
Instructor: Carl Lira  
2261 Engineering Building  
517-355-9731  
lira@egr.msu.edu  
Available for quick questions after class.

TA: Yuelin Wu  
517-348-2038  
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Office hours will be scheduled after a poll to find the best times. Please make every attempt to use the time we have blocked for office hours. Conflicts are inevitable with a large class. We will schedule alternative times on an individual basis. Send an e-mail at least a day before you need to meet and suggest 2-3 times that will work for you.

Website: The loncapa course system will be used, loncapa.msu.edu  
Grades will be recorded on d2l.msu.edu.

Text: Introductory Chemical Engineering Thermodynamics, J.R. Elliott, C.T. Lira, 2nd ed. The international edition is acceptable, but the problem statements are different. If you use this version, collaborate with a student with the hardcover edition. For the hardcover edition, the fourth printing of the 2nd edition uses less bulky paper, so the text is thinner than previous hardcover printings. The content is identical to the previous hardcover printings.

Text Website: http://chethermo.net.

Clicker: i>clicker2. Clickers must be registered on d2l.msu.edu. Registration is required for clicker credit to be recorded to your ID.

Grading:  
Homework 15%  
Screencast/concept quizzes 5%  
Clickers/In Class Exercises 5%  
Exams 45%  
Final 30% Final Exam, May 5, 2016, 10 am - noon, B115 Wells Hall.

The course will be blended with some lessons delivered online and some delivered in class. Course time will also be used for working through exercises and in-class problems and clicker/concept questions. There will not be a formal lecture/recitation division.
Homework will be a blend of loncapa assignments and written homework. Each loncapa problem has a discussion forum where questions can be posted. For written homework problem questions, post to the loncapa homework forum rather than sending e-mail. When new questions are posted from students, there is no automatic e-mail notice, though online you can use to quickly find new posts. You also will see cartoon conversation bubbles by items in the table of contents with new posts. However, when I or Yuelin reply to posts, we will copy to our course RSS feeds. Most browsers or e-mail clients can read RSS feeds, or phone apps are available. A screencast is provided to learn how to subscribe to RSS feeds.

Each homework problem (loncapa or written will be scaled to approximately 10 points). To compensate for extenuating circumstances (travel, interviews, common illness) which may arise, 50 points will be dropped from the homework total possible when calculating grades (though 100% is maximum homework score). In case of hospitalization or death of a family member, documentation is required and I will work out individual arrangements. Written homework will be due at the end of a lecture period, or when recitation is finished. Written homework submitted after that time is considered late, and will have a 20% penalty, except homework more than one class period late will not be accepted because solutions will be available. Late submission of loncapa homework is not possible except in the case of hospitalization, and I must be contacted before the loncapa due date/time. Some homework will be individually worked, and some will be done in teams. Homework regrading is coordinated with Yuelin and will be considered only for two class periods after homework is returned. Homework that is not picked up by the final exam period will be discarded.

Homework solutions: Solutions for handwritten problems are available posted across from my office door. This is adequate for seeing minor errors, but not adequate for major misunderstanding. Printed solutions are available from the library copy center on the 2nd floor of the main library. Solutions are available the period AFTER homework is due and late homework is submitted.

Some lessons will be presented by screencasts. The screencasts will be followed by short post-screencast quizzes with closing times. All screencast quizzes are included in your grade.

There will be periodic, unannounced clicker and in-class assignments (IC). Written IC will be collected. To compensate for extenuating circumstances that may arise, 10% of the total possible will be dropped when calculating your ICA grade. No ‘make-up’ is possible.

Exams: Two 100 point mid-term exams are given. I must be notified prior to an exam if you will miss the exam and wish to take a make-up. Under no circumstances may a make-up exam be scheduled after the exam has been taken by the rest of the class. Contact me at 517-355-9731 for emergencies (time/date stamp is left on all recorded messages). Exam dates will be 2/24/16 and 4/6/16.

Exam regrades: You will be given only one opportunity to submit an exam for regrading. The exam must be resubmitted at the same lecture where it is return to you. A written note must be attached explaining the reason regrading is requested. The entire exam is subject to regrading if submitted.

Grading scale: 4, 87; 3.5, 81; 3, 75; 2.5, 69; 2, 63; 1.5 57; 1, 51
The scoring formula is
\[
\text{min}(\text{HW}/(\text{HW possible} – 40), 1) \times 15 + \text{SC}/(\text{SC possible}) \times 5 + \text{min}((\text{IC}/0.9)/(\text{IC possible}), 1) \times 5 + \text{exams}/200 \times 45 + \text{final}/(\text{final possible}) \times 30
\]
Cell Phones: no cell phones are to be used during class or exams, except if interactively working on a loncapa exercise. Cell phone use is distracting to me and your classmates. Your intellect will benefit from focusing rather than multitasking.

Calculators and computers: A scientific calculator is needed for exams. Computers or handhelds are not permitted for exams. You should always have a calculator in case we work in-class exercises. You will want access to a textbook in the event of an in-class exercise.

Email: I will use the loncapa system to deliver course-related messages. Lon-capac mail is sent to your msu.edu address.

Computer Programs: See Appendix A. The programs can be downloaded from http://sourceforge.net/p/chethermo. Sourceforge is an open source site that displays paid advertised links for other apps during download. Be careful what you click on during download. Unarchive the programs before you try to use them.

Forum Posting Ethics: Posting of your loncapa or homework problem statement and/or your answer is unethical. For example: here is my problem, here is my answer, what am I doing wrong? Users who do something like this will be blocked from any future loncapa posts. Posting equations to use is also unethical. It is ok to suggest textbook sections/examples or methods of approach, but don't post equations to use for the solution. You need to phrase your questions and answers in generic terminology describing the approach.

Reaching the Instructor about a loncapa problem: Occasionally you may need to contact the instructor about a loncapa problem if suspect that there is an error in the loncapa solution, such that your input is being graded wrong. Please use the ‘Feedback’ link in the LOWER RIGHT below the forum, and select QUESTION/COMMENT/FEEDBACK ABOUT COURSE CONTENT. The instructors will receive a message that includes a link to your exact problem statement and your submissions; there is no need to include your submissions; however please provide the context of why you are writing to us. Note: The feedback in the upper right includes defaults to ‘contribute to course discussion’ which publicly posts your comments.

Homework requirements for all individual and group assignments:
Write on only one side of paper.
Write clearly. We reserve the right to return homework ungraded if it is illegible, or difficult to follow.

Homework that is obviously copied on an individual assignment will result in a zero score for the entire homework sets containing problems that match. I will collect any homework if I observe copying and the owners of both sets will get zero.
If your solution involves a computer program, make a printout. include the input values, and tell us what you are using, by using comments. (Exception - simple “programs” like linear interpolation or Antoine’s equation do not need to be listed).
If your solution involves a spreadsheet, include an example output. Simply providing a numerical result and writing “used excel” is unsatisfactory. Write on the output using arrows and notes to indicate cell dependency. You do not need to include every page if they are similar and as long as the solution procedure is documented.

Box your answer. Include units on your answer.
Number your pages, e.g. 1 of 3, 2 of 3, 3 of 3.

Forming Groups – you can form your own study group, but I also will be using some group forming software after the enrollment stabilizes. Groups can be a maximum of four students.
Counseling
If you have trouble balancing academic requirements with other aspects of your life, don’t hesitate to seek advice from the MSU Counseling Center: http://www.counseling.msu.edu/, 355-8270.

Ethical Conduct
Engineers must behave ethically; the safety of the public depends on not only on the competence, but also on the honesty and integrity of engineering professionals. Engineers may, at times, come under strong pressures to commit unethical acts, and the results can be tragic. At a university, one important ethical requirement is that the work upon which you are graded be your own, and not someone else’s. Though group work and collaboration on homework exercises is strongly encouraged, students are cautioned against any type of unethical conduct, including copying during exams, copying or distributing homework electronically, presentation of false documentation for medical excuses, use of stand-ins on exams and quizzes. Storage of factual information on handheld calculators, for use in closed-book exams, is also expressly forbidden. Students who violate MSU academic integrity rules may receive a penalty grade, including a failing grade on the assignment or in the course.

NOTE: with Junior Competitive Exam: min((IC+extracredit)/0.9/(IC possible),1)*5