

CHE 100 B - Elements of General and Biological Chemistry

Marian College–Spring 2007

Instructor: Dr. Carl Lecher
Office: MH 350
Class: MH 355, M W, 6:00 - 8:15 p.m.
Office Hours: M W, 11:00 a.m. - noon and 5:00 - 6:00 p.m.
Additional times by appointment.

Credit: Four (4) credit hours
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Course Description

An introduction to the principles of inorganic, organic, and biochemistry. This course is designed for students in the health science areas. Four (4) lecture hours per week.

Required Text

Karen C. Timberlake, *Chemistry: An Introduction to General, Organic, and Biological Chemistry*, 9th edition, Benjamin Cummings, 2006. ISBN: 0-8053-3015-1

Optional Text

Karen C. Timberlake, *Study Guide and Selected Solutions for Chemistry: An Introduction to General, Organic, and Biological Chemistry*, 9th edition, Benjamin Cummings, 2006. ISBN: 0-8053-3024-0

Course Objectives

Course learning objectives are used by the faculty to inform students of the primary assessable education objectives of a particular course. The content of the course is designed to help a student reach the stated learning objectives. For CHE 100, examinations will be structured in a manner which assesses a student's mastery of the covered learning objectives. The comprehensive final will be an assessment of all of the CHE 100 learning objectives. The comprehensive final is your *opportunity* to demonstrate to the instructor that you have fulfilled the requirements of the course. The grades awarded in the course will reflect a student's individual mastery of these objectives. The successful student, upon completion of this course, should be able to:

1. Understand and utilize the basic concepts of measurement
2. Perform basic calculations in chemistry using common mathematical techniques
3. Understand the basic properties of energy
4. Understand the basic properties of matter
5. Understand the structure of atoms and their organization in the periodic table
6. Understand compounds and the principles of chemical bonding
7. Recognize and understand basic chemical reactions
8. Use the mole in problem solving
9. Balance and utilize chemical equations
10. Understand the basic properties of gases
11. Understand the basic properties of water and solutions
12. Understand acids, bases, pH, and buffers
13. Understand the general principles of radioactivity
14. Name, draw, and recognize 'simple' organic molecules
15. Recognize and name basic organic functional groups
16. Recognize and understand basic organic chemical reactions
17. Understand the composition, structure, and function of carbohydrates
18. Understand the composition, structure, and function of lipids
19. Understand the composition, structure, and function of proteins
20. Understand the composition, structure, and function of nucleic acids
21. Understand the flow of genetic information in a cell
22. Understand the major pathways of metabolism and energy production

Grading Basis

Five exams (each worth 13% of the grade)	65%
Comprehensive final	20%
Homework portfolio	15%

Grading Scale

The following percents are the cut-offs to earn each grade:

	B+ :	84.0%	C+ :	74.0%	D+ :	64.0%	
A :	90.0%	B :	80.0%	C :	70.0%	D :	60.0%
A- :	87.0%	B- :	77.0%	C- :	67.0%		

Attendance Policy

Lecture: Excellent attendance of lecture is *required* for success in the class and is *mandated* by this syllabus. Attendance will be taken at the start of class. Arriving late to class is disruptive to the learning environment is inconsiderate to your fellow classmates. If you are not present at the start of class, you will be marked absent for the lecture. Absence from 5 lectures can result in an automatic failing grade for the course.

Exams: In the case of any exam absence, the student must contact the instructor as soon as physically possible. Advanced notification is required when possible. An absence will be determined as *excused* or *unexcused* by the instructor. For a medical illness or condition, a signed and dated note from your health care provider is required. An excused exam absence will be made up at a time to be decided by the instructor. An unexcused exam absence will result in a grade of zero (0) for that exam.

Course Policies

There will be no extra credit assignments or retakes on exams. Young children are not permitted in the classroom. Please turn off cell phones before the start of class. Cell phone calculators are not permitted during tests.

Course Outline

The entire text will be covered. This means that we will be covering most chapters in one lecture period. Be prepared to for a heavy workload outside of class. Plan to spend a *minimum* of eight (8) hours a week outside of class working on class material.

Web Resources

All class materials are available at <http://camsap.marian.edu/estudent/>

Projected Class Schedule

Class #	Day	Material
1	Monday, January 8	Orientation, Chapter 1
2	Wednesday, January 10	Finish Chapter 1
	Monday, January 15	<i>M.L.K., Jr Day – No classes</i>
3	Wednesday, January 17	Start Chapter 2
4	Monday, January 22	Finish Chapter 2 / Start Chapter 3
5	Wednesday, January 24	Finish Chapter 3 / Start Chapter 4
6	Monday, January 29	Test 1 (Chapters 1-3). Continue Chapter 4
7	Wednesday, January 31	Finish Chapter 4
8	Monday, February 5	Start Chapter 5
9	Wednesday, February 7	Finish Chapter 5 / Start Chapter 6
10	Monday, February 12	Continue Chapter 6
11	Wednesday, February 14	Finish Chapter 6 / Start Chapter 7
12	Monday, February 19	Test 2 (Chapters 4-6). Continue Chapter 7
13	Wednesday, February 21	Finish Chapter 7
14	Monday, February 26	Start Chapter 8
15	Wednesday, February 28	Continue Chapter 8
	Monday, March 5	<i>Spring Break recess</i>
	Wednesday, March 7	<i>Spring Break recess</i>
16	Monday, March 12	Finish Chapter 8 / Start Chapter 9
17	Wednesday, March 14	Finish Chapter 9 / Start Chapter 10
18	Monday, March 19	Test 3 (Chapters 7-9). Continue Chapter 10
19	Wednesday, March 21	Finish Chapter 10 / Start Chapter 11
20	Monday, March 26	Finish Chapter 11 / Start Chapter 12
21	Wednesday, March 28	Finish Chapter 12 / Start Chapter 13
22	Monday, April 2	Finish Chapter 13 / Start Chapter 14
23	Wednesday, April 4	Test 4 (Chapters 10-13). Continue Chapter 14
24	Monday, April 9	Finish Chapter 14 / Start Chapter 15
25	Wednesday, April 11	Finish Chapter 15 / Start Chapter 16
26	Monday, April 16	Finish Chapter 16 / Start Chapter 17
27	Wednesday, April 18	Test 5 (Chapter 14-16). Chapter 17
28	Monday, April 23	Finish Chapter 17 / Start Chapter 18
29	Wednesday, April 25	Finish Chapter 18
	Monday, April 30	Final (Chapters 1-18). 6:00-8:00 p.m.