
CHEM 104 General, Organic and Biochemistry II Spring 2012

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Office Hours: (or by arrangement)
MWF 9:00 to 10:00; R 9:00-11:00

Course Description

Chemistry 104 is an introduction to the basic theories of organic and biochemistry including nomenclature, reactions, and problem solving. CHEM 103 is the prerequisite. 2 hours lecture, 2 hours lab. Lecture Tuesday 8:00 to 9:50 R-149. Lab Wednesday 6-7:50 Dr. Drager; Friday 1-2:50 Dr. Schiza

Required Materials

- *General, Organic, and Biological Chemistry*, J. Smith, McGraw Hill, ISBN 9780077274290
- Laboratory Goggles (available from the campus bookstore) or Safety Glasses (available from the MU ACS Student Affiliates, STB 330)
- Laboratory Text is an in-house publication
- Permanently bound laboratory notebook (quad or line-ruled)

Course Objectives

At the completion of CHEM 104, you should be able to:

- a. Apply fundamental ideas developed in general chemistry pertaining to bonding molecular structure, acid-base theory, equilibrium, and thermochemistry to the systematic study of organic and biochemical matter.
- b. Learn the major functional groups found in organic and biochemical molecules, their nomenclature, their effect on physical and chemical properties of those molecules, and some important examples of each of these classes of compounds.
- c. Define terms appropriate to the discussion of these topics
- d. Describe the chemical and functional group changes between intermediates in common metabolic pathways.

Tentative Lecture Schedule, Tuesday 8:00-9:50am, Roddy 149

Section	Textbook Chapters	Topics	Exam Schedule
	Chapter 11	Intro to organic Molecules	Exam 1
	Chapter 12	Alkanes	Tuesday, Feb. 14
	Chapter 13	Unsaturated Hydrocarbons	
	Chapter 14	Organic Compounds with Oxygen, Halogen and Sulfur	Exam 2 Tuesday, March 20
	Chapter 15	3-D Shape of Molecules	
	Chapter 16	Aldehydes and Ketones	
	Chapter 17	Carboxylic Acid, Esters, Amides	

Chapter 18	Amines	Exam 3
Chapter 19	Lipids	Tuesday, April 17
Chapter 20	Carbohydrates	
Chapter 21	Amino Acids, Proteins, Enzymes	Exam 4
Chapter 23	Digestion and energy	Thursday, May 10, 10:15 to 12:15
Chapter 24	Metabolism	

End of Chapter Problems:

Chapter 11: 23,25,35,41,47,49,55,57,61,67,77,81
 Chapter 12: 23,31,35,47,51,63,67,69,73,79,81
 Chapter 13: 33,35,39,41,45,51,53,65,69,71,75,83,87,103,107,109
 Chapter 14: 29,33,37,39,41,49,57,63,65,69,75,77,79,81,85,93,95
 Chapter 15: 19,21,25,29,31,41,57,63
 Chapter 16: 23,25,29,31,35,45,51,57,61,65,79,87,89
 Chapter 17: 39,41,49,51,55,57,59,65,71,73,83,93,95,101,105,107,109
 Chapter 18: 31,33,35,37,39,43,49,57,61,63,65,79,81,83,87,91
 Chapter 19: 33,38,43,47,49,51,53,83,85,87,101
 Chapter 20: 29,31,33,35,37,39,43,45,53,59,61,65,69,71,79
 Chapter 21: 29,33,35,41,43,47,49,61,63,67,71,77,85
 Chapter 23: 15,17,23,27,37,39,41,43,49,53,55,57,59,61,65,67
 Chapter 24: 33,37,39,41,45,47,49,51,53,55,61,63,81,89,91,95

Tips for success in CHEM 104

- Actively attend class – take good notes, follow along with problems, answer and ask questions
- Practice chemistry – the best way to practice is to do lots of problems see above recommended problem sets from each chapter
- Don't fall behind - much of the material is naturally cumulative and it is difficult to catch up
- Get help when needed - don't be afraid to ask for assistance

Lecture Attendance

Students are responsible for all notes, discussions, assignments and handouts presented in each class (whether you are absent or present). You are expected to be present when any evaluation (quiz, test, etc.) is given. Absences that you know about in advance may be excused. Excused absences include attendance at university events (athletic and educational), military duty, death or critical illness in the family, or personal illness in which a physician indicates that you were too ill to attend class. A request for an excused absence should include a written justification for the reason for the absence and be signed by the appropriate individual (coach, faculty member, physician, etc.). Except for death or illness, requests for an excuse must be presented **before** the anticipated absence. Only valid excuses will be accepted to make up any missed assignments. Work not made up will receive a grade of zero. Departure times for travel before university breaks are not a valid excuse to miss class, so please make your travel arrangements accordingly. Please see the University Attendance Policy.

Classroom Etiquette

Please participate in class by answering or asking questions during lecture. However, socializing and chatting during class is rude and unfair to both me and to those students interested in learning and participating. If you persist in talking during class, you will be asked to leave. I reserve the right to take disruptive behavior such as habitual tardiness, frequent or excessive talking during class, cell phone disruptions or leaving before class is over into account when determining your final grade.

Textbook Problems

It is to your advantage that you work as many of the practice problems from each chapter in the textbook until a concept is mastered, even though these problems will not be collected or graded.

Exams

There will be three 50-minute exams given during the scheduled lecture time on the indicated days. Attendance at exams is mandatory. Only valid excuses (see above) will be accepted to make up exams. If an excuse is valid, it is the student's responsibility to schedule a make-up exam within one week of the original exam date. Exams not made up will receive a grade of zero. The fourth exam will be during the pre-arranged final exam period for this lecture time.

Quizzes

There will be ten quizzes throughout the semester. **THERE ARE NO MAKE-UP QUIZZES.** Any quiz missed is a zero. There will no quiz the week of an exam.

Have questions or need help?

Come and talk to me. Find a study group. Get a tutor. Free tutoring (individual or group) is also available through Student Services. Call or stop by the tutoring office in Lyle Hall for additional information.

GRADING INFORMATION

Course Evaluation

The final grade will be based upon hourly exams, quizzes, and the laboratory component.

You MUST have a passing grade in the lecture to count the lab grades.

Exams (4 @ 100 pts)	400 pts
Quizzes (10 x 10pts)	100 pts
<u>Lab</u>	<u>260 pts</u>
Total	765 pts

Grade Distribution

A	92.0-100	B	82.0-87.9	C	70.0-77.9	D	62.0-66.9
A-	90.0-91.9	B-	80.0-81.9	C-	69.0-69.9	D-	60.0-61.9
B+	88.0-89.9	C+	78.0-79.9	D+	67.0-68.9	F	<60.0

Out of class assistance

Please feel free to stop by my office for assistance outside of class. I am available during regularly scheduled office hours or contact me by phone or e-mail to set up an appointment. Free tutoring is also available.

Learning Disabilities

If you believe that you have a learning disability, you may provide documentation to the Office of Student Support Services in Lyle Hall. Appropriate accommodations may then be provided.

University Class Attendance Policy

EFFECTIVE SPRING 2003

Approved by Faculty Senate 12/4/02; Administrative approval 1/10/03

The University supports departmental and faculty class attendance policies that are reflective of and consistent with University approved guidelines. Faculty will include their class attendance policy in their syllabi given to all students in their classes at the start of the semester.

University approved guidelines:

1. **Students are expected to attend all classes.** It is the student's responsibility to complete all course requirements even if a class is missed. If a student misses class for an officially excused reason, then he/she is entitled to make up the missed work but only at the convenience of the faculty member. Responsibility for materials presented in, assignments made for, and tests/quizzes given in regularly scheduled classes lies solely with the student.
2. **The University policy is that faculty will excuse absences for the following reasons:**
 - a. personal illness,
 - b. death or critical illness in the family,
 - c. participation in a university-sponsored activity,
 - d. jury duty,
 - e. military duties, or
 - f. religious holidays
3. **Faculty judge the validity of student absences from class within the University's approved guidelines and may require documentation for excused absences.** Faculty will evaluate any reason, other than those listed above, for a student missing class and determine whether the absence is justified. In these circumstances, a student may make up missed work at the discretion of the instructor.
4. **In the case of foreseeable absences, students are encouraged to notify the faculty member in advance.** A student who will miss class due to participation in an official University activity must notify the instructor well in advance of the activity to assure that the absence is excused.

Appeals:

As with any academic issue, students may exercise their right to appeal adverse attendance decisions. Please refer to the current undergraduate catalog for the complete Academic Appeal procedure