

CM 4861 CHEMICAL ENGINEERING DESIGN LABORATORY

Spring 2010

OBJECTIVE:

This course will prepare students for the transition to industry by teaching the necessary skills in process and project analysis, design, evaluation, optimization, and management. Students will gain an appreciation for the profit motive, how it affects business decision-making, and how the chemical engineer fits into this process.

The successful student will be able to accept an open-ended project assignment, define the appropriate scope of the project, synthesize a variety of alternatives, design and cost the project, perform an economic evaluation, assess the risk, and present information in a manner suitable for management or other decision makers.

INSTRUCTORS:

Dr. Daniel A. Crowl, 202-B, crowl@mtu.edu, 487-3221

Dr. Joseph H. Holles, 202-J, jholles@mtu.edu, 487-1956

Dr. Wenzhen Li, 202-K, wzli@mtu.edu, 487-2298

TEXTS:

Perry, R.H. and D.W. Green, Eds. *Perry's Chemical Engineers' Handbook*. 7th or 8th Ed. McGraw-Hill, 1997 or 2008.

Watke, S.A. et al. *Manual for Report Writing in Engineering Design*. Michigan Technological University, Houghton, Michigan, 1991.

Towler, G. and Sinnott, R. *Chemical Engineering Design: Principles, Practice and Economics of Plant and Process Design*, Elsevier (Amsterdam), 2008.

GRADING:

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| Progress Report (memo) | 20% |
| Final Project Report (formal) | 30% |
| Oral Presentation | 10% |
| AIChE Problem | 40% |

DUE DATES:

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| Progress Report | Monday, Feb 15, 12:00 noon |
| Project Report | Friday, March 19, 12:00 noon |
| Oral Presentation | Week of March 22 |
| AIChE Problem | 30 days after pick up (see attached schedule) |