



Stevens Institute of Technology

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Syllabus

PME 538 WS Chemical Technology Processes in API Manufacturing

Semester taught: Spring2007	Start and end date of the semester: 1/29/2007 – 5/4/2007
Professor Name: Yasha Zelmanovich Office address:	Office Hours:
Office phone number: 732-868-2215 E-mail address: yasha.zelmanovich@ch2m.com	Course Web Address:

Overview

Review of unit operations and processes employed in manufacturing of APIs via organic synthesis

Prerequisites

None

Cross-listed with. *ME 538*

Learning Goals

- Receive an introduction into the principles of chemical engineering
- Learn the theoretical underpinnings of unit processes and operations in API manufacturing
- Introduction to equipment design for organic synthesis API manufacturing

Pedagogy

The course will employ lectures posted on the course website and online discussion of questions posted by the professor. There will be homework assignments each week and there will be two exams; a midterm and a final. Students will also be required to submit a paper presenting an in-depth discussion of a unit operation or process. Some of the lectures will be presented by expert guest lecturers.

Required Text

Pharmaceutical Process Engineering, Anthony J. Hickey and David Ganderton,

Marcel Dekker, 2001, 288pp., ISBN 0824702980

Required Readings

Readings will be assigned for each week. These will be found on the course website.

Assignments

1. Class Participation - To enhance the learning experience, all students are expected to participate in class discussion board by responding to the posting by the professor and postings by other students. All postings must be posted by Monday of each week.
2. Homework – Homework must be completed by the required date and submitted via the course website by Monday of each week.
3. Term paper– In-depth discussion (4-6 double-spaced pages) of a unit operation or process.
4. Midterm and Final exam will consist of 3-4 problems. Students will be given one day to complete each exam.

The assignments and their weights are as shown below:

1. Class Participation	10%
2. Homework	30%
3. Midterm	20%
4. Final Exam	25%
5. Term Paper	15%
TOTAL	100%

Please note that assignments in this class may be submitted to www.turnitin.com, a web-based anti-plagiarism system, for an evaluation of their originality.

Course Schedule (Sample)

Week	Subject	Assignment Due
1	Introduction to the Course and Environment	Overall structure of course including description of three types of assignments: 1) individual cases to illustrate elements of the analysis process, team case, methods research, final take-home exam analysis based on a case study 2) Review important elements from MIS750 – SAMA, AS-IS
2	Introduction of Ansoff & Porter	Students should have read and researched Ansoff and Porter methods H. Igor Ansoff, <i>Corporate Strategy</i> , McGraw Hill, 1965, Michael E. Porter, "How Competitive Factors Shape Strategy," <i>HBR</i> , Jul/Aug 1997 and quickmba.com, marketingteacher.com, tutor2u.net
3	Ansoff and Porter Exercise	Read Paybox case. Written Assignment due: Power Point Presentation with detailed notes showing Ansoff and Porter applied to : Paybox and your own company. Slides are due via email on Sunday at noon.
4	Introduce Super SWOT	Students should have read and researched SWOT
5	Super SWOT Exercise	Read Golden Tulip case. Written assignment due: Power Point Presentation with detailed notes showing Super SWOT for Golden Tulip. Slides are due via email on Sunday at noon.
6	USAA Case	Students will read USAA and be prepared for discussion to illustrate already studied elements briefly. We will use USAA to introduce the concept of the methods and walk through what you will do to present your methods. We will also briefly illustrate the elements to come – Objectives, Summary of Problems and Opportunities, TO-BE, Alternatives, Recommendations and Next Steps.
7	Presentations on Method 1	Each student presents one method from list using 2 examples: Paybox, Golden Tulip or USAA and your own company (plan on 8 minutes). Slides are due via email on Sunday at noon.
8	Presentations on Method 1	Each student presents one method from list using 2 examples: Paybox, Golden Tulip or USAA and your own company (plan on 8 minutes). Slides are due via email on Sunday at noon.
9	Introduce TO-BE, Alternatives, Recommendations and Next Steps	Read Ben & Jerry Japan case study. Written assignment due: Power Point Presentation with detailed notes showing TO-BE, Alternatives (with pros and cons) and Recommendations and Next Steps for Ben&Jerry Japan. Slides are due via email on Sunday at noon.
10	Team Case	Student teams will choose case study to present abbreviated analysis consisting of Super SWOT, 2 Methods, TO-BE, Alternatives (with pros and cons) and Recommendations. Do NOT use Paybox, Golden Tulip, USAA, Ben & Jerry Japan, or Amazon for your team assignment. Slides are due via email on Sunday at noon.
11	Presentations on Method 2	Each student presents one method from list using 2 examples: Paybox, Golden Tulip, USAA, or Ben & Jerry Japan and your own company (plan on 8 minutes). Slides are due via email on Sunday at noon.
12	Presentations on Method 2	Each student presents one method from list using 2 examples: Paybox, Golden Tulip, USAA, or Ben & Jerry Japan and your own company (plan on 8 minutes). Slides are due via email on Sunday at noon.
13	Amazon Case	Read Amazon and prepare one element we have learned plus one method using Power Point with detailed notes. Slides are due via email on Sunday at noon. Take home exam distributed
14	Final Project	Final Project due via email. In class presentation of highlights – the "elevator conversation"