

CHEN 4470 – TENTATIVE LECTURE PLAN

Dr. Mario Richard Eden
Updated February 6, 2012

All page references are for Seider, Seader, Lewin and Widagdo: “Product and Process Design Principles: Synthesis, Analysis, and Evaluation”, 3e, (SSLW) unless otherwise noted.

Lecturers: Mario Eden (MRE) – Department of Chemical Engineering
Robert Kline (RSK) – Eastman Chemical
Jennifer Kline (JLK) – Eastman Chemical
David Webster (DJW) – Ark Resources LLC
Andrew Wohrley (AW) – Auburn University Library

| Date | Topic | | Reading | Deliverables |
|------|---|-------------------|--------------|---------------------------|
| 1/10 | #1: Course Introduction and Project Overview | MRE | | |
| 1/12 | #2: Contents of Reports | MRE | | |
| 1/17 | #3: Using the Auburn University Library Databases | AW | | |
| 1/19 | #4: Background on Ester Manufacturing Processes #5: Estimation of Thermodynamic Parameters | RSK RSK | | |
| 1/24 | | | | |
| 1/26 | #6: Overview of Mass Exchange Operations | MRE | | |
| 1/31 | #7: Synthesis of Mass Exchange Networks I | MRE | SSLW 297-308 | |
| 2/2 | #8: Synthesis of Mass Exchange Networks II | MRE | SSLW 297-308 | Progress Report #1 |
| 2/7 | | | | |
| 2/9 | #9: Graphical Mass Integration Techniques | MRE | SSLW 297-308 | |
| 2/14 | #10: Algebraic Mass Integration Techniques | MRE | SSLW 297-308 | |
| 2/16 | #11: Advanced Column Design and Reactive Distillation #12: Reboiler Selection and Design #13: Design of Overhead Condensers and Air Cooled HX | MRE MRE MRE | | |
| 2/21 | #14: Equipment Sizing, Pinch Analysis | MRE | | |
| 2/23 | #15: Managing and Supervising Major Engineering Projects | DJW | | |
| 2/28 | | | | |
| 3/1 | Plant trip to Evonik, Theodore AL | | | |
| 3/6 | #16: Process Risk Assessment & Inherently Safe Process Design | MRE | | |
| 3/8 | | | | Progress Report #2 |
| 3/13 | No Class – Spring Break | | | |
| 3/15 | No Class – Spring Break | | | |
| 3/20 | #17: Role of Design Engineer in Technology Development #18: Control Strategy Development | RSK JLK | | |
| 3/22 | #19: Integration of Design and Control I | MRE | SSLW 322-340 | |
| 3/27 | #20: Integration of Design and Control II | MRE | SSLW 322-340 | |
| 3/29 | #21: Property Prediction & CAMD | MRE | | |
| 4/3 | | | | |
| 4/5 | #22: Introduction to Six Sigma | MRE | SSLW 662-678 | Progress Report #3 |
| 4/10 | | | | |
| 4/12 | #23: Final Reports and Oral Presentations | MRE | | |
| 4/17 | #24: End of Class Business | MRE | | |
| 4/19 | | | | |
| 4/20 | | | | Final Report |
| 4/23 | Oral Presentation Rehearsals | | | |
| 4/24 | Oral Presentation Rehearsals | | | |
| 4/26 | Final Oral Presentations | | | |
| 4/27 | Final Oral Presentations | | | |