**CBE 3395Y Chemical Engineering Laboratory**  
Course Outline 2017-2018

**Description**  
This laboratory course applies and integrates concepts/theories presented in the following four courses: CBE/GPE 3322 (Heat Transfer Operations), CBE 3325 (Particulate Operations), CBE/GPE 3324 (Mass Transfer Operations) and CBE 3323 (Staged Operations).

**Prerequisites**  
CBE 2220, CBE 2221

Unless you have either the requisites for this course or written special permission from your Dean to enroll in it, you may be removed from this course and it will be deleted from your record. This decision may not be appealed. You will receive no adjustment to your fees in the event that you are dropped from a course for failing to have the necessary prerequisites.

**Corequisites**  
CBE/GPE 3322, CBE 3323, CBE/GPE 3324, CBE 3325

**Antirequisites**  
None

**Contact Hours**  
2 laboratory hours per week for 2 semesters (Fall and Winter), 0.5 course.

**Instructors**  
Dr. Jin Zhang (TEB 465) Tel: 519-661-2111 ext: 88322; email: jzhang@eng.uwo.ca

**Lab Technician**  
Souheil Afara (SEB 1081C) 519-661-2111 ext 88457 email: safara@uwo.ca

**Undergraduate Assistant**  
Cole Handsaeme, (TEB 477), Telephone: 519-661-2111 ext. 82131 email: jhandsae@uwo.ca
**Required Text**
None

**Reference Texts**
Notes from courses CBE/GPE 3322, CBE 3323, CBE/GPE 3324, CBE 3325

**Course Notes**
Course information will be available on OWL.

**Units**
SI units will be used in lectures and examinations.

**General Learning Objectives**

<table>
<thead>
<tr>
<th>A knowledge base for engineering</th>
<th>A</th>
<th>Individual and team work</th>
<th>A</th>
<th>Economics and project management</th>
<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Problem analysis</td>
<td>A</td>
<td>Communication skills</td>
<td>A</td>
<td>Life-long learning</td>
<td>B</td>
</tr>
<tr>
<td>Investigation</td>
<td>A</td>
<td>Professionalism</td>
<td>I</td>
<td>Key:</td>
<td></td>
</tr>
<tr>
<td>Design</td>
<td>A</td>
<td>Impact of engineering on society and the environment</td>
<td>B</td>
<td>B: evaluated at introductory level</td>
<td></td>
</tr>
<tr>
<td>Use of engineering tools</td>
<td>I</td>
<td>Ethics and equity</td>
<td>n.e.</td>
<td>I: evaluated at intermediate level</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>A: evaluated at advanced level</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>n.e.: not evaluated</td>
<td></td>
</tr>
</tbody>
</table>

Key:
- **B**: evaluated at introductory level
- **I**: evaluated at intermediate level
- **A**: evaluated at advanced level
- **n.e.**: not evaluated
In this course, the students will design and perform experiments related to Chemical Engineering and interpret their results using the principles and knowledge from the following courses:

- CBE/GPE 3322 (Heat Transfer Operations)
- CBE 3325 (Particulate Operations)
- CBE/GPE 3324 (Mass Transfer Operations)
- CBE 3323 (Staged Operations)

Students should be able to:

- Control experimental methodologies Secure and prepare their own experimental materials, equipment and facilities with the assistance of the instructors, lab technicians and TAs.
- Perform the experiments and collect data.
- Interpret the experimental results.
- Present their results and conclusions in a clear, concise and effective manner.

**Evaluation**

The final course mark will be determined as follows:

<table>
<thead>
<tr>
<th>Component</th>
<th>Fall Term A</th>
<th>Winter Term B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lab performance, attendance, and efforts</td>
<td>15%</td>
<td>15%</td>
</tr>
<tr>
<td>Lab book</td>
<td>5%</td>
<td>5%</td>
</tr>
<tr>
<td>Project reports</td>
<td>30%</td>
<td>30%</td>
</tr>
<tr>
<td></td>
<td>50%</td>
<td>50%</td>
</tr>
</tbody>
</table>

**Notes**

1) **Students must pass both Fall Term A and Winter Term B to pass the course.** Students who fail one of the terms will be assigned 48% if the aggregate mark is higher than 50%.
2) **Attendance in the laboratory is mandatory.** Students will be evaluated for their attendance and their efforts within the laboratory.
5) **The reports will be submitted electronically** and will be checked for plagiarism using software provided by The University of Western Ontario. Reports showing plagiarism levels above 35% (excluding bibliographic materials and small word matches) will receive a mark of zero. Late reports will be deducted 10% per day past the assigned deadline.

**Repeating All Components of the Course**

In accordance with Senate and Faculty Policy, students who have failed an Engineering course (i.e. <50%) must repeat all components of the course. No special permissions will be granted enabling a student to retain laboratory, assignment or test marks from previous years. Previously completed assignments and laboratories cannot be resubmitted for grading by the student in subsequent years.

**Use of English**

In accordance with Senate and Faculty Policy, students may be penalized up to 10% of the marks on all assignments, tests, and examinations for the improper use of English. Additionally, poorly written work with the exception of the final examination may be returned without grading. If resubmission of the work is permitted, it may be graded with marks deducted for poor English
and/or late submission.

**Attendance**

**Attendance is mandatory.** Any student who, in the opinion of the instructor, is absent too frequently from class or laboratory periods in any course, will be reported to the Dean (after due warning has been given). On the recommendation of the Department concerned, and with the permission of the Dean, the student will be debarred from taking the regular examination in the course.

**Cheating**

University policy states that cheating is a scholastic offence. The commission of a scholastic offence is attended by academic penalties, which might include expulsion from the program. If you are caught cheating, there will be no second warning (see Scholastic Offence Policy in the Western Academic Calendar).

**Plagiarism**

Students must write their essays and assignments in their own words. Whenever students take an idea or a passage from another author, they must acknowledge their debt both by using quotation marks where appropriate and by proper referencing such as footnotes or citations. Plagiarism is a major academic offence (see Scholastic Offence Policy in the Western Academic Calendar).

The University of Western Ontario has software for plagiarism checking. Students may be required to submit their work in electronic form for plagiarism checking.

**Conduct**

Students are expected to arrive at lectures on time, and to conduct themselves during class in a professional and respectful manner that is not disruptive to others.

**Sickness and Other Problems**

Students should immediately consult with the instructor or Department Chair if they have any problems that could affect their performance in the course. Where appropriate, the problems should be documented. The student should seek advice from the Instructor or Department Chair regarding how best to deal with the problem. Failure to notify the Instructor or Department Chair immediately (or as soon as possible thereafter) will have a negative effect on any appeal.

Please contact the course instructor if you require material in an alternate format or if any other arrangements can make this course more accessible to you. You may also wish to contact Services for Students with Disabilities (SSD) at 661-2111 x 82147 for any specific question regarding an accommodation.

**Notices**

Students are responsible for regularly checking their Western email and notices posted on the course web site.

**Consultation**

*Western University*, Thompson Engineering Building, Room 477, 1151 Richmond Street, London, ON Canada N6A 5B9
t. 519.661.2111 ext. 82131  f. 519.661.3498  www.eng.uwo.ca/chemical/
Students are encouraged to discuss problems with their teaching assistant and/or instructor in tutorial sessions. Office hours will be arranged for the students to see the instructor and teaching assistants. Other individual consultation can be arranged by appointment with the appropriate instructor.

**Accreditation (AU) Breakdown**

Engineering Science  = 50%
Engineering Design    = 50%