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26 August 2016

To: Chemical Engineering Seniors

From: Thomas Knotts

Re: L3 Exam

Dear Chemical Engineering Senior,

Graduation from the Department of Chemical Engineering at Brigham Young University requires passing the L3 (Core Competency) exam during the senior year (or after a student has taken ChEn 311, 373, 374, 376, and 386). The L3 Exam consists of 24 multiple-choice questions, one for each of the 24 level-three competencies. The exact competencies are found in an attachment accompanying this letter. You must correctly answer questions on 23 of the 24 competencies to pass the exam.

Exam Procedures and Conditions for Passing

The exam is computer-based, and you will have three attempts to pass the exam. During the first attempt you will be presented with 24 total questions. If at least 23 of the questions are answered correctly, you will be informed that you passed the exam. If less than 23 are correct, you will be told which competencies were missed so that these may be studied in preparation for future exams.

The second and third attempts include only those competencies not passed on the previous attempt(s). Thus, if you miss four competencies on the first attempt, the second exam will include four new questions on the four missed competencies. To pass this second exam, you would need to answer three of these four questions correctly. Should you miss two of the competencies on the second examination attempt, the third exam would contain two new questions covering the two missed competencies, and you would be required to answer at least one of the two questions correctly in order to pass the exam.

The exam is intended to test basic, fundamental concepts that every chemical engineering student graduating from BYU should understand. Often the questions are qualitative in nature to test understanding of concepts, but a few are quantitative usually involving a single calculation. Though the faculty hope that most students will pass the exam on the first attempt, it recognizes how easy it is to make simple mistakes, such as reading the question wrong or checking the wrong answer box. This is the intent of the two retakes and the allowance for one missed competency. Remember, only those competencies missed are tested on the next exam attempt.

The exams are closed book, closed note, closed internet (closed everything) with the exception of the *Reference Booklet for the L3 or Core Competency Exam* that you should have first received in your sophomore year. A copy of this booklet accompanies this letter and is also available at <http://chemicalengineering.byu.edu/ReferenceBookletWebvOct14.pdf>.

Exam Logistics

Generally, the exam is administered the last two weeks of September through the middle of October, the last week of October until the Thanksgiving break in November, and the first two weeks of January. Check the department website (<http://chemicalengineering.byu.edu/l3exam.php>) for the exact dates for the current academic year.

The room where the exam is administered is 308A Clyde Building. You access the room from the CAEDM lab by the vending machines on the third floor. You must have the current CAEDM door code to get in the first set of doors. **You will be provided with the door code to 308A in a letter sent in the fall.** You need your first and last names and BYU ID number to log into the exam computer.

Three students may take the exam at the same time, and you may take the exam anytime you have access to the Clyde Building during the exam dates for each attempt. The exam is self-scheduled and no mechanism exists to set an “appointment” for a particular time and date. This is to give students the maximum flexibility possible in scheduling the exam. Though it has never happened in the past, there could be an availability problem if everyone leaves the exam to the last minute.

The only things that should be taken *into* the exam room are a pencil and a calculator. Computers, iPads, phones, etc. are not permitted. The exam room will have clean copies of the L3 Exam Reference Booklet and clean paper to use for calculations. After you finish the exam, and before you exit the exam room, all paper materials you used should be shredded with the shredder provided. The only things you should exit the exam room with are the pencil and calculator you brought in and one sheet of paper on which you write the numbers of the competencies you missed. Please *WRITE DOWN* and take with you any missed competency numbers displayed on the final screen of the examination. You will need to know which competencies to study if a retake is necessary as it is difficult (though possible) for me to get this information.

There is no time limit on the exam. Students may take as long as desired to take each attempt within the specific dates; however, each attempt must be completed in one continuous session. Breaks are not allowed nor is saving and returning later. On average, students take 2-3 hours for the first attempt. The time taken on subsequent attempts depends on the number of competencies missed on the previous attempt.

Security and Integrity

We take the security and integrity of the exam *very* seriously. A closed-circuit camera monitors the room at all hours to ensure compliance with the rules of the test. The examinations are computer generated so each student gets a different exam in terms of the exact question presented for each competency, the order of the answers for a particular question, and the order in which the competencies are presented. Students must not discuss the exam in any manner with other students or faculty. *All* information about the exam, including questions, difficulty level, time that it took to complete the exam, content, etc., is confidential and must not be discussed with anyone else. In particular, students are *NOT* permitted to go to faculty members or other students and discuss how to work exam problems.

Preparing for the Exam

It is *highly recommended* that you *study during the summer prior to your first attempt*. If you do not prepare for the first attempt, you may put yourself in the difficult situation of having many questions on the second attempt. Then mistakes on the second attempt can put you in a must-pass situation on the third attempt. The key to successfully passing the exam is to prepare for the first attempt so that a second attempt is either not necessary or consists of only a few questions. History has shown that students who miss more than 7 competencies on the first attempt will not pass after three attempts.

No practice exam or preparation materials are provided by the department. This is intentional as we do not want to “teach to the test” or have students “cram” to pass. Rather, this exam should be a true measure of what you have learned (stored into long-term memory) from proceeding normally through curriculum.

Failing the Exam

It is *highly* recommended that you prepare enough to pass the exam within the three attempts allotted. However, should you fail to correctly answer 23 of the 24 questions, remedial procedures have been put into place. These may be found at <http://chemicalengineering.byu.edu/failure.pdf>. Please note that this remedial work is very time-consuming and demanding. It is much easier to simply pass the exam.

Summary

In conclusion, please make sure you understand the following.

1. You must pass the L3 exam to graduate.
2. You should study during the summer prior to your first attempt on the exam.
3. The exact exam dates for the coming academic year.
4. The criteria for passing.
5. The logistics of the exam.
6. The seriousness with which the department takes the of security and integrity of the exam.

Good luck preparing.

Sincerely,

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Enclosures (2):
list of competencies, L3 Exam Reference Booklet