CHEM 352-01 – Biochemistry II – Spring 2021
MWF 12:00–12:50 PM, "in person over Zoom" online

Instructor Contact Information:
Dr. Jennifer Fox
If you have a question that can be answered over email, please email me at FOXJL@cofc.edu, and I will reply within 48 h. I am also happy to help you with the material in individual or group office hours. Email me with your availability, and we will schedule an appointment over Zoom.

Course Description:
This course builds on the pre-requisite Biochemistry I (CHEM 351), in which you learned about the chemistry of biological molecules. In Biochemistry II, you will learn how these biomolecules are assimilated, transformed, synthesized, and degraded through the processes of metabolism, which are critical to life. Both courses detail how chemistry enables us to understand the biological world.

Student Learning Outcomes:
- Illustrate the chemical logic inherent in metabolism
- Compare and contrast the types of organic reactions that facilitate the breakdown and building of biological molecules
- Evaluate how errors in metabolism lead to human disease
- Recognize how metabolic pathways are regulated

Chapters and Topics:
7     Cofactors
10    Intro to Metabolism
11    Glycolysis
12    Gluconeogenesis, Pentose Phosphate Pathway, and Glycogen Metabolism
13    Citric Acid Cycle
14    Electron Transport and ATP Synthesis
15    Photosynthesis
16    Lipid Metabolism
17    Amino Acid Metabolism
18    Nucleotide Metabolism

Important Dates:
The first day of class for us is Monday, January 11.
The add/drop deadline is Tuesday, January 19.
The deadline to withdraw is Monday, March 22.
The last day of class for us is Monday, April 19.

This syllabus is subject to change by the instructor at any time.

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Required Materials:
2. Scientific calculator (e.g., TI-30Xa scientific calculator, approx. $10) that can handle scientific notation, log, antilog, exponents, and square roots. A graphing calculator is fine, but you may not program anything into it. You may not use your phone as a calculator on exams.
3. Computer with internet access. Your computer should meet CofC's requirements.
4. Webcam
5. Microphone (You can use headphones/ear buds with a built-in mic)

Class Format, Etiquette, and Attendance:
1. This class will be the same as a Biochemistry class occurring in a classroom, except we will meet online from different locations instead of meeting in one classroom.
   - I strongly encourage you to treat this class the same as you would an in-person Biochemistry class and attend all class meetings. You will get the most from the class by attending so you can participate, ask questions, and avoid falling behind.
   - If you miss class, you are responsible for getting a copy of the notes from a classmate. If you miss class due to COVID-19, please email me to request access to the class recording from the day you missed.
2. It should go without saying that you should be equally as respectful of me and your classmates as you would be in a physical classroom setting.
3. Sign into your licensed CofC Zoom account when you join the class Zoom meetings.
   - Please use your first and last name as your display name.
   - The Zoom link (or meeting ID and password) for all class meetings is found in the Announcements/News area of our OAKS page.
   - Class sessions will be recorded via both voice and video recording. By remaining in this class, you consent to being recorded. Recorded class sessions are for instructional use only and may not be shared with anyone who is not enrolled in our class.
4. Unmute yourself to participate then mute yourself when you are done speaking so that your mic does not pick up background noise that makes it hard for others to hear.
5. Attendance at the four exams and the final exam is mandatory.
   - If you foresee you will miss an exam for a school-sponsored, family, or religious event, email me ASAP to arrange to take the exam early.
   - If you miss an exam for an unforeseeable reason (e.g., illness or a family emergency), email me ASAP to excuse yourself from that assignment. That portion of your grade will then be an average of your remaining three scores.

Learning Assessment:
1. Homework project: This project is designed to increase what you learn from the course and give you a form of assessment other than an exam to demonstrate your knowledge. Assignments are due at the beginning of class on the announced due date.
2. **Exams:** There will be four exams. The material in this course is cumulative, so an exam may include concepts from any topics covered up to that date.

   Exam 1 = Friday, Feb. 12  
   Exam 2 = Friday, Mar. 12  
   Exam 3 = Friday, Apr. 2  
   Exam 4 = Monday, Apr. 19

3. **Final Exam:** The final exam is a cumulative exam. You must take it during our scheduled exam period unless you follow the College's protocol for re-scheduling a final exam and have all required paperwork processed and approved prior to 5 PM on the last day of class.

   Final exam = Friday, Apr. 23, 1-3 PM

**All exams, including the final exam, will be taken according to these rules:**

1. Find a quiet location conducive to test-taking; minimally, you may not take the exam while in the same room as another chemistry student in any class.
2. Clear your workspace of all notes.
3. You will need 1 blank sheet of paper, 1 blank answer sheet, your calculator, and your phone.
4. Log into the appropriate OAKS Quiz and launch LockDown Browser on time, using a computer (not a tablet), and complete the guided check of your webcam and mic, which will both remain on during the assignment. During the survey of your workspace, show the absence of notes then show yourself placing your phone out of reach.
5. All exams are to be completed the same way as though you were in a classroom. **Consulting notes, the internet, or other people is not allowed.**
6. Part of the assignment will be completed by clicking on the right answer or typing an answer into the OAKS Quiz Tool. If any of these questions requires math, write down the question number then write your work on your blank sheet of paper. Some questions may tell you to hand-write your answer on the answer sheet (instead of answering in the OAKS Quiz Tool) (example: drawing a mechanism). For these questions, answer them in the correct order on the answer sheet and (if applicable) include all your mathematical work in your answer. Make sure your final answer is clear by circling it. If you write down more than one conflicting answer, none of them will be marked correct. After you finish each question requiring a hand-written answer, hold up your answer to the camera for a count of 5 seconds then move on to the next question in the OAKS Quiz Tool.
7. After finishing the assignment and submitting the Quiz in OAKS, immediately use the AdobeScan app on your phone to compile pictures of all your work (in order) into a single PDF document, and submit it to the appropriate dropbox in OAKS within 5 minutes of finishing the OAKS Quiz. This file should start with 1) the answer sheet and after that have 2) your blank sheet of paper including all mathematical work you did for any question. Before submitting, review the file to make sure all pages are present in the right order, oriented correctly, and legible.
*You are responsible for doing a trial run beforehand with multiple pages of handwriting to make sure AdobeScan is working for you, to avoid any technical difficulties that prevent you from submitting a legible version of your work on time.

**Grading Policy and Scale:**

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<td>A-</td>
<td>90-92</td>
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<td>B</td>
<td>83-86</td>
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<td>C-</td>
<td>70-72</td>
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There is no grade replacement or exam dropping policy.
There are no credit-bearing assignments other than those discussed in this syllabus.

**OAKS Course Site:**

1. You should check both your CofC email address and the OAKS course site regularly.
2. **Course Home: Announcements/News** – Messages about the course, information about exams, and any changes to dates, etc., will be posted here.
3. **Content** – The class notes will be posted here as PDF files. You will likely want to print those notes prior to class so you can write on them during class, or you can save them to your device so you can annotate them in a program that accepts PDF files (OneNote, GoodNotes, Notability, etc.).
4. **Grades: Assignments/Dropbox** – Submit PDFs of your work on exams here.
5. **Grades: Quizzes** – Exams will be here.
6. **Grades: Grades** – Your grades will be here.
7. **Communication: Discussions** – Help each other with studying or use this to find a study partner or form a study group.
How to Succeed in this Course:
There are no practice problems in Biochemistry II. This is an upper-level course where the learning objectives are essentially to know and understand everything we talk about. Many students say this is the toughest course they took in college. They also report it was lifesaving for surviving their first year of med school classes.

To do well in this class, I suggest devoting regular time to it (daily or nearly daily). Cramming before exams will not be very beneficial and will hurt you in the long run as the material for each subsequent exam will be easier to understand if you know the material from the previous exams. I suggest attending class, participating in and staying actively engaged during class, and then actively reviewing your notes after class (learn the material we covered, look up anything you don’t understand, and arrive at the next class ready to learn new material). Doing this will help you stay engaged during class and gain the most out of the class meeting (because you'll be able to understand the new material we cover and draw connections to what you already know), keep up with the material and feel confident about it, and avoid a massive (and ultimately unhelpful) cramming session before the next exam.

Honor Code and Academic Integrity:
1. It is your responsibility to conform to the College of Charleston Honor Code and Code of Conduct (http://deanofstudents.cofc.edu/policies-and-procedures/honor-code-and-code-of-conduct.php).
2. In this course, collaborative studying is encouraged, but all exams are to be completed individually, without the use of notes, unauthorized use of the internet, or the work of other people. You may only use your cell phone at the end of an exam to scan in your finished work. You may not type any information into your calculator to be used during an exam. Exams must be turned in on time following the rules described above, or you will receive a zero on the assignment.
3. You may discuss the homework project with other classmates, but you must perform your own work. You may not copy from someone else's work or from internet resources. You may not turn in work that you originally began/completed for a different class.
4. Lying, cheating, attempted cheating, and plagiarism are violations of our Honor Code that, when suspected, are investigated. Each incident will be examined to determine the degree of deception involved. Incidents where the instructor determines the student’s actions are related more to misunderstanding and confusion will be handled by the instructor. The instructor designs an intervention or assigns a grade reduction to help prevent the student from repeating the error. The response is recorded on a form and signed both by the instructor and the student. It is forwarded to the Office of the Dean of Students and placed in the student’s file. Cases of suspected academic dishonesty will be reported directly by the instructor and/or others having knowledge of the incident to the Dean of Students. A student found responsible by the Honor Board for academic dishonesty will receive a XXF in the course, indicating failure of the course due to academic dishonesty. This status indicator will appear on the student’s transcript for two years after which the student may petition for the XX to be expunged. The F is permanent. Students can find the complete Honor Code and all related processes in the Student Handbook (refer to the link in the middle of this webpage
SNAP (Students Needing Access Parity) and Disability Access:
The College will make reasonable accommodations for persons with documented disabilities. Students should apply for services at the Center for Disability Services/SNAP located on the first floor of the Lightsey Center, Suite 104 (http://disabilityservices.cofc.edu/). Students approved for accommodations are responsible for notifying me as soon as possible and for contacting me at least one week before accommodation is needed.

Support Resources:
For help with a wide variety of tech issues, including how to use OAKS (http://blogs.cofc.edu/sits/tutorials/oaks_tutorials/) and Zoom (http://blogs.cofc.edu/sits/zoom-video-resources/), visit Student Instructional Technology Services (https://blogs.cofc.edu/sits/) and the library's guide to online learning http://tutorials.library.cofc.edu/tutorial/onlinestudent. Zoom support is at https://support.zoom.us/hc/en-us/articles/206175806. For issues with your CofC accounts, contact ITservicedesk@cofc.edu (843-953-3375). Student health services (843-953-5520), the Counseling Center (http://counseling.cofc.edu), and food and housing assistance (http://studentaffairs.cofc.edu/student-food-housing-insecurity/index.php) are also available. For important CofC information during the pandemic and other emergencies, visit https://continuity.cofc.edu/.