

BE 3340: Process Design in Biological Engineering
Spring 2017 Syllabus

Meeting Schedule: Lecture 8:00-8:50 am Tuesday/Thursday 228 Tureaud
Lab 1:30-4:20 Tuesday 228 Tureaud Hall

Text Books: none required

References: Seider, W. D., Deader, J. D., and D. R. Lewis. Product and process design principle. John Wiley and Sons, Inc., New York, NY.

Belter, P.A., E.L. Cussler, and W.S. Hu. 1988. Bioseparations. Downstream processing for biotechnology. John Wiley & Sons. New York, NY.

Harrison, R.G., Todd P.W., Petrides, D.P. Bioseparations Science and Engineering, Oxford University Press, New York, NY

Instructors: Cristina M. Sabliov, E-mail: csabliov@lsu.edu, Office Hours: T 9:00-10:00 am
Carlos E. Astete, E-mail: castete@agcenter.lsu.edu

Teaching Assistant: Sumit Libi, E-mail: slibi2@lsu.edu, Office Hours: W 9:00-10:00 am

Course Objectives:

After completing this course, you should be able to:

1. Define process design and its role in Biological Engineering
2. Determine the impact of various factors on specific unit operations
3. Use available models to analyze and design partial or full bioprocesses
4. Evaluate potential process designs and select specific designs for a given situation

ABET A-k outcomes addressed by the course:

- (a) an ability to apply knowledge of mathematics, science, and engineering
- (c) an ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability
- (d) an ability to function on multi-disciplinary teams
- (e)

This is a certified Communication-Intensive (C-I) course which meets all of the requirements set forth by LSU's Communication across the Curriculum program, including:

1. Instruction and assignments emphasizing informal and formal writing and speaking
2. Teaching of discipline-specific communication techniques;
3. Use of draft-feedback-revision process for learning;
4. Practice of ethical and professional work standards;
5. 40% of the course grade rooted in communication-based work; and
6. A student/faculty ratio no greater than 35:1.

Students interested in pursuing the LSU Distinguished Communicators certification may use this C-I course for credit. For more information about this student recognition program, visit www.cxc.lsu.edu.

Course Policies

You will work on the **project** in groups assigned during the first week of classes. Each group will have the opportunity to present their work in front of the class. A peer-review panel will be conducted for the midterm and final project report.

Examinations and **labs** missed due to an unexcused absence cannot be made up and a grade zero will be given for each one missed.

Any student requiring **special arrangements** for taking exams, taking-notes and other special arrangements please see or contact the instructor within the first two weeks of class.

Course time involvement

This is a 3-credit hour course. According to current federal regulations, for each credit hour earned, the students are expected to spend at least 2 hours outside the formal class meetings, performing academic work related to the course content. This work can include, but is not limited to, homework assignments, reading and writing assignments, project-related work, laboratory reporting and writing assignments, and other necessary work required to accomplish the course's learning objectives.

Academic Integrity

Students are expected to comply with the Code of Student Conduct throughout this course. For your information, the Code of Student Conduct can be found at

March	28	Lab 8. Sugar Institute field trip
	28	Problems- extraction
	30	Problems- extraction