

CBE 480
Equipment Design and Economic Methods (4)
Course Learning Objectives

At the conclusion of this course the student should be able to:

1. Synthesize an appropriate flowsheet to meet a process objective, using a conceptual design strategy.
2. Calculate the material and energy balances for a given process flowsheet.
3. Estimate the capital investment for a conceptual process design.
4. Estimate the operating cost for a conceptual process design.
5. Consider the impact of a conceptual process design on safety and health.
6. Consider the impact of conceptual process design on the environment.
7. Determine the sensitivity of the process design to selected operating and/or market conditions.
8. Evaluate the profitability of a given process design, using the principles of engineering economics and various common measures of profitability.
9. Select an appropriate process design based on comparison of alternatives.
10. Recognize the impact of engineering solutions in multiple (global, economic, environmental, and/or societal) contexts.
11. Identify courses of action consistent with ethical and professional responsibility in common engineering scenarios.
12. Structure and solve problems involving time value of money.