Spring, 2002

ChemE 486
Process Design

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Grading

Grades will be determined from the scores on weekly assignments for Project 1 (15%), Project 1 Written Report (25%), Project 1 Oral Report (10%), AIChE Design Project Written Report (40%) and AIChE Design Project Oral Report (10%). All assignments are performed as a team. Individual grades will be based on the quality of the team's work, with adjustments made to reflect extraordinary or substandard performance by specific team members. These adjustments will be determined using peer and faculty feedback, upon completion of each project.

A 2.0 or better grade in this course indicates the student has demonstrated satisfactory ability to:

- Design a system, component, or process to meet desired needs.
- Apply chemical engineering principles in open-ended design problems, while making reasonable assumptions for problems which are complicated, ill-defined, and which have only limited data.
- Use a computer to perform useful work that is validated.
- Integrate oral and written communications into design, manufacturing, and product development.
- Function on a team.
- Engage in self-directed, life-long learning.
- Appreciate professional and ethical responsibility, including safety and environmental aspects..

Text

The required text is *Analysis, synthesis, and design of chemical processes*, by R. Turton, R.C. Bailie, W. B. Whiting, J.A. Schaeiwitz, Prentice Hall.

Course Schedule

MWF	8:30–9:20 am, BNS 203 (see next page)
T	8:30–11:20 am, section AA, and 1:30–4:20 pm, section AB, BNS 203 (see next page)
4/26	Engineering Open House (No class)
5/27	Memorial Day Day (No class)

Due Dates and Times

- Weekly spreadsheet assignments (5% each) due on 4/9, 4/16, 4/23
- Project 1: Written Report (25%), 4:30pm on Thursday, 4/25; Oral Report (10%), Lab on Tuesday, 4/30.
- AIChE Design Project: Written Report (40%), 4:30pm on Tues, 5/28; Oral Report (10%) on Friday, 6/7.

Weekly Planner

April 1-5

Lectures M, W, F
Tuesday Lab: Energy supply options and impetus for change
Due 4/9: Mass and energy balances for a combined cycle fuel cell/gas turbine (5%)

April 8-12

Lectures M, W, F
Tuesday Lab: Overview of process capital and operating expenses
Due 4/16: Preliminary cost analysis (5%)

April 15-19

Lectures M, W, F
Tuesday Lab: Detailed design considerations
Due 4/23: Final cost optimization (5%)

April 22-26

Lecture M
Tuesday Lab: Consultation period for final report
Due 4/25 at 4:30 pm: Written Report 1

April 29-May 3

Lecture M Handout Project 2, the AIChE Student Design Contest Problem
Due Tuesday Lab: Oral Presentations of Design 1

May 6-10

Student teams work independently on AIChE Problem

May 13-17

Student teams work independently on AIChE Problem

May 20-24

Student teams work independently on AIChE Problem

May 27-31

Due 5/28 at 4:30 pm: Written Report for AIChE Design Contest Problem

June 3-7

Due on 6/7, time TBD, Oral Presentations for AIChE Design Problem