



## **CHE 100 Elements of General and Biological Chemistry 4 Credits**

Semester and Year:

Email: Contact via Canvas email

### **Required Textbook(s):**

Chemistry: An Introduction to General, Organic, and Biological Chemistry, 13th edition; Karen Timberlake, Pearson Education, Inc. 2017

ISBN: 9780134421353

Students are required to purchase the item listed above prior to the start of the course. Look into all of your options - new, used, rental or e-books. If you choose a rental option, be sure to understand the policies and the due dates for the returns. While you have the option to obtain your course materials from any source, ordering from the [MU Book Store](#) can be a convenient option. Please note that you can also charge bookstore purchases to your student account or use your MU financial aid if applicable.

### **Additional Resources:**

The [Mother Teresa Hacklemeier Memorial Library](#) at Marian University provides various databases

- **Marian University requires all work be completed on a laptop or PC; this includes all exams and quizzes.**

### **Course Description**

This course is an introduction to the principles of general chemistry, organic chemistry, and biochemistry, and is designed for students in the health science areas.

This course will explore general chemistry, organic, and biochemistry. We cover 17 chapters. Therefore, we will be covering 2 to 3 chapters a week. Homework assignments and discussions will be given. Plan to spend a minimum of ten to twenty hours a week working on class material. You are encouraged to interact with your instructor with questions or other content issues as is needed.

## CHE 100 Elements of General and Biological Chemistry Syllabus

Upon successful completion of this course, students will be able to:

- Perform basic calculations in chemistry using stoichiometric
- Understand the basic properties of matter and energy
- Understand the structure of atoms and their organization in the periodic table
- Understand the principles of chemical bonding
- Balance and utilize chemical equations
- Understand the basic properties of gases
- Understand the basic properties of water and solutions
- Understand acids, bases, pH, and buffers
- Understand the general principles of radioactivity
- Name, draw, and recognize 'simple' organic molecules
- Recognize and name common organic functional groups
- Recognize and understand common chemical reactions including organic and biochemical
- Understand the composition, structure, and function of carbohydrates
- Understand the composition, structure, and function of lipids
- Understand the composition, structure, and function of proteins
- Understand the composition, structure, and function of nucleic acids

<b>Course Learning Objectives</b>	<b>Methods of Assessment</b>
Apply unit conversions to perform calculations	Exam 1, Quiz 1, Homework 1, and Discussion Post 1
Describe the general properties of matter and energy	Exam 1, Quiz 1, Homework 1, and Discussion Post 1
Compare the structure of atoms and their organization in the periodic table	Exam 1, Quiz 2, Homework 2, and Discussion Post 2
Describe the principles of chemical bonding	Exam 1, Quiz 2, Homework 2, and Discussion Post 2
Balance and use chemical equations	Exam 2, Quiz 3, Homework 3, and Discussion Post 3
Differentiate and calculate properties of gases	Exam 2, Quiz 3, Homework 3, and Discussion Post 3

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Evaluate the properties of water and solutions	Exam 2, Quiz 4, Homework 4, and Discussion Post 4
Define acids, bases, pH, and how a buffer works.	Exam 2, Quiz 4, Homework 4, and Discussion Post 4
Describe the general principles of radioactivity	Exam 3, Quiz 5, Homework 5, and Discussion Post 5
Name, draw, and recognize 'simple' organic molecules	Exam 3, Quiz 5, Homework 5, and Discussion Post 5
Recognize and name common organic functional groups	Exam 3, Quiz 6, Homework 6, and Discussion Post 6
Recognize and discuss common chemical reactions including organic and biochemical	Exam 3, Quiz 6, Homework 6, and Discussion Post 6
Describe the composition, structure, and function of carbohydrates	Exam 4, Quiz 7, Homework 7, and Discussion Post 7
Describe the composition, structure, and function of lipids	Exam 4, Quiz 7, Homework 7, and Discussion Post 7
Describe the composition, structure, and function of proteins	Exam 4, Quiz 8, Homework 8, and Discussion Post 8
Describe the composition, structure, and function of nucleic acids	Exam 4, Quiz 8, Homework 8, and Discussion Post 8

### Teaching Strategies

Add a narrative of the teaching strategies you will use in the classroom.

### Assignments & Assessment Methods:

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### Methods of Evaluation

There are 4 Exams, exams are worth 76% of your total grade. Homework assignments are 7% of your total grade, discussions are 7% of your total grade, and quizzes are 10% of your total grade.

Exam 1 Modules 1 & 2 Chapters 2-4, 6

Exam 2 Modules 3 & 4 Chapters 7-10

Exam 3 Modules 5 & 6 Chapters 5, 11-12, 14

Exam 4 Modules 7 & 8 Chapters 13, 15-17

### Grading Scale

The grading scale for this course is (this is course dependent and must be individualized)

Letter Grade	Percentage
A	92%
A-	88%
B+	84%
B	80%
B-	77%
C+	74%
C	70%
C-	67%
D+	64%
D	60%
F	<59%

### Course Policies:

**Late Policy & Due Date Extensions:** Acceptance of work submitted past the due date or requests of due date extensions, including exams, may be considered in the event of unforeseen, documented hardships, such as medical emergencies, documentable

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technical issues, death of a loved one, etc. However, simply forgetting, time zone differences, going on vacation, or not performing as well as intended are not acceptable excuses.

**Exam Retakes:** Exams retakes are different than requesting and being granted an extension on an exam. There are no exam retakes allowed in this course. Once you open an exam, you're stating that you have prepared adequately for the exam and you're accepting the results of the exam.

**Plagiarism Statement:** Plagiarism is using the words or ideas of another as your own without giving credit to the source author. This also includes taking a paper found online and submitting it as one's own paper and/or cutting and pasting from a website and submitting it as your work product.

Plagiarism is defined in detail in the [Code of Student Rights and Responsibilities \(Links to an external site.\)](#) under Section 8: Academic Conduct Procedures, as well as an extended description of academic dishonesty.

The following are some helpful websites for understanding plagiarism, documentation and citation:

- [Marian University's library](#)
- [Plagiarism.org](#)
- [Purdue OWL](#)

**Accommodation/Accessibility Statement:** Marian University, through policy and practice, is committed to providing equitable access to learning opportunities for all students. If you experience, or anticipate experiencing, barriers to your education due to a disability please contact the Personalized Learning Center by emailing [plc@marian.edu](mailto:plc@marian.edu) or calling **317.955.6540** to start a conversation.

Although a student may request an accommodation at any time, it is best to initiate the accommodation process as early as possible as it may take time to complete the interactive process and accommodations will not be implemented retroactively. If a reasonable accommodation is determined, a Course Accommodation Letter will be created at the Personalized Learning Center for the student to provide to their faculty members with information related to their accommodations. Faculty will not set up disability-related accommodations without a current semester Course Accommodation Letter.

Faculty, Staff or Student questions or concerns regarding the accommodation process can be sent to [plc@marian.edu](mailto:plc@marian.edu) or Mandie Greiwe, [agreiwe@marian.edu](mailto:agreiwe@marian.edu), Director of the Personalized Learning Center.

**Diversity and Inclusivity:** Marian's adult and online programs at Marian University is a collaborative academic community committed to fostering a diverse and inclusive community across the intersections of races, ethnicities, religions, sexual orientations,

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gender identities, ages, disability status, socio-economic backgrounds, political perspectives, cultures, immigration status, and national origins. I am committed to creating a safe, just environment of respect for students, faculty, and staff following our shared Franciscan values. I believe that every individual can improve their skills, learn from their mistakes, and be successful in this course.

### **Student Handbook**

Please refer to the MAP [Student Resources](#) and [Student Support Resources](#) modules for information regarding academics and school of policies including [Services for Students with Disabilities](#).

**\*\*Any changes to this syllabus will be communicated to the student.**