Chemical Engineering Laboratory II  
CHEN 4860, Spring 2016  
Course Syllabus

Instructor:  W. Robert Ashurst, 244 Ross Hall, 844-2559, ashurst@auburn.edu, Office Hours: M, F, 1:00 PM – 2:00 PM, T, 2:00 PM – 4:00 PM in Ross 244 or Wilmore 191 and by appointment as needed.

GTAs:  
Rajeshwar Chinnawar, rbc0002@auburn.edu, Lab: Wilmore 184 or Ross 102.
Jie Zhong, jzz0009@auburn.edu, Lab: Wilmore 164 or Wilmore 166.
Rong Zhao, rzz0015@auburn.edu, Lab: Wilmore 204.

Lecture:  M: 3:00 – 3:50 PM, in Davis 157. Locations for all sections may also be Wilmore 191, Ross 306/370 by arrangement.
W: 1:00 – 1:50 PM, in Davis 257. Locations for all sections may also be Wilmore 191, Ross 306/370 by arrangement.

Lab:  M: 4:00 – 6:45 PM, in Wilmore 191 or Ross 131 or W: 2:00 – 4:45 PM, in Wilmore 191 or Ross 131 or F: 2:00 – 4:45 PM, in Wilmore 191 or Ross 131

Bulletin:  Experimental study of mass transfer, separations and reaction engineering. Emphasis is on open-ended laboratory projects with electronic instrumentation; experimental design with numerical and statistical analysis of data.


Webpage:  http://www.eng.auburn.edu/~ashurwr/classes.html Additional course information will be posted on the web. You are expected to look at the web site and canvas material before classes or labs for new information.

Canvas:  The canvas page for this course contains required resources for the course. Students are expected to spend significant time preparing for labs by utilizing the resources in canvas and the lab manual. These resources include demonstration videos, reference materials and external links to reference materials. If there is any discrepancy in any type of information found in canvas the information from Dr. Ashurst or any of your GTA’s supersedes that in canvas.

Grades:  Grading will be in accordance with University grading criteria. Contributions to course grades are as follows.

<table>
<thead>
<tr>
<th>Category</th>
<th>Percentage of Final Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lab Reports and Graded Assignments</td>
<td>85%</td>
</tr>
<tr>
<td>Participation, Attendance and Quizzes</td>
<td>15%</td>
</tr>
</tbody>
</table>

Lab reports will contribute as weighted below.
<table>
<thead>
<tr>
<th>Assignment</th>
<th>Percentage Contribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>BSTR Report</td>
<td>12%</td>
</tr>
<tr>
<td>CSTR Report</td>
<td>12%</td>
</tr>
<tr>
<td>Drying Experiment Report</td>
<td>16%</td>
</tr>
<tr>
<td>Distillation Experiment Report</td>
<td>16%</td>
</tr>
<tr>
<td>Evaporator Experiment Report</td>
<td>16%</td>
</tr>
<tr>
<td>Heat Fin Experiment Report</td>
<td>16%</td>
</tr>
<tr>
<td>DOE Report</td>
<td>12%</td>
</tr>
</tbody>
</table>

All graded material must be submitted as a hard copy. Lab reports are due electronically in addition. These must be e-mailed to the instructor, as no graded materials will be collected electronically through canvas. Lab Reports are group efforts. All group members will receive the same score on reports. A system of “peer review” will be used, in part, to evaluate the extent individual participation in group efforts. The experiment schedule and report due dates will be according to the schedule published on the course website.

**Make-up Classes:** In the event of university cancellation of classes (due to weather, for example), make-up classes as appropriate may be scheduled at irregular times or locations.

**Homework and Lab Safety:** Homework for CHEN 4860 includes preparation for lab assignments and reading assignments. Students are expected to come to lab prepared - this means being familiar with the experiment they will be conducting and wearing appropriate lab clothing. Unprepared students may be subject to reduced participation scores and/or dismissal from the scheduled lab with no possibility of filing a report for that experiment. Students deemed to represent a danger to themselves or others for any reason (as determined by any GTA or instructor) will be dismissed from the lab.

**Quizzes:** Quizzes (announced or unannounced) may be given during the first or last 5 to 15 minutes of a work period. Quizzes may be written or verbal and are closed book and may contain multiple choice, true/false, short answer questions.

**Exams:** There are no exams in this course.

**Lab Reports:** Lab reports are the main graded work product associated with this course. Lab reports must be typed. Adherence to all department specifications regarding formatting is required. A lab honesty statement is required. More detail on the formatting and content of the lab reports is available in the “Lab Report” document that accompanies this syllabus. Lab reports are due at the beginning of lab, two weeks after the lab is conducted. Lab reports not in compliance with submission instructions and requirements will be returned without review for a late re-submission with a 10 point penalty on the grade for each instance a report is returned. See the “Lab Report Checklist” and “Lab Report Requirements” supporting documentation. Lab reports are due in hard copy at the beginning of lab on the day they are due. An electronic submission of the lab report is also required, but will not be used for grading purposes.

**Participation:** Lab and lecture participation is critical. Your group-mates, the GTAs and the instructor will share responsibility for evaluating your participation. GTA’s will report on participation issues in writing and this will be used, in part, to establish participation scores for individuals. Participation covers contributions to the experiment, pre-lab, and report writing activities. Your group-mates will supply an evaluation of the group member efforts in aggregate at the end of the semester. See “Required Elements” section.
Report Grade Replacement Policy At the end of the semester and at the discretion of the instructor, you may have the option to “replace” one and only one lab report grade. This will be done by a re-submit of a previously graded report. More details on the “Better Grade Replacement Policy” can be found in the lab manual.

Lab Data: A significant portion of the data you use in your reports is collected using computer data acquisition. Computer acquired data is part of your lab report. You are responsible for saving your lab data and maintaining it for the semester. Your data file name must contain (at least) your group designation, the experiment designation and the date of collection. Within one day (24 hours) of completing an experiment in the lab, all relevant data files must be e-mailed to Dr. Ashurst. (Example: Batch reaction experiment, group T3, absorbance data for 35 C run, done on 08/16/2014: filename might be “group_T3_BSTR_35C_08162014_absorbance.dat”.) Groups that fail to submit data on time and appropriately will have point deductions from the lab report score. Additional data and lab notes collected by hand (i.e., in writing) at experiment time must be written on paper supplied by the instructor or GTAs using one side of the page only. The use of any other paper for hand-collected data is considered non-compliant. Original lab data pages must bear the initials of at least one GTA.

Policies: If you have a conflict with Dr. Ashurst’s office hours, an alternate time can be arranged. To set up this meeting, please contact Dr. Ashurst by e-mail. University excused absences must be resolved within one week after the student returns to class. Policies regarding class attendance and academic dishonesty are specified in the Tiger Cub Student Handbook and the Department of Chemical Engineering policies. Academic dishonesty will be reported to the Academic Dishonesty Committee. Students who need special accommodations are asked to arrange a meeting the first week of classes, or as soon as possible if accommodations are needed immediately. Bring a copy of your Accommodation Memo and an Instructor Verification Form to the meeting. If you do not have an Accommodation Memo but need accommodations, make an appointment with the Program for Students with Disabilities, 1244 Haley Center, 844-2096.

Required Elements: Your final letter grade will be held from submission unless 1) all your team members have submitted a team member evaluation form and 2) the department issued USB flash drive for your group has been returned.

Website and E-Mail: Homework assignments (if any) and other course material will be accessed through the website. This syllabus will be one of only a few handouts you receive. Students are expected to check the course website and their e-mail regularly. The university recognizes e-mail as an official form of communication. Notification of significant changes in the content of the class website will be conducted through e-mail. When sending e-mail to Dr. Ashurst, you must specify at least “CHEN 4860 SP16” (with spaces as indicated and without quotes) in the “subject” field. Dr. Ashurst ignores course related e-mail messages that do not conform to this requirement – including required lab data and required electronically submitted reports.

Reference Materials: Certain reference material may be placed on reserve in the RBD library. Check the course website to see what is available/recommended.
Use of Mobile Devices: the use of mobile devices such as cellular phones, tablets, etc. are generally forbidden during the lecture or lab activities. “Acceptable use” of such devices may include calling late or missing group members, photography of equipment for report purposes or accessing the course canvas pages for details. Examples of unacceptable activities include use of social media, gaming, social phone calls or as a lab data capture device. The lab environment is no place for distractions. All mobile devices should be silenced during lecture and lab times. Students found to be using mobile devices inappropriately will have their participation grade reduced and/or may be excused from the lab without possibility of make-up.