

**Structural Biochemistry - BIBC 100**  
**Winter Quarter 2019**  
**T/Th 9:30am – 10:50am CENTR 212**

**Instructor:** Swarna Mohan, Ph.D.  
**Email:** swmohan@ucsd.edu

**Office Hours:**

Mondays 3-4pm and Thursdays 11am – 12pm in HSS 1145L or by appointment (24 hours' notice required)  
 (Office hours will start on Thurs. 1/10)

**Tentative Lecture Schedule:**

<b>Week</b>	<b>Date</b>	<b>Topic</b>	<b>Ref. Chapters Lehn 7<sup>th</sup> ed</b>	<b>Ref. Chapters Voet 5<sup>th</sup> ed</b>
<b>1</b>	Tu 1/8	Introduction	2.1 – 2.4	2
	Th 1/10	Amino acids and protein properties	3	4, 5.1 -5.3
<b>2</b>	Tu 1/15	Protein structure	4.1 – 4.3	6.1 - 6.3
	Th 1/17	Protein folding and stability	4.4	6.4 – 6.5
<b>3</b>	Tu 1/22	Chaperones and protein misfolding diseases	4.4	6.5, Box 6-2
	Th 1/24	Nucleic acid biochemistry and structure	8.1 – 8.3, 24.2 -24.3	3.1 – 3.3, 24.1 -24.2
<b>4</b>	Tu 1/29	Recognition: Protein – nucleic acid interactions	27.2, 28.3	24.4, 27.3 – 27.4
	Th 1/31	Recognition: Immune proteins	5.2	7.3
<b>5</b>	Tu 2/5	Cytoskeleton and Motor proteins	5.3	7.2
	Th 2/7	Oxygen binding proteins	5.1	7.1
<b>6</b>	<b>Tu 2/12</b>	<b>Midterm (during class time in lecture room)</b>		
	Th 2/14	Enzymes	6	11, 12.2 – 12.3
<b>7</b>	Tu 2/19	Glycoproteins and carbohydrates	7	8
	Th 2/21	Membrane lipids and structure	10.2, 11.1 – 11.2	9.2, 9.4
<b>8</b>	Tu 2/26	Membrane proteins and channels	11.3, 12.7	9.3, 10
	Th 2/28	Signaling and receptors I	12	13
<b>9</b>	Tu 3/5	Signaling and receptors II	12	13
	Th 3/7	Fluorescent proteins		Box 4-3
<b>10</b>	Tu 3/12	Structure determination and protein design	Box 4-5	6.2A
	Th 3/14	Review		
<b>Final exam – Tuesday, 3/19 8am – 11am Location: TBD</b>				

**Course Text:**

There are two recommended, but **optional** textbooks for this course.

- Voet and Voet, Fundamentals of Biochemistry, 5<sup>th</sup> Edition
- D.L. Nelson and M.M. Cox, Lehninger-Principles of Biochemistry, 7<sup>th</sup> Edition

The lectures will be largely based on the information in the readings listed above. The textbooks should be used as a reference to review and update lecture notes. **Exams will only test material covered in the lectures and problem sets.**

**Note:**

The Fundamentals of Biochemistry 5<sup>th</sup> ed. etext is provided by the UC San Diego Bookstore through TritonEd and is free for the first two weeks of classes. **After two weeks, your student account will be charged a special reduced price of \$49 unless you opt-out.** If you decide to opt-out, you must complete the process by **1/19/2019** and you will be responsible for sourcing the materials elsewhere.

Click [here](#) to view how to access your course materials or opt-out.

For any questions about billing please contact [textbooks@ucsd.edu](mailto:textbooks@ucsd.edu).

For any questions about using your eBook please reference [RedShelf Solve](#).

If you have any trouble accessing your eBook please feel free to reach out to [help@redshelf.com](mailto:help@redshelf.com).

**Discussion Sections and IAs:**

Days	Time	Room	IA	IA email
Mon	8-8:50am	HSS 2154	Sruti Malay	<a href="mailto:smalay@ucsd.edu">smalay@ucsd.edu</a>
Mon	2-2:50pm	WLH 2115	Riya Verma	<a href="mailto:r7verma@ucsd.edu">r7verma@ucsd.edu</a>
Mon	7-7:50pm	HSS 2154	Snehith Maddula	<a href="mailto:rmaddula@ucsd.edu">rmaddula@ucsd.edu</a>
Thurs	7-7:50pm	HSS 1305	Michael Nguyen	<a href="mailto:mnn021@ucsd.edu">mnn021@ucsd.edu</a>
Thurs	8-8:50pm	HSS 1305	Ziwei Wang	<a href="mailto:ziw191@ucsd.edu">ziw191@ucsd.edu</a>
Fri	1-1:50pm	HSS 2321	John Gillies	<a href="mailto:jgillies@ucsd.edu">jgillies@ucsd.edu</a>
Fri	4-4:50pm	WLH 2115	John Gillies	<a href="mailto:jgillies@ucsd.edu">jgillies@ucsd.edu</a>

**Discussion Sections and Problem Sets:**

Discussion sessions will start on week 2. Each mandatory discussion session will be worth 20 points, 15 points for completing and submitting the problem set and **9 points for attendance**. See the table below for the schedule of mandatory discussion sessions. Starting week 1, required problem sets will be posted on TEd by Thursday of each week. **All students must bring a printed copy of the problem set to their discussion section** and will work on completing them with the help of the IA during the discussion session. Students must submit their problem set at the end of the discussion section. There will be **six** problem sets assigned

during the quarter, however the problem sets are worth a total of 75 points. Therefore, you can drop your lowest problem set grade. Additionally, you may miss one discussion session. If you miss a discussion session due to an unavoidable schedule conflict, you must notify me ASAP via email (swmohan@ucsd.edu) with appropriate information/documentation about the conflict. Depending on the situation you may submit the problem set to your IA via email to receive credit. You will however, lose points for submitting wrong answers. Permission to submit problem sets via email will be granted at my discretion, and not your IAs. **You may only attend the section in which you are enrolled.** The IAs will turn away students not on the roster for a particular section. If you are more than 20 minutes late for the discussion session you will be marked as absent and will not receive credit for that discussion session or the problem set.

Week	Attendance and Problem Set
1	No Discussion Session
2	Attendance Mandatory – Problem set 1
3	No Discussion Sessions
4	Attendance Mandatory – Problem set 2
5	Attendance Mandatory – Problem set 3
6	Attendance Mandatory – Problem set 4
7	No Discussion Sessions
8	Attendance Mandatory – Problem set 5
9	Attendance Mandatory – Problem set 6
10	Open Session

### Lecture participation – iClickers - :

You will need an iClicker for this class - any iClicker model is fine, but other clicker brands will not work. Starting week 2, iClicker participation will count for credit. You will receive the full 30 points for answering 85% of the clicker questions. The breakdown for less than 85% participation is as follows:

Participation	Points awarded
75% - 84.9%	25
65% - 74.9%	20
55% - 64.9%	15
45% - 54.9%	10
35% - 44.9%	5
0 - 34.9%	0

You can buy a new or used iClicker at the UCSD Bookstore or another source. Your iClicker will need to be

registered on TED to get credit for your in-class responses. To register, login and select BIBC100. In the menu block on the left side of the screen click on “iClicker Registration”. Enter the identification (Serial) number from the back of your iClicker. If the serial number is illegible, bring your clicker to the instructor after class for help. iClickers only need to be registered once on TED - so you do not need to register again if you have already registered and used your iClicker for another class at UCSD. **Do not register at iClicker.com – this won’t enter you into the TED database for UCSD classes!**

**Don’t switch your iClicker mid-quarter unless it’s absolutely necessary** - if you must use a new iClicker, notify the instructor because the response records in TED won’t sync with one another and will need to be manually reconciled.

No allowances will be given for occasional forgotten or malfunctioning clickers (e.g. dead batteries), absence from class (regardless of the reason), or for students who add the class late and missed some classes. It’s your responsibility to make sure that your clicker works properly.

### Exams and Grade Assignments:

There will be one midterm exam and one cumulative final exam. The **midterm** will be held during class time on **Tuesday, 2/12 9:30am – 10:50am**. The **final exam** is on **Tuesday, 3/19 8 – 11am**. Grades will be based on the following un-curved scale using the adjusted point total from the two exams, the problem sets and participation in discussion and lecture. The grade cutoffs may be adjusted downward at the instructor’s discretion.

	Point Value
Midterm	150
Final Exam	300
Problem Sets	75
Discussion session participation	45
Lecture participation (iClicker)	30
<b>Class Point Total</b>	<b>600</b>

Make-up exams will not be given, except in case of illness that is documented by a note from a physician. Students must submit appropriate documentation and schedule a make up exam before the exams are graded and returned.

### Grade cutoffs:

543-600	A	468-473	C+
537-542	A-	417-467	C
531-536	B+	405-416	C-
480-530	B	354-404	D
474-479	B-	0-353	F

### Regrade policy:

If you feel your exam should be regraded you must notify the instructor via email and submit a written regrade request in class within 2 days of receiving your exam. Regrade requests will only be evaluated at

the end of the quarter **if** the regrade will significantly alter the final grade. Regrade requests must be submitted to the instructor, IAs cannot and will not evaluate regrade requests.

### **Academic Integrity:**

As a UCSD student enrolled in this course you are expected to abide by the Policy of Integrity of Scholarship at UCSD (<http://academicintegrity.ucsd.edu/process/policy.html>). Cheating, and/or plagiarism will not be tolerated and the consequences for such behaviors can result in receiving a failing grade in the course and disciplinary sanctions such as suspension or dismissal from the University.

While you may work in groups during the discussion sections, **no student communication of any form is allowed during the midterm and final exams.** You are only allowed to use blue or black pen and a scientific calculator during the exams. **You may not take the exam in pencil. During the exams you may not leave the room and come back to resume the exam.** If you leave the room, your exam will be collected and graded as is. If you will need to leave the room for medical or psychological reasons, be sure to provide me with documentation from the Office for Students with Disabilities.

### **Triton Ed:**

We will be using Triton Ed (<https://tritoned.ucsd.edu/webapps/login/>) as the course web site. Once you are enrolled or waitlisted in the class you will have access using your ACS username and password. Be sure to check the TEd frequently for announcements and updates. You will also complete the weekly online quizzes using TEd.

### **Podcast:**

There will be an audio and video podcast available for this course. Partial lecture slides will be posted on TEd.

### **Disability access:**

Students requesting accommodations for this course due to a disability must provide a current Authorization for Accommodation (AFA) letter issued by the Office for Students with Disabilities (OSD) which is located in University Center 202 behind Center Hall. Students are required to present their AFA letters to Faculty (please make arrangements to contact me privately) and to the OSD Liaison in the department in advance so that accommodations may be arranged.

Contact the OSD for further information:

858.534.4382 (phone)

osd@ucsd.edu(email)

<http://disabilities.ucsd.edu>(website)

### **Title IX Compliance:**

The Office for the Prevention of Harassment & Discrimination (OPHD) provides assistance to students, faculty, and staff regarding reports of bias, harassment, and discrimination. OPHD is the UC San Diego Title IX office.

Title IX of the Education Amendments of 1972 is the federal law that prohibits sex discrimination in educational institutions that are recipients of federal funds.

Students have the right to an educational environment that is free from harassment and discrimination. Students have options for reporting incidents of sexual violence and sexual harassment. Sexual violence includes sexual assault, dating violence, domestic violence, and stalking.

Information about reporting options may be obtained at **OPHD at (858) 534-8298, [ophd@ucsd.edu](mailto:ophd@ucsd.edu) or <http://ophd.ucsd.edu>**. Students may receive confidential assistance at CARE at the Sexual Assault Resource Center at **(858) 534-5793, [sarc@ucsd.edu](mailto:sarc@ucsd.edu) or <http://care.ucsd.edu>** or Counseling and Psychological Services (CAPS) at **(858) 534-3755 or <http://caps.ucsd.edu>**.

Students may feel more comfortable discussing their particular concern with a trusted employee. This may be a student affairs staff member, a department Chair, a faculty member or other University official. These individuals have an obligation to report incidents of sexual violence and sexual harassment to OPHD. This does not necessarily mean that a formal complaint will be filed. If you find yourself in an uncomfortable situation, ask for help.