

IND E 337A/537A/ENV H 537
INTRODUCTION TO MANUFACTURING SYSTEMS
AUTUMN 2015 MGH 241 (Tues: 11:30-12:50 Thurs: 11:30-2:50)

Date	Topic	Class Focus	Preparation and Items Due
10/01	Introduction to INDE 337/537 Manufacturing Organization Global Manufacturing - Complexity of global environment Competition for markets/customers	Course objectives and introductions Production systems for global competition. Class exercises Select & read Global Article	LPCA: Chapters 1, 2 & 5; <i>Making Things</i> an NAE report HBR: <i>Become a member of the global elite</i> Henry Petroski: <i>Distinguishing Between Scientists and Engineers</i>
10/06	Production System Taxonomies Lean Principles and Quality-I	Class exercises	LPCA: Chapters 8 & 16 GOAL: Chapters 1-9
10/08	Mel DeSart, Director, UW Engineering Library Lean Principles and Quality-II	Using the library for research Discuss The Goal	
10/13	Lean Principles and Quality-II (cont.)	Class exercises	<i>Global Issues Report due (1)</i> LPCA: Chapters 3, 4 & 12
10/15	Writing to communicate with other professionals. Time & Motion I	Class exercises (T&M) Lab report on Time and Motion	GOAL: Chapters 10-Epilogue
10/20	Process Flow, Value Streams, Value Stream Mapping,	Class exercises	LPCA: Chapter 6
10/22	SADT/IDEFO and BPMN models	Discussion summarizing <i>The Goal</i>	<i>Library Report due (2)</i> LPCA: Chapter 11
10/27	Project Planning & Management - Managing multi-cultural teams; - Communicating effectively in the multi-cultural environment; Diversity in project planning.	Class exercises In-class quiz on <i>The Goal</i> .	Homework #2A due
10/29	Philips Tour		
11/03	Jenny Snow-Boscolo, Guest Speaker	The influence of culture when implementing TPS/Lean.	LPCA: Chapters 9 & 10
11/05	Red Dot Tour (A) Kenworth Tour (A)		
11/10	Work Sampling (WS) and Standards	Class exercises: collect data for WS lab report	
11/12	Red Dot Tour (B) Kenworth Tour (B)		
11/17	Scheduling (Gantt and Job Shop) Group Technology	Class exercises: Scheduling/Sequencing	<i>LPCA: Chapter 14</i> <i>Work Sampling Report due (3)</i>
11/19	Boeing Renton Tour		
11/24	MPX and OPT	Class exercises: MPX modeling	<i>Comparing Configurations due (4)</i>
11/26	Thanksgiving Holiday	Experiment with the MPX model	LPCA: Chapter 13
12/01	Time & Motion II	Class T&M exercises	<i>TPS/Lean Report due (5)</i>
12/03	Terex/Genie Tour		<i>Read: Team effectiveness in manufacturing organizations</i>
12/08	Learning Curves	Class learning curve exercises	Project Report (1st draft) due.
12/10	Teams, People in Production - Working in mixed demographic teams; - How to communicate effectively with diverse audiences; - Understanding cultural differences.	Project Presentations	<i>Goal Report due (6)</i>
12/12	Finals week		Final Report due December 12th no later than 4:30pm

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Course Canvas Site: <https://canvas.uw.edu/courses/989079>

EVALUATION/GRADING:

Activity	Contribution to Grade
Six reports and homework assignments	50-percent
Quizzes (1 or 2)	10-percent
Class exercises	15-percent
Final report/exam	25-percent

COURSE TEXTS:

GOAL: Goldratt, E. and Jeff Cox, "The Goal: A Process of Ongoing Improvement," North River Press, New York, June 15, 2012 (3rd edition or later)

LPCA: Nicholas, John, "Lean Production for Competitive Advantage," CRC Press, 2011.

GRAD For INDE-537 and ENVH-537 graduate students:
Womack, J. P. and Jones, D. T., "Lean Thinking," The Free Press, New York, 2003

Professor: Joseph Heim

Office: ENGR ANNEX 305

Office Hrs: 10:00-11:00 AM (Tuesdays and Thursdays) and by appointment (email)

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