Syllabus BICD 110 Cell Biology Winter 2023

Time: Tuesday & Thursday, 8:00 – 9:20 AM

Place: Peterson Hall 108

Instructor: Dr. Andreas Ernst

Cell & Developmental Biology

4218 Bonner Hall

Phone: (858) 246-4768 email: aernst@ucsd.edu

Office Hours: Bonner Hall 4218, Tue & Thu 10-11 AM (after class);

1:1 Zoom meetings available upon request.

TAs and IAs: Ryan Fantasia email: rfantasia@ucsd.edu

Mohona Datta email: modatta@ucsd.edu

Chi Feng email: cfeng@ucsd.edu

Maheeka Bimal email: mbimal@ucsd.edu
Jasmine Jung email: jljung@ucsd.edu

Jack Ord email: jord@ucsd.edu

Om Prajapati email: aprajapa@ucsd.edu

Exams and Grading: Midterm 1 (Feb 02, *in class*, lectures 1-7)

Midterm 2 (Feb 28, in class, lectures 8-13)

Final (Mar 23, location TBA, lectures 1-17)

Class Web Site: The class website is on Canvas (http://canvas.ucsd.edu). All

class notices, the syllabus, lecture slides, and problem sets will be posted here. Please check the web site regularly for

updates.

Lecture Book: Molecular Cell Biology (9th Edition, Lodish et al.), optional

Prerequisites: BIBC 100 or BIBC 102

The grading and point structure of this course is designed to accommodate as many students (and their respective personal circumstances) as possible.

- Lectures will be podcasted (https://podcast.ucsd.edu); in-person attendance during lectures and sections is highly encouraged but not mandatory
- Problem sets (discussed during section, and available on the course website) will
 not be graded and resemble exam questions closely.
- Participation (listed below) is *highly encouraged*, but is not a prerequisite to perform well in this course (i.e. an A- can be achieved by only taking the exams).

Grading Scheme 1 (90 pts max)

- Midterm 1
- Midterm 2
- Final
25 pts max.
- 40 pts max.

If beneficial for the student, 1 of the midterms can be dropped (to grading scheme 2). <u>Prerequisite for dropping a midterm is taking both midterms</u>. Failure to take both midterms without a valid excuse (e.g. doctor's note) will result in the use of grading scheme 1.

Grading Scheme 2 (90 pts max)

- Midterm 1 or 2- Final40 pts max.50 pts max.

Midterm and Final exams are closed book. They will however contain extra questions that serve as a buffer (<u>midterms: + 5 pts; final: + 10 pts</u>), meaning maximal exam points can still be achieved even if some exam questions are answered incorrectly. Extra points *do not* carry over to total course points (e.g., if 30 pts are achieved in a midterm, the total pts are still 25 pts max. for this exam).

<u>Participation Credit</u> (10 pts max, by any combination of the following)

Research paper presentation/report:

5 or 7 pts

Three very recent publications/preprints will be posted on the class website. Choosing one of these publications, a video recording of a ppt presentation (>15 min, e.g. recorded using Zoom) or a written report (>3 pages (excluding figures), font size 12, single spacing) must be submitted by March 10. The presentation/report should cover: 1) the motivation for the study, 2) the techniques used to address the

problem, 3) description of their findings, and 4) discussion of why these findings are relevant/novel. 5 pts will be awarded if the format and points 1-4 are addressed properly, 7 pts if expectations are exceeded. Revisions might be necessary to obtain minimal points. More than one report can be submitted.

Foldscope image/video submission

1 pts or 3 pts

A 'foldscope' is a preassembled paper microscope with a plastic objective that allows for 140X magnification, and that can be attached to a cell phone. Foldscopes will be available to students during section, who are encouraged to submit a micrograph/video of any interesting cell/tissue/microscopic organism they can find to be awarded 1 pt. We will together vote for the best picture/video on Mar 10. The winning submission will be awarded 3 pts.

• CAPES 2 pts

2 pts will be awarded to the entire class if 90% of the class fill out their CAPES.

• Active and constructive participation during lectures or sections: 0.5 pts/event Whether the 'event' will be awarded pts is at the discretion of the instructors.

The final grade will consist of exam points (90 pts max) and participation credit (10 pts max) as listed below. No 'curving' will be applied, and scores in between two grades will be rounded up (e.g. 91.5 to 92).

100	pts	=	A +	99 – 92	pts	=	Α
91 – 87	pts	=	A –	86 – 83	pts	=	B +
82 – 79	pts	=	В	78 – 75	pts	=	В-
74 – 70	pts	=	C +	69 – 66	pts	=	С
65 – 62	pts	=	C –	61 – 51	pts	=	D
50 – 0	pts	=	F				

Makeup Exams:

There will be *no* makeup exams for midterms. As listed above, grading scheme 2 will apply if one midterm is missed and a valid excuse (e.g. doctor's note) is presented. In the event of a medical emergency that prevents the student from taking the final (doctor's note must be presented), an oral makeup final will be given.

Regrade Policy:

Request for regrades must be submitted within one week of the exam return date during office hours or lectures and contain 1) a cover letter with description of the error, and 2) the original exam (please be advised that we will photocopy all exams before returning them).

Policy on Cheating:

Do. Not. Cheat. This includes during exams, changing an answer for a re-grade, or submitting other student's work as original work. Students caught cheating will be reported to the Office of Academic Integrity (no exceptions).

Course Description:

BICD 110 is an upper division course on the structure and function of eukaryotic cells. Lectures will cover the structure and function of cellular organelles, biological membranes, the cytoskeleton, protein synthesis and sorting, methods of cell biology research, and cells in development and disease. The schedule below is *tentative* and might be adjusted to address student needs.

<u>Lecture</u>	Date	<u>Topic</u>	
1	10-Jan	Introduction	
2	12-Jan	Molecular Building Blocks	
proble	em set 1 (lecture	s 1 - 4)	
3	17-Jan	Membrane-Enclosed Compartments	
4	19-Jan	Endoplasmic Reticulum (ER)	
problem set 2 (lectures 5 - 7)			
5	24-Jan	ER-to-Golgi Transport	
6	26-Jan	The Golgi	
7	31-Jan	Trans-Golgi-Network (TGN) & Exocytosis	
	02-Feb	MIDTERM 1 (Lectures 1-7)	

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	problem set 3 (lecture	s 8 - 10)			
8	07-Feb	Endocytosis			
9	09-Feb	Channels and Transporters			
10	14-Feb	Signal Transduction			
	problem set 4 (lecture	s 11 - 13)			
11	16-Feb	Membrane-Less Compartments			
12	21-Feb	The Nucleus			
13	23-Feb	Mitochondria, Lipid Droplets, Peroxisomes			
	28-Feb	MIDTERM 2 (Lectures 8-13)			
problem set 5 (lectures 14 - 15)					
14	02-Mar	The Cytoskeleton			
15	07-Mar	Molecular Motors			
	problem set 6 (lecture	s 16 - 17)			
16	09-Mar	Cell Cycle			
17	14-Mar	Cancer			
18	16-Mar	Review			
	<u>23-Mar</u>	FINAL (Lectures 1-17)			

Student Resources: Accessibility

Students requesting accommodations for this course due to a disability must provide a <u>current</u> Authorization for Accommodation (AFA) letter issued by the Office for Students with Disabilities (OSD, located in University Center 202 behind Center Hall). Students are required to present their AFA letters to Faculty and to the OSD Liaison in the department <u>in advance</u> so that accommodations may be arranged. Contact the OSD for further information: https://disabilities.ucsd.edu/.

Inclusion

I am committed to creating a learning environment that supports diversity of thought, perspective, experience, and identity. This is important, because key discoveries and significant progress in science requires addressing research questions from as many perspectives as possible. Please share your ideas on how to further promote inclusion with the Office of Equity, Diversity, and Inclusion: diversity@ucsd.edu/

Basic Needs

If food insecurities or a lack of a safe and stable place to live affect your learning, please contact:

foodpantry@.ucsd.edu | basicneeds@ucsd.edu

UC San Diego Academic policies

Principles of Community:

https://ucsd.edu/about/principles.html

Student Conduct Code:

https://students.ucsd.edu/_files/student-conduct/ucsandiegostudent-conduct-code_interim-revisions1-16-18.pdf

Religious Accommodations:

https://senate.ucsd.edu/operating-procedures/educational-policies/courses/epc-policies-on-courses/policy-exams-including-midterms-final-exams-and-religious-accommodations-for-exams/

Community Centers:

https://students.ucsd.edu/student-life/diversity/index.html

Counseling and Psychological Services (CAPS):

https://caps.ucsd.edu/

Office for the Prevention of Harassment & Discrimination (OPHD): https://ophd.ucsd.edu/report-bias/index.html

Subject to

Change Policy:

The information provided in this course syllabus (with the exception of grading and absence policies) may be subject to change with reasonable advance notice, e.g. if required to meet student needs and/or to enhance student learning.