

BIE 5810 WRITTEN REPORT/ORAL PRESENTATION SPECIAL PROJECT

Given: Class 24

Due: Class 30

- I.** Prepare a written/typed/word process report of approximately 7-10 pages (including figures, graphs, tables, calculations, etc.) that include the items identified below. Make copies of your written report for the other members of the class. Use other reference(s) besides the textbook.
- II.** Prepare a PowerPoint presentation (30 minutes) for the class based on the written report.

Select one process from the list of “INDUSTRIAL PROCESSES” identified in the Appendix to the textbook.

1. Ethanol Production
2. Lactic Acid Production
3. Acetone-Butanol Production
4. Citric Acid Production
5. Production of Bakers' Yeast
6. Production of Penicillins
7. Production of High-Fructose Corn Syrup

1. Summarize the selected industrial process and include the following topics:

- a. Brief process description
- b. Schematic or drawing illustrating the process
- c. Aspects of the process important for biochemical engineers
 - i. Design
 - ii. Operation
 - iii. Maintenance
 - iv. Costs
 - v. Other items

5. Connect the material with aspects of the course BIE 5810 with regard to the following:

- a. Theory
- b. Biochemistry
- c. Kinetics
- d. Stoichiometry
- e. Cell Growth
- f. Thermodynamics
- g. Scale-up issues
- h. **Rector considerations (batch, CFSTR, PF, etc.)**