examinations may be given during the semester or summer sessions as often as deemed advisable by the instructor. Quinlan faculty believe examinations represent a critical component of student learning and examinations should be taken during the regularly scheduled class period. **Make-up examinations are discouraged.** Exceptions may be granted only by the faculty member or department chair, and only for unavoidable circumstances (illness verified by a signed physician’s note, participation in intercollegiate athletic events, subpoenas, jury duty, military service, bereavement, or religious observance). **You must notify the instructor in advance via phone (312 915-7060) if you will miss an exam. Failure to notify the instructor in advance will result in a 0.**

A make-up final examination may be scheduled only with the permission of the appropriate Quinlan Assistant or Associate Dean.

Student athletes may use the testing services of the Athletics Department to complete a make-up examination. For a student with a documented special testing need, please consult University policy concerning use of the testing center in Sullivan Center at Lake Shore Campus.
### Course Outline

**Session** | **Topic and Chapters in text** “Chps” = Nicholas book; W = Walton book; L = Liker book
---|---
1 | 2/26 Introduction: LP, Just in time, TPS, Waste, TQM, Chps 1-4; W=1-4; L=17, 13, 20. Movie “Road to Manufacturing Excellence”.
2 | 3/12 Continuous improvement, Business processes, Flowcharting, VSM; movie Assignment 1 due (Road to …)
3 | 3/19 Workplace organization and 5S, Chp 3; W=18-20; L=13. Small-lot production, Chp 5; L=8. Setup reduction, Chp 6. Assignment 2 due (Process flow chart)
6 | 4/9 Integrating quality into operations; W=25, 26, 27. Exam Assignment 5 due (Spaghetti diagram)
7 | 4/16 SPC and process capability, Supplement. Pokayoke, Chp 12; L=11. Assignment 6 due (EG&G Sealol: Workcells)

### Academic Integrity

All members of the Quinlan School shall refrain from academic dishonesty and misconduct in all forms, including plagiarism, cheating, misrepresentation, fabrication, and falsehood... Plagiarism or cheating on the part of the student in individual or group academic work or in examination behavior will result minimally in the instructor assigning the grade of “F” for the assignment or examination. In addition, all instances of academic dishonesty must be reported to the chairperson of the department involved.


### Instructor Policies

To minimize distractions:
- Laptops must be closed during class
- Cell phones must be turned off.
Written Assignments

There are eight written assignments; you must turn in six of them. Assignments will be discussed in class; hence, they must be handed in on time and will not be accepted late.

Assignments 1, 2 and 5 are individual assignments. Everyone must turn in assignment 1, 2, and 5.

- **Assignment 1**: movie writeup12 pt. font, 1.5 spacing; 2 pages max, 1.5 pages min.
- **Assignment 2**: Flowchart of a process you are familiar with. A business process is preferred.
- **Assignment 5**: Spaghetti diagram of a process you are familiar with. A business process is preferred.

Assignments 3, 4, 6, 7, 8 are group assignments. Every group must turn in assignment 3; in addition, each the group must turn in two other assignments: either 4 or 6, and either 7 or 8. Your group will be told which cases to turn in. Group write-ups must be 12 pt. font, 1.5 spacing, 2.5 pages maximum, 2 pages minimum.

Everyone is expected to be familiar with ALL of the assignments, even the ones not written up. Everyone will be called upon in class to discuss them. You will receive demerits if you are called upon and are not familiar with the case.

Assignments and Topics

1. Road to Manufacturing Excellence movie (individual assignment) required
2. Process flowchart (individual) required
3. Harley Davidson case (group assignment) required
4. General Electric (A) case (group) must do this or assignment 6
5. Spaghetti diagram (individual) required
6. EG&G Sealol case (group) must do this or assignment 4
7. Consolidated Transformer case (group) must do this or assignment 8
8. Johnson Controls/Pikeville case (group) must do this or assignment 7

The lowest-grade assignment will be dropped.
Report

On or before April 2, turn in a one-page proposal describing the topic of your report.

The proposal should be well thought out and include
(1) brief introductory statement about the topic of the report
(2) methodology you will use (interviews, observation, library or internet research, etc.)
(3) results you expect.

Poorly conceived proposals will be returned for rewrite.

Possible report topics

1. Project: an actual application in a work setting of concepts and methodologies covered in this course. You can visit an organization that uses lean practices (many local companies do), or consider and propose how lean practices might be implemented in an organization you are familiar with (e.g., your place of work). If you are currently not working and don’t have an organization to work with, you are encouraged to team up with someone who does. This topic is much preferred over the next.

2. Research: a report based upon a literature survey or interviews to explore in detail a topic from this course. Use this as an opportunity to discover how lean concepts are being applied in all kinds of companies and industries. All sources must be referenced; the report will be checked for originality.

You may work with 1, 2, or 3 partners; this is the preferred option, especially if your report is the first topic, i.e., a project. The written report should be 7-9 pages per student, 12 pt. font, 1.5 spacing. The written report is to be handed in on or before the last class session, May 7.

Final Class
Wednesday May 7

Please note: This class may occasionally deviate from the course outline above. The instructor reserves the right to make changes as needed.