

Syllabus

Metabolism (CHEM 4140)

MWF 9:00 – 9:50 am (3 credit hours)

NCF 115

Instructor: Dr. Kelly E. Johanson

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Office hours*: Monday/Wednesday 10:00 am – 12:00 pm

Tuesday 9:00 am – 11:00 am

*Please contact me if you need additional help outside of office hours or if these hours do not work with your schedule.

Required text:

Fundamentals of Biochemistry, Life at the Molecular Level 3rd Edition, 2008, Donald Voet, Judith G. Voet and Charlotte W. Pratt.

Course Outline and Objectives:

A study of biochemical energetics and the many biochemical pathways of carbohydrate, lipid, protein, and nucleic acid metabolism. The student will gain insight into the metabolism of biochemical substances on the molecular level, and insight into the universal and integrated nature of metabolism. Prerequisite: CHEM 4130.

This course will cover key metabolic pathways such as glycolysis and the citric acid cycle. We will learn both the compounds involved in these pathways as well as mechanisms of regulation and control of each pathway. We will also discuss on or more enzymes from each pathway in detail. Students will be expected to learn the mechanisms of these enzymes and apply this knowledge to other parts of the pathway. This course will enhance your knowledge of metabolism in preparation for medical school, graduate, school, and other pre-professional programs.

In the text, we will cover chapters 12-22. We will not be able to cover every detail of each chapter; therefore, you will be responsible for material in the text as it relates to the topics covered in lecture.

Quizzes/Exams:

There will be 6 quizzes (25 points each), 4 exams (100 points each), a group project (50 points), and a cumulative final exam (200 points). The lowest exam and lowest 2 quiz grades will be dropped. Throughout the semester there will be opportunity for earning bonus points by completing pop quizzes. There will be no make-up opportunities for bonus assignments.

The group project will consist of a short paper along with a 5 minute Power Point presentation to the class.

The first three quizzes and two exams will be averaged to determine your mid-semester grade. The final exam will be at 8:00 am Friday, April 30.

The final grade will be determined as follows:

$$(\text{Exam grades}) + (\text{Quiz grades}) + (\text{bonus}) + (\text{Project}) + (\text{Final}) / 650 = \%$$

A 90% - 100%

B 80% - 89%

C 70% - 79%

D 60% - 69%

F below 60%

Course Policies:

1. Attendance at each class will be monitored by the card readers; swipe your ID when entering the classroom. It is your responsibility to bring your card to each class and to arrive to class on time. If you forget your ID or arrive more than 10 minutes after class has begun, your attendance will not be recorded.
2. Please turn off all cell phones before class.
3. Please do not text during lecture. You may be asked to surrender your cell phone and/or leave class if this occurs.
4. Please respect your fellow students; excessive talking disrupts class and makes it difficult for others to hear.
5. Quizzes will be given in the first 15-20 minutes of class. If you arrive late to class, you will be allowed to take the quiz, but will not receive any additional time. If you arrive after the quiz has been collected, you will not be able to take the quiz. Exams will take the full class period; late arrivals will not receive extra time.
6. Grades on exams/quizzes may be disputed up to two days after being returned.
7. Missed quizzes and exams will be subjected to the following policy: If one exam or up to two quizzes are missed, these will be considered your dropped grades. If more than one exam or two quizzes are missed, please see me to discuss your specific circumstances.
8. Please take advantage of office hours to ask questions about upcoming exams/quizzes. However, questions about multiple concepts or those that require a long explanation should not be saved for the morning of an exam – Please plan ahead!

Evacuation policy:

In the event that classes are cancelled due to a hurricane evacuation, assignments and course materials will be posted to Blackboard. Please log on to the Blackboard site as soon as possible after the evacuation

Academic Misconduct:

The Xavier Faculty Handbook guidelines on academic misconduct will be followed in this course.

If a student's test, examination paper, laboratory report, term paper, or other written assignment gives evidence of not being completely his/her own work, he/she may be given an F for the course. A student who communicates with anyone during the course of an examination or test, unless with the permission of the instructor, may be immediately dismissed from the room and given an F. Such communication includes attempts to read from another's paper. If a student is found to have brought study materials into the examination room without the instructor's permission, it may be assumed that he/she intended to use such materials unlawfully, and he/she may be penalized accordingly.

The faculty member is to report immediately to his/her chair and dean any incident involving academic dishonesty and be prepared to make this report in writing. Written evidence supporting the charge should also be submitted.

Class Schedule:

Below is an approximate schedule of the chapters we will cover along with quiz and exam dates. The quiz and exam dates will not change unless a change is made to the university schedule. If we are ahead or behind in the schedule, this will affect the material covered on an exam or quiz. I will announce the material for each exam or quiz in class.

January

11	13	15
Chap-14	Chap-14	Chap-14

18	20	22
MLK Holiday	Chap-14	Chap-15 Quiz 1 Group Names Due
25	27	29
Chap-15	Chap-15	Chap-15

February

1	3	5
Chap-15	Chap-16 Quiz 2	Chap-16
8	10	12
Chap-16	Chap-16	Exam 1 Project Topic Due
15	17	19
Mardi Gras Holiday	Chap-17	Chap-17
22	24	26
Chap-17 Quiz 3	Chap-17	Chap-17

March

1	3	5
Exam 2	Chap-18	Chap-18
8	10	12
Chap-18	Chap-18 Quiz 4	Chap-20
15	17	19
Chap-20	Chap-20	Chap-20 Quiz 5
22	24	26
Library Day	Chap-20 Annotated Bibliography Due	Exam 3
29	31	
Spring Break	Spring Break	

April

2
Spring Break

5	7	9
Chap-21 Draft of Paper Due	Chap-21	Chap-21
12	14	16
Chap-22	Chap-22 Quiz 6	Chap-22
19	21	23
Chap-22	Presentations	Presentations Course Review
26		
Exam 4 (Final Exam for Seniors)		