

Course Title/Number	Intermediate Biochemistry / CHM 467, Section 201
Semester/Year	Spring 2016
Days/Time/Location	MWF 12:00–1:50 PM, Science Hall 473
Instructor	Derrick R. J. Kolling
Office	2217 AWFAEC; Research lab: 2208 AWFAEC
Phone	(304) 696-2307
E-Mail	kolling@marshall.edu
Office Hours	Monday 2–4 P.M. (L.A. Session room), Wednesday 1–4 P.M (office). If you cannot attend the scheduled times, email or call me to set up an appointment. Expect to wait at least 24 hours before responses to emails.
University Policies	By enrolling in this course, you agree to the University Policies listed below. Please read the full text of each policy by going to www.marshall.edu/academic-affairs and clicking on “Marshall University Policies.” Or, you can access the policies directly by going to www.marshall.edu/academic-affairs/policies/ . Academic Dishonesty/Excused Absence Policy for Undergraduates/Computing Services Acceptable Use/Inclement Weather/Dead Week/Students with Disabilities/Academic Forgiveness/Academic Probation and Suspension/Academic Rights and Responsibilities of Students/Affirmative Action/Sexual Harassment

Course Description

An intermediate level discussion of the biochemistry of mammalian cells. Includes an extension of theories and applications of the principles of energetics, dynamics and structure. Intended primarily for science majors and pre-professional students. 3 credit hours. (PR: CHM 365)

Required Texts, Additional Reading, and Other Materials

1. ***Fundamentals of Biochemistry, Fourth Edition*** by Voet, Voet, and Pratt; McGraw-Hill, 2013.
2. Non-programmable scientific calculator for tests and exams (must not have text storage or alphanumeric data input capabilities—in general, this means no function keys or keypads with the complete alphabet)
3. #2 pencil and black or blue ink pen for tests

Course student learning outcomes	How students will practice each outcome in this course	How student achievement of each outcome will be assessed in this course
Students will understand and apply core concepts in biochemistry to modern scientific problems.	<ul style="list-style-type: none"> • in-class exercises • Homework problems 	<ul style="list-style-type: none"> • exams • in-class discussion
Students will have the ability to judge whether a proposed or hypothetical reaction is consistent within the general framework of catabolic and/or anabolic metabolism.	<ul style="list-style-type: none"> • in-class exercises • Homework problems 	<ul style="list-style-type: none"> • exams • in-class discussion
Students will recognize how common foodstuffs are turned into metabolic energy and will be able to predict the energy yields of catabolic processes.	<ul style="list-style-type: none"> • in-class exercises • Homework problems 	<ul style="list-style-type: none"> • exams • in-class discussion
Students will be able to explain the three-cornered central paradigm of biochemistry: replication/transcription/translation.	<ul style="list-style-type: none"> • in-class exercises • Homework problems 	<ul style="list-style-type: none"> • exams • in-class discussion

Grading Policy

tests (4 during the semester)	800	points
final exam	200	points
	1000	TOTAL POINTS
Grading Scale:		
900-1000 points	A	
800-899 points	B	
700-799 points	C	
600-699 points	D	
000-599 points	F	

Attendance Policy

Attendance is mandatory for tests and exams. Make-up tests and exams will be granted only in cases that are recognized by the University through an excused absence (via the Dean of Student Affairs). Students should contact the instructor as soon as they are able to return to classes; students are required to make up missed test/exams as soon their doctor approves for them to return to campus. If class is cancelled unexpectedly, scheduled tests will be given during the next class meeting.

Tentative Course Schedule

Week of:	Chapter	Topic
1/11	15	Glucose Catabolism
1/18	No class on 1/18; 16	Glycogen Metabolism and Gluconeogenesis
1/25	17	Citric Acid Cycle
2/1	TEST 1 on 2/1; 18	e ⁻ Transport and Oxidative Phosphorylation
2/8	19	Photosynthesis!
2/15	20	Lipid Metabolism
2/22	TEST 2 on 2/22; 21	Amino Acid Metabolism
2/29	22	Mammalian Fuel Metabolism
3/6	23	Gene Expression and Replication
3/14	TEST 3 on 3/14; 24	Nucleic Acid Structure
	3/18 is last day to withdraw from full-semester courses	
3/21	no class (Spring Break)	
3/28	25	DNA Replication, Repair, and Recombination
4/4	26	Transcription and RNA Processing
4/11	TEST 4 on 4/11; 27	Protein Synthesis
4/18	28	Regulation of Gene Expression
4/25	Snow day make-ups; review	
5/2	Finals week	