

CME 456 Chemical Process Design: Process Simulation Workshop

Spring 2005



University of Kentucky College of Engineering, Paducah

Lecture: 1:00PM-1:50PM M CLC 202

Course Web Page: <http://www.engr.uky.edu/~silverdl/CME456/>

INSTRUCTOR:

Dr. David L. Silverstein
209 Crouse Hall
(270) 534-3132 (Office)
SilverDL@engr.uky.edu

Office Hours: Open door policy

CATALOG COURSE SUMMARY:

A lecture and problem-solving course intended to combine the principles of chemical engineering with optimization as they apply to the design of chemical processes. Results of each design case studied will be presented by both oral and written reports. Prereq: COM 199, CME 455, CME 550 and engineering standing.

TEXT:

Required: *Plant Design and Economics for Chemical Engineers*, 5th Edition, Peters, Timmerhaus, West, McGraw Hill, 2003.

Recommended: *Using Process Simulators in Chemical Eng*, Seeborg, Edgar, & Mellichamp, 2nd Edition

SUBCOURSE OBJECTIVES:

This workshop is designed to develop the students ability to use commercial process simulators to examine problems of interest in industrial practice.

SUBCOURSE EXPECTATIONS:

At the conclusion of this workshop, you should be able to:

- 1) Apply process simulation to problems in chemical engineering design, including use of tear streams, optimization, sensitivity analysis, design specifications, custom code blocks, property estimation, and property regression.

COURSE POLICIES:

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Lecture	01/24	Property Package Selection
Lecture	01/31	Property Estimation and Regression
Lecture	02/07	Simulation Validation
Lecture	02/14	Computational Methods
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Lecture	03/28	Modeling an azeotropic separation
Special*	04/04	
Lecture	04/11	Economic Analysis (ICARUS)
Lecture	04/18	Batch Processing/Scheduling (BATCH Plus)
Lecture	04/25	Dynamic Modeling (Aspen Dynamics)
Lecture	05/02	Simulation

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