

Introductory Biochemistry, CHEM 3700, Spring 2018, 3 Credits

Section 1, MWF, 1:30-2:20 PM, BNR102

Prof. Lance C. Seefeldt, W241, lance.seefeldt@usu.edu

Office Hours: Mon 3:00-4:00 PM (Widt 241) or by appointment.

Course Content: In this course, we will cover in one semester the range of topics typically included in the field of biochemistry. Chem 3700 is appropriate for most pre-health professionals, and other pre-professionals who need a complete coverage of biochemistry in less depth. This course contrasts with the chemistry 5700/5710 series, where the same topics are covered in more depth over two semesters. The overall goal of Chem 3700 is to provide students with the big picture of all of the topics typically covered in biochemistry. Further, students will be given more detailed views of the major classes of biological macromolecules, the metabolic pathways used in energy and precursor production, and the information pathways. Prerequisites for the course include chemistry 2300 or 2320 or equivalent.



Text: The text used in the class is *Biochemistry: A Short Course*, by Tymoczko, Berg, and Stryer. The most recent edition is the 3rd edition (ISBN 1-4641-2613-5). The 1st or 2nd editions will work fine as well. Softbound, spiral, and ebook versions are available as well.

Canvas: The lecture notes, exam keys, grade sheet, etc. for this course will be available through the course Canvas page. This site is found at canvas.usu.edu. Username = Banner ID; Password = Banner pin. Only students who are registered for the class will have access to the course Canvas page.

Exams: There will be three mid-term exams and one final exam in this course. The three mid-term exams are worth 99 points each and will cover material presented in lecture and from the textbook readings. The exams will have 33 multiple choice questions with each question worth 3 points. The final will have 66 multiple choice questions worth 3 points each for a total of 198 points. Approximately 33 questions on the final will cover lecture material since the third exam, with the remaining questions on the material covered on the three exams. All exams are closed book and are strictly limited to the time assigned for the exam. No internet connected devices. You may have a simple calculator. Exams will be administered at the USU Testing Center and will be available over 3 days. Please schedule a place to take the exam well in advance. Any exam not completed by the closing day and time will be scored as a zero with no make-up exam. <https://testing.usu.edu/>

Review Sessions: Review sessions will be held before each exam. The sessions will be held as noted in the calendar below.

Quizzes: There will be 18 online quizzes, one for each learning module. Each quiz will have 5 questions with each question worth 1 point. Quizzes will be taken online through Canvas. You can take the quizzes anytime during the open window before the next exam. Once the window is closed, there will be no make-ups. Each quiz can be taken up to two times, with the best grade earned being recorded. Some questions will change for each try on the quiz.

Grading: Grades will be based on a total of 585 points. At a minimum, the University Grading Scale will be used: A 100-93.00%, A- to 90.00%, B+ to 87.00%, B to 83.00%, B- to 80.00%, C+ to 77.00%, C to 73.00%, C- to 70.00%, D to 60.00%, F below 60.00%.

1st Hour Exam	99 pts.
2nd Hour Exam	99 pts.
3rd Hour Exam	99 pts.
Comprehensive Final Exam	198 pts.
Eighteen quizzes worth 5 pts each	90 pts.

Total	585 pts.

Missed Exams: Anyone missing one of the mid-term exams for legitimate reasons as specified in the USU General Catalog will be eligible to take the make-up exam offered on 4/20/18 **by appointment only**. This makeup exam will be comprehensive through the material covered to that date in the course. This is the only make-up exam that will be offered. Make up exams will only be given by approval of the instructor. You must contact me either before or within a week of the missed exam to schedule the make-up exam. Missed exams that are not made-up will be scored as zero.

Assessment: Assessment of the course will include the University online IDEA evaluation conducted at the end of the course. Information from the evaluation will be used to improve the course.

Provisions: This course will adhere to the USU Academic Policies and Procedures Manual found at the web site <http://www.usu.edu/policies/> and in the student code <http://www.usu.edu/studentservices/studentcode/>. Any student with a disability who requires accommodation must contact the instructor. The disability must be documented by the Disability Resource Center. Course materials may be requested in alternative formats.

Day	Date	Lecture	Module	Topic	Chapter 3 rd ed*	Chapter 2 nd ed*	Chapter 1 st ed*	Notes
M	1/08	1	1	Introduction/Organic Review	1,2	1,2	1,2	Quiz 1-5 open
W	1/10	2	2	Protein Structure and Function	3	3	3	
F	1/12	3		“ “	4	4	4	
M	1/15			Holiday				
W	1/17	4		“ “				
F	1/19	5	3	Enzymes	6	6, 7	5, 6	
M	1/22	6		“ “	7	8.1-8.2	7	
W	1/24	7	4	Regulatory Strategies	8,9	9.1-9.3	8	
F	1/26	8		“ “				
M	1/29	9	5	Nucleic Acids	33	33	32	
W	1/31	10		“ “				
F	2/2	11		“ “				
M	2/5			In class review				
M-W	2/5-7		1-5	Exam 1- testing center M to W				Quiz 1-5 close Wed at 8 PM
W	2/7	12	6	Carbohydrates	10	10	9	Quiz 6-8 open
F	2/9	13		“ “				
M	2/12	14	7	Lipids and Membranes	11	11	10	
W	2/14	15		“ “	12	12	11	
F	2/16	16		“ “	13	13.1-13.4	12	
M	2/19			No class Mon– meet Tues				
T	2/20	17	8	Metabolism	14	14	13	
W	2/21	18		“ “	15	15	14	
F	2/23			In class review				
M-W	2/26-2/28		6-8	Exam 2 at testing center M-W				Quiz 6-8 close Wed at 8 PM
M	2/26	19	9	Glycolysis	16	16	15	Quiz 9-13 open
W	2/28	20		Gluconeogenesis	17	17	16	
F	3/2	21		“ “				
M	3/12	22	10	TCA Cycle	18	18	17	
W	3/14	23		“ “	19	19	18	
F	3/16	24	11	Ox Phosph.	20	20	19	
M	3/19	25		“ “	21	21	20	
W	3/21	26	12	Photosynthesis	22	22	21	
F	3/23	27		“ “				
M	3/26	28	13	Calvin/Pentose Phosphate	23, 24	23,24, 25	22,23, 24	
W	3/28	29		Glycogen Metabolism	25,26	26	25	
F	3/30			In class review				
M-W	4/2-4		9-13	Exam 3 at testing center M-W				Quiz 9-13 close Wed at 8 PM
M	4/2	30	14	Fatty Acid Metabolism	27	27	26	Quiz14-18 open
W	4/4	31		“ “	28	28	27	
F	4/6	32	15	Amino Acid Metabolism	30	30	31	
M	4/9	33		“ “	31	31.1-31.2	29	
W	4/11	34	16	DNA Replication	34	34	33	
F	4/13	35		“ “	35	35	34	
M	4/16	36		“ “				
W	4/18	37	17	RNA Synthesis	36	36	35	
F	4/20	38		“ “	37, 38	38	37	
M	4/23	39	18	Protein Synthesis	39, 40	39, 40	38. 39	
W	4/25	40		“ “				
F	4/27			In class review				
M-W	4/30-5/2		1-18	Final Testing Center M-W				Quiz14-18 close Wed at 8 PM

*Stryer edition as noted. Read all sections unless noted otherwise.