

FALL 2014

**ME**

## ME-587, MFG-587 Global Manufacturing Class Schedule

Class #	Class Description	Due Date (HW, Reports)
Sep. 5	Course Overview, Requirements & Project Description, Importance of Manufacturing	
<b>Section 1: Product Design – (chpts. 1-2)</b>		
Sep. 10	Product Design – intellectual property, patents, component classification	<b>Team Formation</b>
Sep. 12	Product Invention Strategies Manufacturing paradigms and systems overview	<b>HW #1</b> (overview)
<b>Section 2: Manufacturing Paradigms – (chpts. 3-6, 8-9)</b>		
Sep. 17	<b>Guest Lecturer: Nadine Wong, Patent Office at U-M</b> Customized and personalized products (ch. 3)	
Sep. 19	Mass Production & Lean Production (ch. 4)	<b>HW #2</b> (Chaps. 1, 2)
Sep. 24	Analysis of Mass Customization (ch. 5)	
Sep. 26	Reconfigurable Machines and Systems (chs. 8-9) Advanced Manufacturing (supplemental readings)	<b>HW #3</b> (Chap. 3-5)
Oct. 1	Case Study 1: Advanced Mfging Technique Case Study 2: Reconfigurable Manufacturing Paradigm	
<b>Section 3: Manufacturing Economics – (chpts. 7, 10)</b>		
Oct. 3	<b>Guest Lecturer: Start-ups – Ken Ludwig</b>	<b>HW #4</b> (Chap. 8, 9)
Oct. 8	Manufacturing Economics (ch. 7) System Configuration Strategies (supplemental readings)	
Oct. 10	System Configuration Analysis (ch. 10)	<i>Product Design Report</i>
Oct. 15	<b><i>Fall Break – no class</i></b>	
Oct. 17	Case Study 3: Manufacturing Economics (GM) Case Study 4: Configuration Strategies (paper analysis)	
<b>Section 4: IT and Control – (chpt. 12)</b>		
Oct. 22	IT-Based Organization; Maintenance (ch. 12)	
Oct. 24	Sensing and Controls Strategies	<b>HW #5</b> (Chap. 7, 10)
Oct. 29	<b>Guest Lecturer: Gary Cowger (GM) – Overview of Global Manufacturing</b>	
Oct. 31	Case Study 5: Control Strategies for Mfging (papers) Case Study 6: IT practices – current & future approaches to security, communication, information transfer	<b>HW #6</b> (Chap. 12)
<b>Section 5: Business Models – (chpt. 11)</b>		
Nov. 5	Responsive Business Models (ch. 11) Supply Chains, EOQ, Delayed Differentiation (ch. 11)	
Nov. 7	<b>Guest Lecturer: Prof. Siqian Shen - Optimization</b>	<b>HW #7</b> (Control Strategies)
Nov. 12	Bullwhip Effect, Outsourcing (ch. 11) Stochastic Inventory Model, Pricing (ch. 11)	

Nov. 14	Case Study 7: Linear programming strategies for supply chain management Case Study 8: Linear programming strategies for location optimization	<i>Manufacturing Report</i>
<b>Section 6: Globalization / Marketing – (chpts. 13-14)</b>		
Nov. 19	<b>Guest Lecturer: Gary Cowger – Global Business and Marketing Strategies</b>	
Nov. 21	Globalization Strategies (ch. 13) Marketing Strategies (ch. 13)	<b>HW #8</b> (Chaps. 11)
Nov. 26	Business Plan (ch. 14) Other sources of funding – SBIR, STTR, Investors	
Nov. 28	Case Study 9: Current Marketing Research Course Overview	<b>HW #9</b> (Chap. 13)
<b>Group Project Presentations</b>		
Dec. 3	Final Project Presentations (part 1 of 2)	
Dec. 5	Final Project Presentations (part 2 of 2)	
<b>Course Review and Final Exam</b>		
Dec. 10	Course Review – prep for final exam	<i>Final Report</i>
Dec. 17	<i>Course Final Exam</i>	

Lowest homework will be dropped

Project Presentations - 20 min presentation w/ 5 min. Q&A per team

**Course Grade:**

<b>Project Grade</b>	<b>35</b>
1 <sup>st</sup> Report (see page 387)	8
2 <sup>nd</sup> Report (see page 387/388)	8
Final Presentation	4
Final Report (page 388-390)	10
Team Effort (by team members)	5
<b>Case Study</b>	<b>20</b>
Group Presentation of Material to Class	8
Case Study Quizzes	8
Class Participation	4
<b>Homework</b>	<b>20</b>
8 homeworks x 2.5 pts each	20
<b>Final Exam</b>	<b>25</b>
Written Exam (details TBD)	25

**All students are required to read assigned book chapters or supplemental readings before class.**

**All students are expected to participate in class discussions.**