

## MEMORANDUM

*To:* ChE 496 *From:* Prof. Robert Barat  
*Date:* January 2017 *Re:* Introduction, v.1b

*Pre-requisite Courses:* ChE 349, 360, 380, 396, Chem 339, Math 225A  
*Co-requisite Courses:* ChE 460, 489

### *Class Meetings:*

Times: Tues, Thurs 1-4 PM

Places: Tiernan labs B-7, 206, 311

No sign-in required, but attendance is mandatory. If you need to miss lab class, let me know in advance. Make sure your group knows, even before me! Make sure you keep up with the work, and do your fair share.\*

### *Instructor Information:*

Office Hours: Tues, Thurs 4-5:30 PM --- I'm around most days except Fridays.  
Stop by, or make an appointment.

Location: 380 Tiernan Hall -- Individual or group visits / appointments OK.

Office Phone: (973) 596-5605 Fax: (973) 596-8436

Email (preferred contact): [robert.b.barat@njit.edu](mailto:robert.b.barat@njit.edu)

*Teaching Assistant:* Siva Valluri

### *Moodle Site:*

This course will use the NJIT Moodle site accessed by <http://moodle.njit.edu>. I will use the Moodle site for:

- ☞ Class emails (check daily)
- ☞ Course and planning session schedules (subject to revision)
- ☞ Important files to be downloaded and reviewed
- ☞ Lab manuals for all experiments – download and review as needed
- ☞ Required Peer & Self Evaluations\* – download, fill out, then upload

### *Course Requirements and Grading:*

Four experiments will be assigned to each group. All reports and presentations are to be group efforts and group submissions. First-draft reports collected (see Master Schedule). A draft grade is assigned, along with comments. You will then submit a revised, final draft for an updated grade. ► Penalties will be applied to very late submissions. Your final grade will also potentially be impacted by the Peer & Self Assessment. \*

- Scholarly paper (written) - Exp. #1 25 %
- Peer audience PPT\*\* (oral) – Exp. #2 25 %
- Proposal for Funding (written) – Exp. #3 25 %
- Management audience PPT\*\* (oral) – Exp. #4 25 %

\*\* No written report; only PPT slides required.

*Groups:*

Determined on the first class meeting – then posted on Moodle site for semester assignments. Number per group: 3 or 4, as needed. Opportunity to change groups at mid-semester. Rotating group leader - Self-policing (PROFESSIONAL BEHAVIOR EXPECTED).

- \* **Group Self-Assessment:** Each student will fill out a confidential assessment of their own performance, and that of their partners, after the 2<sup>nd</sup> and last experiment & reporting cycles. This will definitely impact grades!! Details later. Do NOT ignore this. Your contributions to your group will count! After the 2<sup>nd</sup> cycle, you have the chance to change your groups, if all affected parties agree!

*Math Solver:*

You will definitely need access to a math software package to solve equations (ODEs and algebraic) and do regressions. Polymath® available on all ChE PC's, can be downloaded to your laptops (site license), and is easy. But you can use whatever package you like! Note that I can only help you with Polymath.

*Required Textbook:*

**Lab Manual for ChE 496 – Spring 2017;** broken up into three parts: Introduction; Reactions; Separations & Mass Transfer – each available for free download from the course Moodle site. Check often for updates!! *Always check for the latest version before you begin planning for a new experiment.*

*Supplements:*

Supplements will be provided by instructor as needed on the Moodle site.

*Personal Safety:*

Your safety is paramount; hence, a **mandatory** safety lecture is presented **today** by ChE Department staff. Guidelines are discussed at length in the Lab Manual – Introduction. Finally, specific hazards are described as needed in each experiment.

*ABET Course Goals:*

1. Challenge students to apply all prior classroom knowledge and laboratory experiences in the successful execution and analysis of chemical engineering experiments with procedures and devices applicable for mass transfer and separations; chemical reactions; process safety, dynamics, and control.
2. Inspire students to think critically as they approach the chemical engineering laboratory experiments with an ethical awareness and a research orientation.

*ABET Program Objectives Addressed:*

1. **Engineering Practice:** Alumni from our program are successfully engaged in the practice of chemical engineering within industry, academe and government, working in a wide array of technical specialties including, but not limited to, process and plant design operations.

**NOTE: For ABET, I will be collecting sample reports after you review your grades on the work.**