



GLENDALE COMMUNITY COLLEGE



Course: CHM260 – Fundamental Biochemistry

Section: 12799

Academic term: Spring 2017

Time & Days: 2:30 – 3:45 Monday and Wednesday

Professor: Sandra Gruin

Email: Sandra.gruin@gccaz.edu

Web Page: web.gccaz.edu/~san2159818/

Office Hours: Before class, upon request

Course Description: A one-semester course on the Fundamentals of Biochemistry. The course will provide an overview of the structures, properties, and functions of proteins, nucleic acids, carbohydrates and lipids; utilization and synthesis of these materials by living systems and the relationship of the processes to energy production and utilization. Designed for students in agriculture, dental hygiene, home economics, nursing, and physical therapy.

Success in this course is a matter of exposure and practice. Staying current (or ahead) with readings and study guides will greatly help you process the new information presented in class. Be patient when doing the study guides– you *learn* the most when you struggle to figure out how describe concepts in your own words. Also be aware that it may take several readings to understand the material. Plan to study at least 2-3 hours outside of class for every hour of lecture. It will be most beneficial if you spread your study time out a little bit everyday (about 30 -60 minutes) rather than trying to spend a whole day studying the material. Spreading it out will give you time to process the information without taxing your brain!

Course Prerequisites: A grade of “C” or better in (CHM 230 and CHM 230LL) or CHM235 and CHM 235LL). Completion of preprerequisites within the last 2 years recommended.

Course Competencies

- Describe the relationship between a biomolecules’ structure and its physical and chemical properties within a living cell
- Outline the replication steps for DNA, RNA
- Describe the biochemical reactions of the cell including anabolism and catabolism
- Describe the biochemical reactions that release energy from carbohydrates, lipids, and proteins
- Explain protein synthesis from the genetic code
- Interpret protein structure and how it relates to its function
- Explain the role of enzymes and the control of enzymatic processes

Recommended textbook: Biochemistry the Molecular Basis of Life, Trudy McKee/James R. McKee, 6th edition

- Earlier editions can be used

Attendance Policy: Attendance will be taken daily. After 3 absences in succession, student will be dropped. Anyone not enrolled in the class may not attend (liability issues). Therefore,

you may not bring children to class. If you need to receive a letter grade (such as in certain financial aid situations) you must attend class and take the final exam.

Course Grading:

* 75-minute Exams 100 pts (x 4)	400 pts	(50%)
* Final Exam	200 pts	(25%)
* Special Topic Presentation	100 pts	(13%)
* Quizzes 10 pts (~x10)	100 pts	(12%)
<u>Total</u>	<u>800 pts</u>	

**Note, the total points for any type of assignment will always be worth the stated total point value. For example, if there are less (or more) than 10 quizzes during the semester, the total number of quizzes (no matter the number) will still be worth 100 points toward your final grade.

Course Grade Assignments:

<u>Percent average</u>	<u>Point Range</u>	<u>Letter grade</u>
≥ 90 %	720 - 800	A
≥ 80 %	640 - 720	B
≥ 70 %	560 - 640	C
≥ 60 %	480 - 640	D
< 60 %	<480	F

- Special Circumstances for Exams: None of the exams will be dropped. Therefore, it is imperative that you be present for every exam and plan travel and other events accordingly. If university-sanctioned travel or excused events do interfere with an exam date, then it is your responsibility to contact me BEFORE the scheduled exam and take the exam BEFORE the regularly scheduled time. You must show documentation in order for an early exam to be administered. All exam dates are scheduled at the beginning of the semester. Exam dates will not be changed but the material covered on them might be shifted depending on the pace of the course. Exam dates will not change.
If you miss an exam for an unexcused reason, you will be given a grade of 0. You can only make up an exam after the scheduled date for extraordinary circumstances (medical emergencies, car accidents, etc.).
- Homework Homework will NOT be graded for the spring semester. Therefore, it is up to you to complete any homework to study for the quizzes and exams.
- Error in grades: If you notice an error in your grades online or grades are missing, please notify me ASAP. As long as you have the paper with the correct grade, I will gladly fix any mistakes I made have made. This means you should keep all returned papers and keep track of your total points.

- **Quizzes:** Quizzes will be administered at the beginning of the class following conclusion of the Chapter lecture. Therefore, it is in your best interest to attend every class. Quizzes will be graded. Quizzes cannot be made up. However, if you have documentation and it is determined to be an excused absence, that quiz will be dropped from your final grade.

Special Accommodations: If you need special accommodations for lecture or testing purposes, please contact the Disability Services and Resources office (TDS building, phone 623-435-3080). Please see me during the first week of classes to discuss appropriate accommodations to meet your needs. If you require special accommodations for exams, please schedule a time to see me as early as possible in the semester.

Withdrawing from the course: It is the responsibility of the student to drop the course before the deadline for student-initiated withdrawal. Students should use the Student Information System (SIS) to withdraw from the course. The instructor may drop a student for excessive absences (4 or more) with a grade of W or Y, depending on course grade at time of withdrawal.

Academic Integrity: Cheating will absolutely not be tolerated. This includes (but is not limited to) any form of inter-student collaboration on exams or external assignments that is not specifically sanctioned by the professor, use of prohibited materials or devices during exams, copying or distribution of quiz or exam answers prior to the test, and plagiarism. See the student handbook for statements about student responsibility regarding cheating and academic integrity

(<http://www.gc.maricopa.edu/catalog/scholastic.htm>)

You are responsible to adhere to the college policies included in the college catalog and the student handbook.

Tentative Schedule: The schedule and course content may change to suit the needs of the class.
(Following **Syllabus Acknowledgement**)

Syllabus information: Please complete last page of Syllabus acknowledging understanding of student responsibility. Turn in at end of first day of class.

Disclaimer: This syllabus is intended as an outline only. Certain topics, chapters, assignments, dates may be omitted, added, or changed, dependent upon time restrictions and unforeseen circumstances. Please retain this syllabus for future reference.

Syllabus Acknowledgement

I (print name), _____ , acknowledge that I have received and understand the attached course policies for CHM 260 lecture.

I will not cheat, nor will I encourage or allow others to do so. _____ (initial)

I understand that this course will require considerable time and effort on my part and that I need to allow an appropriate amount of time for studying the material outside of class, work, and family obligations. _____ (initial)

Signature: _____

Date: _____

CHM 260 LECTURE SCHEDULE

(subject to change as necessary to accommodate the needs of this class)

Day	Date	Chapter	Topic
M	Jan 16		<ul style="list-style-type: none">• No class
W	18		<ul style="list-style-type: none">• Class Introduction, General and Organic Chemistry Review
M	Jan 23	1	<ul style="list-style-type: none">• Chapter 1 – Biochemistry: An Introduction
W	25	2	<ul style="list-style-type: none">• Quiz Chapter 1• Chapter 2 – Living Cells
M	Jan 30	3	<ul style="list-style-type: none">• Quiz Chapter 2• Chapter 3 – Water: Matrix of Life
W	Feb 1	1,2,3	<ul style="list-style-type: none">• Exam 1 – Chapters 1,2,3
M	Feb 6	4	<ul style="list-style-type: none">• Chapter 4 – Energy• STP – Topic 1
W	8	5	<ul style="list-style-type: none">• Quiz Chapter 4• Chapter 5 – Amino Acids, Peptides, and Proteins
M	Feb 13		<ul style="list-style-type: none">• STP – Topic 2• Chapter 5 – Amino Acids, Peptides, and Proteins
W	15	5	<ul style="list-style-type: none">• Chapter 5 – Amino Acids, Peptides, and Proteins
M	Feb 20	5	<ul style="list-style-type: none">• No class
W	22	6	<ul style="list-style-type: none">• Quiz Chapter 5• STP Topic 3• Chapter 6 - Enzymes
M	Feb 27	6	<ul style="list-style-type: none">• Chapter 6 – Enzymes

Day	Date	Chapter	Topic
W	Mar 1	11	<ul style="list-style-type: none"> • Quiz Chapter 6 • STP – Topic 4 • Chapter 11 – Lipids and Membranes
F	3		Last day for student withdraw
M	Mar 6	11	<ul style="list-style-type: none"> • Quiz Chapter 6 • STP – Topic 5
W	8	4,5,6,11	• Exam 2 – Chapters 4,5,6,11
M	Mar 20	17	• Chapter 17 – Nucleic Acids
W	23	17,18	<ul style="list-style-type: none"> • STP – Topic 6 • Chapter 17 – Nucleic Acids; Chapter 18 – Genetic Information
M	Mar 27	18	<ul style="list-style-type: none"> • Quiz Chapter 17 • Chapter 18 – Genetic Information
W	29	18	<ul style="list-style-type: none"> • STP – Topic 7 • Chapter 18 – Genetic Information
M	Apr 3	19	<ul style="list-style-type: none"> • Quiz Chapter 18 • Chapter 19 – Protein Synthesis
W	5	19	<ul style="list-style-type: none"> • STP – Topic 8 • Chapter 19 – Protein Synthesis
M	Apr 10	17,18,19	• Exam 3 – Chapters 17,18,19
W	12	7	• Chapter 7 – Carbohydrates
M	Apr 17	7,8	<ul style="list-style-type: none"> • STP – Topic 9 • Chapter 7 – Carbohydrates; • Chapter 8 – Carbohydrate Metabolism
W	19	8	<ul style="list-style-type: none"> • Quiz Chapter 7 • STP – Topic 10 • Chapter 8 – Carbohydrate Metabolism

Day	Date	Chapter	Topic
M	Apr 24	9	<ul style="list-style-type: none"> • Quiz chapter 8 • Chapter 9 – Aerobic Metabolism 1: CAC
W	26	9,10	<p>Last day to W/Y</p> <ul style="list-style-type: none"> • STP – Topic 11 • Chapter 9 – Aerobic Metabolism 1: CAC • Chapter 10 – Aerobic Metabolism II: ETC
M	May 1	10	<ul style="list-style-type: none"> • Quiz Chapter 9 • Chapter 10 – Aerobic Metabolism II: ETC an Oxidative Phosphorylation
W	43	7,8,9,10	<ul style="list-style-type: none"> • Exam 4 – Chapters 7,8,9,10
W	May 10	all	<ul style="list-style-type: none"> • Final – Chapters 1,2,3,4,5,6,11,17,18,19,7,8,9,10