

**50:160:103: GENERAL, ORGANIC & BIOCHEMISTRY I**
**Fall 2024**
**15 WEEKS, 9/3-12/11**
**Sections: 01, 02**
**Instructor: K.J. Winchell, PhD [kj.winchell@rutgers.edu](mailto:kj.winchell@rutgers.edu)**

 Co-adjunct Instructor: Nishat Jahan [nj385@scarletmail.rutgers.edu](mailto:nj385@scarletmail.rutgers.edu)

Monday/Wednesday 8:00 am-9:20 am PEN 401

Monday 9:35 am-10:35 am (section 01) PEN 401

Monday 12:30 pm-1:30 pm (section 02) PEN 401

**Office Hours:**

Tuesday	11:00 am – 12:00 pm	JHSC C-110 (Jahan)
Wednesday	10:00 am – 12:00 pm	SCI B5 (Winchell)
Thursday	3:00-4:00 pm	SCI B5 (Winchell)

**Virtual Office Hours:** By appointment

**REQUIRED Course Materials:**

- **Calculator:** Basic, scientific (non-graphing) calculator
- **Canvas account:** to access all course materials and communications at <http://canvas.rutgers.edu>-use your Rutgers net ID to access course content

**OPTIONAL Course Materials:**

- **Raymond, Kenneth W.; General, Organic & Biological Chemistry, 4th Ed.** e-text directly through Wiley Publishers or B&N bookstore.

**General Information, Course Description, and Prerequisites:**

General, Organic and Biochemistry (GOB) I introduces the chemistry of organic compounds, discusses hydrocarbons & their functional derivatives, stereochemistry, carbohydrates, proteins, lipids & nucleic acids. This course is designed for students who plan to major in nursing or health sciences. It is an introduction to some of the fundamental principles of chemistry and their application to nursing and other health-related fields. The math prerequisite is placement in math 50:640:042 or higher. This is a four (4) **credit survey** course. Students who are biology, chemistry, or pre-med majors must take Chemical Principles and Organic Chemistry I and II instead of GOB I and II.

**EVALUATION AND ASSESSMENT**
**Grading Distribution**

• Quizzes, 8 @ 30 pts. each (drop lowest quiz)	240 points
• Quiz/Exam Tickets, 14 @ 10 pts each	140
• Exams, 4 @ 200 pts. each (in class)	800 points
• Final Exam, 1 @ 400 pts (with up to additional 200 points exam replacement)	400 points
• Office hours visits, 2 @ 10 pts each	<u>20 points</u>
<b>Total</b>	<b>1600 points</b>

## Grading Scale

The following grading scale will be used in this course:

1440 -1600 pts. = A	1120 -1199 pts. = C
1360 -1439 pts. = B+	960 - 1119 pts. = D
1280 -1359 pts.= B	Below 906 pts. = F
1200 -1279 pts.= C+	

**Learning Objectives:** Students will:

1. Gain interest in the fields of general chemistry, organic chemistry and biochemistry
2. Develop a broad knowledge base in these fields
3. Develop skills in communication, teamwork, and quantitative analysis
4. Become proficient in problem solving through engaging in the process of science
5. Make connections to other disciplines
6. Make connections to societal issues, especially those involving medicine and health care.

**Assignments:**

1. Recitation Problem Sets – Practice problems intended to give students initial exposure immediately after lecture, under the guidance of Instructor. These problems will not be collected but are highly recommended.
2. Quiz/Exam Tickets – A Quiz or Exam Ticket is a problem set that will be worked independently after learning material in lecture and recitation. Must be turned in electronically on Canvas prior to the start of lecture or recitation in which the quiz or exam is being taken. Failure to complete entire problem set with good effort and all work shown will result in no score on the quiz or exam that day. Not all answers must be correct for full credit, but a reasonable attempt, at all problems, based on strategies seen in lecture and recitation is required for credit.
3. Quizzes – Quizzes will be taken at the immediate start of recitation and will cover the material on the previous week's recitation problem set and the quiz ticket problem set including one identical problem from one of the two problem sets of the week. Failure to complete Quiz Ticket will result in a zero on the quiz.
4. Exams – Four exams will be administered during lecture and will cover all lecture, recitation, and problem sets from the relevant chapters. Failure to complete Exam Ticket will result in a zero on the exam
5. Final Exam – A Cumulative final exam will be administered during finals week. All material from the course will be tested. If the final exam score is higher than the student's lowest in-class exam score, the final exam score will replace said lowest exam in the grade book.

**Serious Emergencies and Absences:**

If a serious emergency or problem (hospitalization, serious automobile accident, or death of a close family member, for example) occurs that will cause you to be absent from school, please advise the **Office of Student Affairs, 856-225-6050**. That office will notify all your professors of your absence. **Emergencies need to be documented to be excused from quizzes and exams.**

**Academic Integrity:**

*Every student is prohibited from engaging in violations of academic integrity.* Note that every instructor is ethically bound to follow certain procedures once a student is caught, or suspected of, breaching academic integrity (see *Rutgers University Academic Integrity Policy*). Any material submitted by a student in this course for academic credit (i.e., grading) must be that student's own work. Also, all students should strictly adhere to the rules governing any quiz, exam or homework that is assigned.

The Rutgers University Academic Policy is found at <http://academicintegrity.rutgers.edu>. All students are expected to show respect to everyone both on and off campus and to abide by this policy.

**Course material copyrights.** Any course materials (including quizzes, lectures, and exams) are protected by copyright. You may not (and you may not allow others to) reproduce or distribute these course materials publicly (whether or not a fee is charged) without the copyright holder's (i.e., the course instructor's) express written consent.

**Attendance Policy for Lectures and Recitations:**

Attendance to lectures and recitations is essential as it will help you prepare for exams, quizzes, and homework. The Learning Center can provide individual tutoring for this class. Attendance at lectures and recitation is **mandatory**.

**Student Accommodations:**

**Rutgers University welcomes students with disabilities** into all of the University's educational programs. In order to receive consideration for reasonable accommodations, a student with a disability must contact the appropriate disability services office at the campus where you are officially enrolled, participate in an intake interview, and provide documentation: <https://ods.rutgers.edu/students/documentation-guidelines>. If the documentation supports your request for reasonable accommodations, your campus's disability services office will provide you with a Letter of Accommodations. Please share this letter with your instructors and discuss the accommodations with them as early in your courses as possible. To begin this process, please complete the Registration form at <https://webapps.rutgers.edu/student-ods/forms/registration>. Accommodations are not retroactive and are effective only upon submission of the LOA to the instructor.

Week	Monday Lecture	Wednesday Lecture	Recitation
1 (9/3-9/6)		Chapter 1: Science and Measurements	
2 (9/9-9/13)	Chapter 2: Atoms and Elements	Chapter 3: Compounds	Recitation Problem Set (Ch 1 and 2)
3 (9/16-9/20)	Chapter 3: Compounds	Chapter 4: Organic Compounds	<b>Quiz 1</b> (Ch 1 & 2) Recitation Problem Set 2 (Ch 3)
4 (9/23-9/27)	Chapter 4: Organic Compounds	<b>Exam 1</b> (Ch 1-4) <i>In class 9/25</i>	<b>Quiz 2</b> (Ch 3) Recitation Problem Set (Ch 4)
5 (9/30-10/4)	Chapter 5: Reactions	Chapter 5: Reactions	Recitation Problem Set (Ch 5)
6 (10/7-10/11)	Chapter 6: Gases, Solutions, Colloids, and Suspensions	Chapter 6: Gases, Solutions, Colloids, and Suspensions	<b>Quiz 3</b> (Ch 5) Recitation Problem Set (Ch 6)
7 (10/14-10/18)	Chapter 7: Acids, Bases, and Equilibrium	Chapter 7: Acids, Bases, and Equilibrium	<b>Quiz 4</b> (Ch 6) Recitation Problem Set (Ch 6 and 7)
8 (10/21-10/25)	<b>Exam 2</b> (Chapters 5-7) <i>In class 10/21</i>	Chapter 8: Organic Reactions 1 - Hydrocarbons, Carboxylic Acids, Amines	No Recitation
9 (10/28-11/1)	Chapter 8: Organic Reactions 1 - Hydrocarbons, Carboxylic Acids, Amines	Chapter 9: Organic Reactions 2 – Alcohols, Ethers, Aldehydes, and Ketones	Recitation Problem Set (Chapter 8)
10 (11/4-11/8)	Chapter 9: Organic Reactions 2 – Alcohols, Ethers, Aldehydes, and Ketones	Chapter 10: Carbohydrates	<b>Quiz 5</b> (Ch 8) Recitation Problem Set (Chapter 9)
11 (11/11-11/15)	Chapter 10: Carbohydrates	<b>Exam 3</b> (Ch 8-10) <i>In class 11/13</i>	<b>Quiz 6</b> (Ch 9) Recitation Problem Set (Chapter 10)
12 (11/18-11/22)	Chapter 11: Lipids and Membranes	Chapter 11: Lipids and Membranes	Recitation Problem Set 11
13 (11/25-11/29)	Chapter 12: Peptides, Proteins, Enzymes	No Class	<b>Quiz 7</b> (Ch 11) Recitation Problem Set 12
14 (12/2-12/6)	Chapter 12: Peptides, Proteins, Enzymes	Chapter 13: Nucleic Acids	<b>Quiz 8</b> (Ch 12) Recitation Problem Set 12
15 (12/9-12/11)	Chapter 13: Nucleic Acids	<b>Exam 4</b> (Ch 11-13) <i>In class 12/11</i>	<b>Quiz 9</b> (Ch 12 & 13) Recitation Problem Set 13
16(12/16-12/20)			Final Exam Review