

Biochemistry II, Honors Variant (CHEM322H)

Spring 2020 Syllabus

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This beginning of this syllabus is the same as CHEM322, and becomes an Honors Variant by the Addendum of extra work listed on the last page to satisfy the Honors Requirements.

General Information: The schedule on this syllabus is subject to change at any time. The instructor will provide email communication to the class if this occurs. Students enrolled in this course are responsible for knowing any information covered during class time, from assignments, and in the textbook.

Accommodations: Sweet Briar College is committed to upholding and maintaining all aspects of the federal Americans with Disabilities Act of 1990 (ADA), as amended in 2008, and Section 504 of the Rehabilitation Act of 1973. If you are a student with a disability and wish to request reasonable accommodations, please contact the Office of Accessibility Services accessibility@sbcc.edu for an appointment. Because many accommodations require early planning, requests for accommodations should be made as soon as possible.

Course Objectives: This course aims to provide the student with information concerning biochemical principles as an addition to previous study in the fields of biology/molecular biology and chemistry and in preparation for further study in biochemistry and related fields. The student will be able to utilize the information and skills obtained from this course in understanding fundamental biochemical principles and processes. The student will gain an understanding of chemical vocabulary in the specific subdiscipline of biochemistry and related disciplines. The student will be able to apply this new scientific background to understanding and critically evaluating topics as presented in the scientific literature and popular media.

Course Meetings: Lectures, Tuesday and Thursday 10:10 – 11:40 a.m. Some lectures may be taught remotely; more details will be given if this occurs.

Dr. Olson's Office Hours: I am on campus Tuesday and Thursday mornings for this course. You may speak to me before or after class (I will do my best to accommodate these requests). If you would like to meet for a longer time on Tuesday or Thursday early afternoon, that is possible as long as I am given 24-hour notice and if it does not conflict with my pre-existing work commitments.

Attendance: All students are expected to attend all course meetings and will be held accountable for all information presented during these meetings. Students will sign an attendance sheet at the start of each class. Multiple unplanned absences in a given week or one absence per week over a three-week period should be discussed with the professor.

Course Structure: This course will overwhelmingly be taught in traditional lecture format. Students will complete pre-reading prior to class. *When possible, some class time will be used to complete an activity to reinforce a topic.* Students will be required to fill out a **ticket** after class (see example at end of syllabus). Students will earn 5 total points for each class (24 tickets, total). If a student has to leave before class is over due to a legitimate excuse, she may still turn in her ticket for the points. Please inform the instructor if you need to leave early.

Text: **REQUIRED** Fundamentals of Biochemistry, 5th edition (2016), Donald Voet, Judith G. Voet, and Charlotte Pratt, John Wiley and sons Publishers, New York, New York.

On-Line Homework Supplement: **REQUIRED** Sapling Learning at www.saplinglearning.com

If you did not take CHEM321 in Fall 2019, please see me about Sapling purchase.

- If you are taking ONLY CHEM321 (Biochemistry I, Fall 2019), choose single course Sapling access card (ISBN): **9781319080297** Price is \$42

- If you are taking BOTH CHEM321 and CHEM322 (Biochemistry I & II, Fall 2019 and Spring 2020), choose multi-course Sapling access card (ISBN): **9781319080105** Price is \$64

Homework due dates – check Sapling.

Canvas: Materials for class will be posted on Canvas (lecture notes, syllabus, additional reading, etc.). Your grades will also be recorded in Canvas.

Activities: will take place during some parts of the class. They will be used to reinforce concepts taught in lecture.

Quizzes: will be **closed-book in-class** format. Students will be allotted 20 minutes to complete the quiz.

Exams: will be **closed-book take-home** format. It will be generally signed out on a Thursday, then returned to me the following Tuesday. Exam dates are tentative and will occur shortly after completion of the designated chapters listed.

Additional Readings: As presented in class. This may also substitute for a class if we are unable to meet.

Requirements: Fulfillment of the course requirements will be satisfied upon completion of three exams, a final cumulative exam, quizzes, online homework, in-class activities, and tickets, all as scheduled. See attached *Schedule*.

Grading Policy: Grades will be assigned on the standard scale described below. Point distribution for each of the course requirements is listed on the syllabus. The total score for the semester will be determined as the sum of all points earned on exams, homework, and quizzes.

Extra credit points: may be earned by a student throughout the semester and added on to her cumulative semester total. These opportunities will be on exams, but you must attempt to answer all regular exam questions before trying the extra credit. Surprise extra credit assignment(s) may potentially arise during the semester.

Late Policy: Late assignments will be accepted but will be downgraded as follows:

1 second to 15 minutes	amnesty
15 minutes to 12 hours	5% deduction
12 hours to 24 hours	10% deduction
24 hours to 36 hours	20% deduction
36 hours to 48 hours	30% deduction
48 hours to 1 week	50% deduction
1 week to the end of time	100% deduction

(No exceptions to this late policy are made without notification from the Dean of the College.)

Point Totals for Semester:

The chart below shows the # of opportunities to earn points in the categories of Homework, Quiz, Exam, & Tickets. If you earn extra credit, that will be added to your semester total (or exam, if applicable).

Keep track of your scores here:

Type of Assignment	Assignment Name	Possible Points	Points Earned	Extra Credit Points (if applicable)
HOMEWORK				
	Learn Sapling/HW 0	20		-
	HW1 (Ch. 8)	15		-
	HW2 (Ch. 9)	15		-
	HW3 (Ch. 10)	15		-
	HW4 (Ch. 11)	15		-
	HW5 (Ch. 12)	15		-
	HW6 (Ch. 14)	15		-
	HW7 (Ch. 15)	15		-
	HW8 (Ch. 16)	15		-

	HW9 (Ch. 17)	15		-
	HW10 (Ch. 18)	15		-
	HW11 (Ch. 20)	15		-
	HW12 (Ch. 21)	15		-
TICKET				
	Ticket 1	5		-
	Ticket 2	5		-
	Ticket 3	5		-
	Ticket 4	5		-
	Ticket 5	5		-
	Ticket 6	5		-
	Ticket 7	5		-
	Ticket 8	5		-
	Ticket 9	5		-
	Ticket 10	5		-
	Ticket 11	5		-
	Ticket 12	5		-
	Ticket 13	5		-
	Ticket 14	5		-
	Ticket 15	5		-
	Ticket 16	5		-
	Ticket 17	5		-
	Ticket 18	5		-
	Ticket 19	5		-
	Ticket 20	5		-
	Ticket 21	5		-
	Ticket 22	5		-
	Ticket 23	5		-
	Ticket 24	5		-
QUIZ				
	QUIZ1	20		-
	QUIZ2	20		-
	QUIZ3	20		-
	QUIZ4	20		-
EXAM				
	EXAM1	200		
	EXAM2	200		
	EXAM3	200		
	FINAL EXAM (cumulative)	200		
SEMESTER TOTAL		1200		

60-63 = D-
64-67 = D
68 & 69 = D+
70-73 = C-
74-77 = C
78 & 79 = C+
80-83 = B-
84-87 = B
88 & 89 = B+
90-93 = A-
94-100 = A

To calculate your grade:

1. Add up Points Earned + Extra Credit = Total Points Earned
2. Then Total Points Earned / 1200 *100 = Your Percentage
3. Refer to table at left to translate Your Percentage into a letter grade.

Class Schedule

Quiz and Exam dates are tentative. Check Sapling for the most current homework due dates. Sapling HW 0 is ungraded (i.e. 20 free points). There are other practice/review HWs if you want to do them but they do not earn any points.

Week	Date	Class Topic & Reading Assignment	QUIZ and HW due	Exam Schedule
1	1/14	Introduction to the course; Ch. 8 Carbohydrates		
	1/16	Ch. 8 Carbohydrates		
2	1/21	Ch. 8 Carbohydrates		
	1/23	Ch. 9 Lipids & Biological Membranes	QUIZ 1	
3	1/28	Ch. 9 Lipids & Biological Membranes		
	1/30	Ch. 10 Membrane Transport		
4	2/4	Ch. 11 Enzymatic Catalysis		
	2/6	Ch. 11 Enzymatic Catalysis	HW 0, 1, 2, 3 due @ 11:59 p.m. on 2/7	Exam I (Ch. 8, 9, 10) Sign out 2/6 Return 2/11
5	2/11	Ch. 11 Enzymatic Catalysis		
	2/13	Ch. 12 Enzyme Kinetics, Inhibition, & Control		
6	2/18	Ch. 12 Enzyme Kinetics, Inhibition, & Control	QUIZ 2	
	2/20	Ch. 14 Intro. to Metabolism		
7	2/25	Ch. 15 Glucose Catabolism		
	2/27	Ch. 15 Glucose Catabolism	HW 4, 5, 6 due @ 11:59 p.m. on 2/28	Exam II (Ch. 11, 12, 14) Sign out 2/27 Return 3/3
8	3/3	Ch. 15 Glucose Catabolism		
	3/5	Ch. 16 Glycogen Metabolism	QUIZ 3	
	3/10	Spring Break – no class		
	3/12	Spring Break – no class		
9	3/17	Ch. 16 Glycogen Metabolism & Gluconeogenesis		
	3/19	Ch. 17 TCA Cycle		
10	3/24	Ch. 17 TCA Cycle		
	3/26	Ch. 18 Electron Transport & Oxidative Phosphorylation	HW 7, 8, 9 due @ 11:59 p.m. on 3/27	Exam III (Ch. 15, 16, 17) Sign out 3/26 Return 3/31

11	3/31	Ch. 20 Lipid Metabolism		
	4/2	Ch. 21 Amino Acid Metabolism	QUIZ 4	
12	4/7			
	4/9	Last Day of Class - Review	HW 10, 11, 12 due @ 11:59 p.m. on 4/10	Final Exam (Cumulative) Sign out 4/9 Return date TBA

Final Exams will occur April 15 – 17.

Ticket for Class (5 total points can be earned)

Indicate your acknowledgement of this information by signing below and pledging to uphold the Sweet Briar Honor Code:

Name: _____ **Date:** _____

1. Did you do the assigned reading before class (1 pt)?
2. List the topic(s) from today's class you understood the best and % understanding (2 pts).*
3. List the topic(s) from today's class you understood the least and % understanding (2 pts).*

* On a scale of 0 to 100%: 0=no understanding 100=total understanding

ADDENDUM

This extra work satisfies the requirements to regard this course as an Honors Variant of CHEM322 at Sweet Briar College (a.k.a. CHEM322H)

The extra work is divided into two parts:

(1) Primary Literature Assignments: 6 primary literature articles will be read and discussed during the semester and completed as 6 assignments. The articles will come from reputable peer-reviewed journals. Please notify the instructor of your article choice before you begin your assignment. A rough schedule is listed below. Either an in-person discussion (10 – 20 minutes) about the article with the instructor will occur or a written report (3 – 4 pages double-spaced) can be submitted to complete the assignment. The discussion or report should center on major findings of the paper. If you were unsure about something in the article, comment on it. If you understood something really well, explain why. The articles should have one common theme. For example: a specific type of disease, a specific cell signaling pathway, a technique optimization, etc. Please notify the instructor by 1/21 about what theme you have chosen.

Assignment 1 – (75 pts) _____ approval by 1/21, schedule in-person meeting or submit report by 1/28

Assignment 2 – (75 pts) _____ approval by 2/4, schedule in-person meeting or submit report by 2/11

Assignment 3 – (75 pts) _____ approval by 2/13, schedule in-person meeting or submit report by 2/20

Assignment 4 – (75 pts) _____ approval by 2/25, schedule in-person meeting or submit report by 3/3

Assignment 5 – (75 pts) _____ approval by 3/5, schedule in-person meeting or submit report by 3/19

Assignment 6 – (75 pts) _____ approval by 3/24, schedule in-person meeting or submit report by 4/2

- **Note** – in-person meetings will occur before or after class; **reports due by 10:10 a.m.** via email or hard copy.

(2) Presentation: At the conclusion of the semester, a 15 - 20 minute presentation about the primary literature articles will be made. It will include background information, selected figures and tables from the articles to explain the data, discussion about major findings, conclusions, etc. A list of future directions of research will also be presented. Then the audience will be allowed to ask questions.

- Presentation – (100 pts) _____ Date is TBA, but likely the last week of class (April 2 or 9).
 - You may ask for feedback on rough drafts prior to the presentation date.
 - Evaluation will be made on pace (15%), organization (15%), delivery/elocution (20%), graphics (20%), and content (30%) = 100% = 100 pts.

POINTS

400 pts Addendum (300 pts for assignments and 100 pts for presentation)

+

1200 pts CHEM322

= 1600 points for CHEM322H