

CHEMISTRY 152: The Chemistry of Food and Cooking
Spring 2012
Sections C and D

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Course Schedule

Lecture:	MWF 9:00 – 9:50 in Heim 220
Lab:	Section C: Th 1:00 – 2:50 in Heim 239 Section D: Th 3:00 – 4:50 in Heim 239
Office Hours:	MW 2:00 – 2:50 pm, by appointment or just drop-by.

Course Description

CHEM 152, The Chemistry of Food and Cooking, is a science distribution course for the non-science major. This course introduces students to chemical principles, with an emphasis on organic chemistry, through an examination of the composition of food and the physical and chemical changes that occur during cooking. Not open to students who have received credit for CHEM 110.

Course Objectives

We will examine the common chemical components of food, both natural and unnatural, as well as the chemical and physical changes that occur during cooking. As this is a chemistry course, there will be a significant emphasis on chemical principles including: atomic and molecular structure, chemical bonding, solutions, phases of matter, organic molecules and their properties, molecular polarity and solubility.

This course supports the Mission of the College by exploring scientific traditions and developing communication and critical thinking skills. The college mission statement can be found at <http://www.lycoming.edu/aboutLycoming/mission.aspx>.

Distribution Requirement

Because this course can be used to fulfill a distribution requirement, it includes a writing component. At least 10 pages of writing will be completed by each student during the semester. The writing requirement will be met through lab reports and essay questions on exams and quizzes.

Any course used to fulfill the science distribution requirement must have a significant laboratory component. To receive a passing grade in this course, a student must earn a passing grade (60% or higher) in both the classroom and the laboratory portions of the course.

Text and Materials

- "On Food and Cooking: The Science and Lore of the Kitchen" by Harold McGee, 2004.
- Additional reading and homework assignments will be posted on the class Moodle site.
- Safety glasses or goggles are required for the lab and are available at the College bookstore.
- Non-programmable scientific calculator for use on exams and quizzes.

Moodle

Reading and homework assignments, answer keys, and class announcements/important dates will be posted on the class Moodle site. Please check this site regularly. To access it, go to moodle.lycoming.edu, login using your network ID and password, choose CHEM 152 and enter the course password: chemistry (all lower case).

Grading Criteria

The final grade in the course will be based upon the quiz, exam and lab grades as shown below.

Intro. Survey	10 points	2%
Quizzes (9)	90 points	18%
Exams (3)	300 points	60%
<u>Laboratory</u>	<u>100 points</u>	<u>20%</u>
Total	500 points	100%

Grade	Final Average	Interpretation
A	>90%	Student has demonstrated mastery of the concepts and the application of the concepts to new problems. Exceptional work.
B	80-90%	Student has demonstrated mastery of the concepts at a high level. Above average work.
C	70-80%	Student has demonstrated satisfactory knowledge of the material. Average work.
D	60-70%	Student has demonstrated rudimentary knowledge of the course material.
F	<60%	Unsatisfactory performance in course. A failing grade in the course may also result from academic dishonesty or from excessive unexcused absences.

Quizzes will be based on the notes, reading and homework assignments. They are intended to help you assess your progress and to alert you to any "trouble spots" before you take an exam. The lowest quiz grade will be dropped. Quizzes will be given at the end of class, usually on Fridays. Please note that the April quizzes will be given on Wednesdays.

Tentative quiz dates: January 20, 27
February 3, 17, 24
March 2, 9, 30
April 11, 18

Exams consist of short answer and brief essay questions. A few calculation-based problems may be included. **Please note that only non-programmable calculators may be used on quizzes and exams.** The three exams are scheduled for the following dates:

Exam 1: **Friday, February 10**
Exam 2: **Friday, March 23**
Exam 3: **Thursday, April 26 at 9:00 am**

Homework will be assigned, but not collected. Because many of the quiz and exam questions will be derived from the homework, it is to your advantage to complete each assignment and to see me for extra help if you are having difficulty with the homework. Answer keys for homework problems will be posted on the class Moodle site.

Laboratory

Labs are intended to illustrate the concepts we discuss in class. Some of our experiments will be “traditional” chemistry experiments and held in the chemistry lab. A few will involve food preparation and tasting and will be conducted in a classroom or kitchen facility.

The laboratory consists of ten experiments. Nine experiments (10 points each) plus a lab evaluation (10 points) comprise the final lab grade. Students who complete all ten labs will receive a 5-point bonus to their lab grade. The lab evaluation is based upon the following criteria: safety, lab hygiene, attendance/punctuality, and participation.

Lab Schedule: Most weeks will involve laboratory work. However, we will use three of the lab periods as exam review sessions. Attendance at the exam review periods is recommended, but not required. Attendance at all other lab meetings, including the week 1 meeting, is mandatory.

Week 1	Check-in, Laboratory Safety
Weeks 2-4, 6-9, 11-13	Experimental work
Weeks 5, 10, 14	Exam review

Lab Safety: It is my goal to design experiments that are fun, informative, and safe. However, like all things in life, there are always risks. This is especially true in “traditional” chemistry labs where we use a variety of chemical reagents. As a result, there are certain precautions that are always followed in the chemistry lab. These include wearing safety glasses at all times, wearing protective clothing, never eating or drinking in the lab, etc. We take lab safety very seriously here and we will spend part of our first lab period discussing safety issues and rules. You will be expected to follow those rules while working in the lab. Realize that repeated violations will result in a significant reduction of the lab grade.

It is also important that you understand that each “lab space” has specific safety rules. The most stringent rules are in the traditional chemistry lab. Any food or drink that enters the lab is at risk of contamination by laboratory chemicals and therefore cannot be consumed. For experiments where we will need to taste our “experiment,” we will move to a regular classroom or kitchen facility.

Lab safety also includes laboratory hygiene. In the event that the lab or kitchen facilities are left dirty, points may be deducted from the entire section's lab grade. Additional information on laboratory safety will be discussed at the first lab meeting. If you have any questions regarding lab safety, please do not hesitate to ask!

Attendance Policy

Lecture: Regular attendance at lecture is required. I will expect you to arrive on time, remain in class for the entire 50 minutes, and participate in class. Missing part of a class (late arrival, early departure, etc.), sleeping or reading during class, or engaging in disruptive activities is equivalent to an absence and will be counted as such.

Students with perfect attendance or only a single absence will receive a 3-point bonus. Students with more than three absences (for any reason) will have their grade reduced by 3 points for each absence beyond the third absence. Please note that I do not distinguish between excused and unexcused absences.

Quizzes, Exams and Laboratory Meetings:

Attendance is mandatory. In most cases, make-ups are **not** permitted.

Quizzes: Missed quizzes cannot be made-up (remember, the lowest quiz grade is dropped).

Exams: Exceptions may be granted for exams only if I am notified **prior** to the absence and there are extenuating circumstances -- usually a case of medical or family emergency that must be documented (note from doctor, notification from the Dean, etc.). Missing an exam without prior approval from me will result in a grade of zero.

Labs: Missed labs cannot be made-up, however you need only complete 9 of 10 labs. In other words, you may miss one lab without any negative impact on your grade. If you anticipate having a conflict with multiple lab meetings (i.e. traveling with an athletic team, etc), please talk to me ASAP.

Academic Resource Center

If you feel that you would benefit from working with a tutor, please consider contacting one of the ARC chemistry tutors. A list of chemistry tutors can be found on the ARC website:

<http://www.lycoming.edu/academicResourceCenter/tutoringSchedule.aspx>.

In addition to tutoring services, the ARC also provides support for students with disabilities. If you have a diagnosed disability and choose to request academic accommodations to meet your needs, please consult with Mr. Dan Hartsock, Coordinator of Services for Students with Disabilities. His office is in the Academic Resource Center on the third floor of the Snowden Library (570-321-4294).

Electronic Devices

You will need a simple calculator for lab and occasionally for class. Graphing (programmable) calculators may not be used on quizzes or exams. **Cell phones, PDAs and Laptops are not permitted in class or in the lab.** If you have one with you, be sure it remains in your purse or backpack and is turned off. The presence and/or use of one of these devices during a quiz or exam will constitute an act of academic dishonesty.

Academic Integrity

Be aware that in accordance with the College's policy on academic honesty, any work you submit must be your own. Any instances of plagiarism, whether on a quiz, exam or lab report (including copying answers from a classmate), will be penalized to the fullest extent possible and reported to the Provost and Dean of the College.

Inclement Weather / Compressed Schedule

In the event of a delayed opening due to Inclement Weather, the College will operate classes on a compressed schedule starting at 10 AM. The campus community will be notified of a delayed start via email, the College's homepage, and the emergency text messaging system. Even with the compressed schedule option, be sure to check the Individual Course Cancellation page as weather conditions may prevent individual faculty from traveling to campus. <http://www.lycoming.edu/inclementWeather/>

In the event of a compressed schedule, our class will meet as follows:

On a Monday, Wednesday or Friday, class meets at 10:55 am – 11:40 am.

On a Thursday, the lab meets at 2:00 pm – 3:20 pm for section C and at 3:30 pm – 4:50 pm for section D.