ME 410: Lean Manufacturing Short-Course

About the Course:
This course introduces students to lean principles and their application in manufacturing. Despite its successful application in select industries for many years, lean manufacturing remains an emerging and growing methodology. Students that develop a fundamental understanding of lean principles and machining operations will be able to apply their knowledge directly in the senior design course and will be positioned to market these desirable abilities to potential employers in the future.

This course is built around several projects that integrate hands-on machine-shop experience with classroom instruction in lean principles and concepts. The first project requires students to read part drawings, develop and execute a manufacturing plan to build a specified component. Through this project, students are introduced to various machining operations that are required for the project and that will have application in senior design. The second project enables students to be active participants in the continuous improvement of the machine shop through the creation of instructional materials that will aid their colleagues in using the features of the ME machine shop. In the final week of the course you will engage in one of several manufacturing project options.

This course also provides opportunities to interact with local industry and lean manufacturing experts through a hands-on factory simulation workshop, facility tours at regional manufacturing facilities, and guest presentations.

Meeting Times:
Lecture   MTWRF 12:00-1:00      EP 216
Section I   MTWRF 8:30-11:20      GJ 108
Section II   MTWRF 1:30-4:20      EP 108

Instructional Team:
Steven Beyerlein (sbeyer@uidaho.edu)       EP 324
Eric Wolbrecht (ewolbrec@uidaho.edu)       EP 324
Bill Magnie (bmagnie@uidaho.edu)       GJ 107

Teaching Assistants/Mentors (office hours 8am – 5pm in GJ 113):
PM Section:  Alex Olson, Sarah Willis, Andre Corpus, Arjen Houweling, Autumn Pratt.

Course Website: http://mindworks.shoutwiki.com/wiki/Lean_Manufacturing_(ME_410)

Course Materials (available to read in senior design suite or e-text purchase):
All I need to Know About Manufacturing I Learned in Joe’s Garage, Miller & Schenk
All that Matters About Quality I Learned in Joe’s Garage, Miller & Schenk
Learning to See: value-stream mapping to create value and eliminate muda, Rother and Shook

Course Materials (you must purchase and bring to class): Bound logbook or 3-ring binder

Grading:
Logbooks (Homework, Shop Diagrams/Pictures/Notes, Tour Notes, Project Notes) 20%
In-Class Exam 20%
Kaizen Project 20%
Block Project 20%
Final Project 20%