

**BICD 110: CELL BIOLOGY**  
**FALL 2020 – FULLY REMOTE**  
**COURSE INFORMATION (VERSION SEPT 28, 2020)**

**\*\* Contents subject to change. Students will be notified. \*\***

**DESCRIPTION**

BICD 110 is an upper level course for Biology majors on the structure and function of eukaryotic cells and cellular organelles, and their roles in cell growth, division and specialization.

**COURSE WEBSITE**

[Canvas.ucsd.edu](https://Canvas.ucsd.edu). Students are required to access the course website to obtain key class information, syllabus, quizzes, assignments and announcements.

**INSTRUCTOR**

Dr. Amy Kiger, [akiger@ucsd.edu](mailto:akiger@ucsd.edu)  
Natural Science Building (NSB), Room 6109 [if you want to find me once real world is back!]  
Office phone: 858-822-4594

**INSTRUCTOR OFFICE HOURS**

Times subject to change, as updated on Canvas.

Wednesdays, Noon-1:00 PM, Zoom drop-in office hours open to all students.  
Zoom Meeting ID: 980 2107 0724

Tuesdays 2:00-3:00 PM or by request, Zoom personal appointments possible.  
Use Canvas Calendar Scheduler to reserve a 1-on-1 time slot.

**INSTRUCTIONAL ASSISTANTS (IAs)**

Jiawei Xu, <a href="mailto:j7xu@ucsd.edu">j7xu@ucsd.edu</a> (Head/Grad IA) OHs: Thursdays 10:00-11:00am Section A08: Wednesdays 10:00-10:50am Section A09: Wednesdays 11:00-11:50am	Lara Abdulkareem Ali, <a href="mailto:l1ali@ucsd.edu">l1ali@ucsd.edu</a> OHs: Thursdays 5:00-6:00pm Section A03: Mondays 6:00-6:50pm
Marina Ramsey, <a href="mailto:mrramsey@ucsd.edu">mrramsey@ucsd.edu</a> OHs: Thursdays 2:00-3:00pm Section A02: Mondays 5:00-5:50pm	Sneha Ganguly, <a href="mailto:sngangul@ucsd.edu">sngangul@ucsd.edu</a> OHs: Wednesdays 4:30-5:30pm Section A01: Mondays 4:00-4:50pm
Summer Lee, <a href="mailto:hyl135@ucsd.edu">hyl135@ucsd.edu</a> OHs: Wednesdays 10:00-11:00am Section A07: Wednesdays 9:00-9:50am	Taian Chen, <a href="mailto:t3chen@ucsd.edu">t3chen@ucsd.edu</a> OHs: Fridays 1:00-2:00pm Section A04: Wednesday 1:00-1:50pm
Tianru (Ruby) Zhang, <a href="mailto:tiz004@ucsd.edu">tiz004@ucsd.edu</a> OHs: Fridays 2:00-3:00pm Section A06: Wednesdays 3:00-3:50pm	Wenqi (Carrie) Yang, <a href="mailto:w9yang@ucsd.edu">w9yang@ucsd.edu</a> OHs: Fridays 4:00-5:00pm Section A05: Wednesdays 2:00-2:50pm

The IAs will assist students by leading weekly Discussion Sections and weekly Office Hours at Zoom links as listed on the course website. They are experts with this material, so take

advantage of their knowledge and tips! Students are permitted to attend Office Hours of any IA associated with the course.

## **SYLLABUS**

Schedule of lecture topics, assigned reading, lecture reflections, problem sets and quizzes are detailed here. An abbreviated 2-page version is posted online.

Note the due dates for all assignments. Typically, each week will have a similar structure for meetings, assignments and assessments: **(1)** completed Problem Sets are due at the beginning of your assigned Discussion Section; **(2)** a pre-lecture Preview Question is due by each Lecture; **(3)** post-lecture Learning Objective Responses and Practice Quiz Questions are due for each Lecture by Friday each week; and **(4)** online bi-weekly Quizzes must be completed within an assigned window, typically by the weekend.

## **RESOURCES**

Textbook: *Molecular Cell Biology*, Lodish et al., 7<sup>th</sup> or 8<sup>th</sup> Edition.

Note that the bookstore sells both hardbacks and significantly more affordable eBook rentals. From the Bookstore – *An eBook is available as a purchasing option for this course. You can access this eBook by clicking the RedShelf tool within Canvas. If you opt-in to this eBook by clicking the Opt-in Now button your student account will be charged directly. You will also receive an email with the exact amount of this charge. Within the add/drop period you may also opt-out of this option if you decide you'd rather use an alternate format.*

No iClickers will be used since course will be conducted entirely online.

## **LECTURES**

Tuesdays & Thursdays, 12:30-1:50 PM, Zoom Meeting ID: 921 7382 7680  
No class will be held on campus holiday, Thursday, Nov. 26th.

The live lectures will be recorded and then posted afterward on the Canvas website. Please note that the system can take time to transfer lectures to and from the cloud, so the lectures may not be available until up to 2 days later.

## **LIVE LECTURE AND DISCUSSION PARTICIPATION**

Lectures and Discussion Sections will be fully remote and LIVE (synchronous) as scheduled in the registrar of classes. Your participation in live classes and Discussion Sections is expected and valued. Synchronous participation is being used to engage students, stimulate critical thinking, test knowledge from pre-reading and lecture, promote class discussion and peer-peer learning, facilitate self-assessment of topics needing further study, and inform instructor on students' conceptual understanding. Your participation ensures that you are engaged in “active learning” during class time, which is a good use of your time toward learning and applying the material as will be evaluated on Quizzes. Finally, synchronous class time spent in peer group discussions will be a constructive opportunity toward completing occasional asynchronous group project assignments.

To promote our active learning community, please turn on your video and use your real name when in break out rooms and when at Discussion Sections. During lecture, and if not possible

to use the video, post a portrait or avatar of yourself. If you will have a valid conflict with regular synchronous attendance, e.g., far away time zone, etc., please contact me immediately. Full credit will be possible without synchronous attendance.

## **LECTURE NOTES**

My slides will be posted on the website prior to each lecture. Additional content or modifications to the slides may be used in the live lectures than what was included on the posted pre-lecture slides. Due to time constraints, there will be more slides posted than presented in the live lecture. Note that most of the posted content is relevant to the course assignments and quizzes. Use my lecture notes as a guide for what are key points useful for completing the Problem Sets and studying for Quizzes. These will help you focus on what details in the reading are most important, since there's a lot more in the textbook than what you will be expected to know.

## **ASSIGNED READING**

See Canvas for the assigned reading, with page numbers available for both the 7<sup>th</sup> and 8<sup>th</sup> editions *Molecular Cell Biology* textbook. Reading is assigned as a supplement to the lectures.

I assign the textbook for several main reasons. First, self-guided learning is key at this stage of your career. Most of the content knowledge that you need for this course is available in the book (note that obtaining cell biology knowledge is just an initial step in the learning objectives, as you also will learn/practice how to synthesize and apply the knowledge through critical thinking and problem solving). Second, different students have different preferred learning styles and modes. Some students always report back that they appreciated and learned a lot through reading the text, while others have found the book not so helpful (it can be dense reading). Lastly, regardless of your preferred learning style, the book can be a source to help prepare you with some vocabulary and concepts that will be covered in lecture discussions. The lecture time will be of most benefit to you if we spend more time with active learning exercises than repeating what is already written on the notes or in the textbook. At the very least, skim the assigned pages, then review the Key Concepts in each chapter to assess your understanding.

There are three types of Reading:

**I. Required Reading** is to be completed **PRIOR** to lecture. This is typically only 1-5 pages. To help incentivize preparation for lecture, you are assigned a Preview Question for credit based on the Required Reading that is due before the start of each lecture (see below).

**II. Assigned Reading** is recommended for understanding course concepts. This knowledge may be applied in Problem Sets and tested in Quizzes.

**III. Supplemental Reading** is not required, but provides review of relevant background knowledge or more detailed explanations of topics and methods.

## **LECTURE ASSIGNMENTS**

It is easy to fall behind in a 10-week quarter, and especially so in this remote environment. Moreover, better preparation for each lecture means that more time in class can be spent in active learning exercises.

To help you keep up, there will be mini-assignments for credit due before and after each lecture. While reading the textbook and reviewing lecture slides may take some time, these assignments for credit are intended to be done in a short time and not a time burden.

- I. **Preview Question.** Due before each class. <10 minutes
- II. **Practice Quiz Question.** Due for both lectures by end of the week. <10 minutes
- III. **Learning Objective Responses.** Due for both lectures by end of the week. <30 minutes

### **I. LECTURE PREVIEW QUESTION (10% OF COURSE GRADE)**

To help incentivize preparation for lecture, you are assigned a pre-lecture question for credit based off the Required Reading for every lecture (see above). The page numbers are indicated in the Reading Assignment page in the Course Information Module, and they also will be listed on the Lecture pages within each weekly Module. The Preview Questions are likely to be multiple choice or matching questions requiring familiarity with key terms or ideas.

The Preview Question will be given as a Canvas Quiz, with a link provided on the Lecture page within each weekly module. Points are given only for correct answers, and you may take multiple attempts. Questions must be submitted prior to the start of every lecture, due either Tues or Thur by 12:30 pm. You may still access and review the questions after the due date, but you will not be given credit.

Each Preview Question will be worth 2.5 points. Full course credit (that is, 10% of course grade, or 30 points) will be given when at least 12 of Preview Questions are submitted correctly (that is, ~75% of assigned questions). I will automatically drop your lowest scores or missing attempts. This means that you can miss or skip due dates for several lectures without consequence, so no approval is needed and no makeups are given.

**Credit for Preview Questions begins Week 1 with first due by 12:30pm Tues. Oct. 6<sup>th</sup>.**

Expect a Preview Question is due before most lectures, except when noted on Canvas.

### **II. PRACTICE QUIZ QUESTION (10% OF COURSE GRADE)**

To self-test your knowledge and grasp of concepts, as well as to help gain more practice for the Quizzes, one Practice Quiz Question will be assigned for each lecture. These questions may require more critical thinking, involve data analysis and/or have several related parts. The Practice Quiz Questions will be similar to the Problem Set questions, but set in the online format where you will take your Quizzes.

The Practice Quiz Question will be given as a Canvas Quiz, with a link provided on the Lecture page within each weekly module. Points are given only for correct answers, and you may take multiple attempts. Questions must be submitted by Friday 5:00 pm. Although there is a question related to most every lecture, you will be permitted time to address both lectures for the week with the common Friday due date. You may still access and review the questions after the due date, but you will not be given credit.

Each Practice Quiz Question will be 2.5 points. Full course credit (that is, 10% of course grade, or 30 points) will be given when at least 12 of Practice Quiz Questions are submitted correctly (that is, ~75% of assigned questions). I will automatically drop your lowest scores or missing

attempts. This means that you can miss or skip due dates for several lectures without consequence, so no approval is needed and no makeups are given.

**Credit for Practice Quiz Questions begins Week 1 with first due by 5:00pm Fri. Oct. 9<sup>th</sup>.**  
Expect Preview Questions are due for most lectures by Friday, except when noted on Canvas.  
**III. LEARNING OBJECTIVE RESPONSES (10% OF COURSE GRADE)**

### **LEARNING OBJECTIVE (LO) RESPONSES (10% OF COURSE GRADE)**

To help you focus your studying on the main ideas, I have written Learning Objectives (LOs) for each topic. These are key to the class and the basis for the Quizzes. I will post a list of Learning Objectives for each topic as we go through the quarter. Note that there are more LOs than what is covered in lecture, for example, those only in the reading or notes.

A shorter list of LOs covered in each lecture will be posted with each Lecture page. From these, you will be assigned one Learning Objective Response for most Lectures. You will need to write a response to the LO in your own words, based on your own understanding and submit it as a Canvas Assignment. Use the appropriate terms, but do not borrow language from the lecture, the reading, or other people's writing. Violations will be reported to the Academic Integrity Office and may result in sanctions (see Academic Integrity policy below).

Each Learning Objective Response will be worth 3 points and graded based on completion. Full credit (10% of your course grade, or 30 points) will be given for completion of at least 10 Learning Objective Responses over the quarter (that is, about 75% of those assigned). To encourage you to invest thoughtful effort into the LO assignments, the IAs will spot-check at least half of your Learning Objective Responses randomly during the quarter.

Spot-checked assignments will be graded for thoughtful effort on this scale: 0 points if not turned in, or for a very minimal or irrelevant answer to the LO; 1.5 points for incomplete or a partially wrong answer; and 3 points for thoughtful effort to address the learning objective and mostly correct.

Answers will not be marked down for grammar/language errors unless they are severe enough that the grader can't understand what you meant. A 0 on a spot-check will also turn the completion points for that Learning Objective Response into a 0. (One consequence of this is that the completion points for that assignment will not count toward the 75% total.) IAs may spot-check more than half of the LO assignments for each student during the quarter, especially if they find that a student is consistently turning in irrelevant or very minimal answers.

**Credit for LO Responses will begin Week 2 with first due by 5:00pm Fri. Oct. 16<sup>th</sup>.**  
Expect LO Responses are due for most lectures by Friday, except when noted on Canvas.

### **PROBLEM SETS (10% OF COURSE GRADE)**

Problem Sets are the most important work you can do in the class to apply and self-evaluate your learning in preparation for Quizzes! Problem Sets are assigned as pdf files through the Canvas website. They are intended to apply the knowledge covered in lectures and reading (not simply repeat memorized facts) and often will require data analysis. The content and formats on the Problem Sets reflect those that will be on the Quizzes. Some Quiz questions may directly draw on this Problem Set material.

Completed **Problem Sets are due before the start of your enrolled Discussion Section.** You must submit your completed Problem Sets as Assignments in Canvas. Credit is given for effort and completeness only, and they will not be graded for correct answers. IAs will spot check the Problem Sets, and no credit will be given for obvious lack of effort or nonsensical answers throughout the assignment. Credit will be assigned based on this scale: 0 points for missing assignment or mostly incomplete or nonsensical answers; 2-3 points for half-completed assignment with reasonable effort demonstrated in answers; 5 points for completion of Problem Set with reasonable effort demonstrated in answers.

The Problem Sets will be the major focus of your Discussions. The IAs will help students work through questions/answers. It is to your advantage to learn *how* to solve problems, not to simply memorize answers. Therefore, **Answer Keys will not be circulated.** If you cannot attend a Discussion Section to clarify any questions with the Problem Set, then seek out help with answers during any of the many possible instructor and IA Office Hours (you can attend any IA Office Hours, not just the IA who leads your enrolled Section!).

**Credit for Problem Sets will begin Week 1 with the first due by your enrolled Section.** Submission of 6 completed Problem Sets is considered full credit.

Problem Set 1 (Lecture 0)	Due by Sections week 1, 10/5-10/7
Problem Set 2 (Lectures 1A-1B)	Due by Sections week 2, 10/12-10/14
Problem Set 3 (Lectures 2A-2B)	Due by Sections week 3, 10/19-10/21
Problem Set 4 (Lectures 3A-3B, 4A)	Due by Sections week 4, 10/26-10/28
Problem Set 5 (Lectures 4A-4B, 5A)	Due by Sections week 6, 11/9-11/11
Problem Set 6 (Lectures 6B, 7A-7B)	Due by Sections week 8, 11/23-11/25
Problem Set 7 (Lectures 9A-10A)	Due by Sections week 10, 12/7-12/9

## **DISCUSSION SECTIONS**

Live Sections begin the first full week of classes starting on **Monday, October 5<sup>th</sup>**. Given the small size of the Sections and the emphasis on discussion and active learning, please attend with your video turned on and a willingness to participate.

Sections are listed in the IA information above and in the Canvas Course Information Module. No Sections will be held on campus holidays of Wednesday, November 11<sup>th</sup>, Thursday, November 26<sup>th</sup> and Friday, November 27<sup>th</sup>. Sections missed due to campus holidays will offer a make-up meeting that week, as listed on Canvas.

Problem Sets are due as an Assignment in Canvas by the beginning of your enrolled Section. Bring your completed Problem Set to the Discussions. IAs will lead Discussions to help students work through questions related to the Problem Sets. These Problem Sets are not graded for correct answers (see above). They are one of the best ways to familiarize yourself with the scope, content and format of questions on the Quizzes.

Discussions may also provide some review or address student questions related to Lectures and any other course Assignments or Quizzes.

'Brownie points' that can influence a borderline grade will be given at the end of the course to

students who demonstrate significant and consistent engagement in Sections/Office Hours.

### **CANVAS QUIZZES (60% OF COURSE GRADE)**

There will be 6 online Quizzes throughout the course. The Quizzes can be taken only through [Canvas.ucsd.edu](https://Canvas.ucsd.edu). Points will be given for correct answers. Quizzes will be limited to a set amount of continuous time that you can choose to take anytime within an assigned availability time window, e.g. typically a 30-minute Quiz taken within a 2-day span over a Friday-Saturday (or as announced). There are **NO MAKE-UPS**.

Quizzes are to be done individually. Quizzes are to be taken closed book, with no notes. The Quizzes are intended to test your knowledge of the fundamental biological concepts and your ability to apply it toward critical problem solving and data interpretation. It will be possible to review your Quizzes after the deadlines. Learn from your mistakes, whether conceptual or in your ability to apply your knowledge in this format. Some time in Discussion Sections will be spent to review Quiz questions, as needed.

The best ways to prepare for the Quizzes are: (1) simply come to class and Discussions, and participate in active learning exercises; (2) do the Problem Sets as best as you can on your own (before seeking help; if help is needed, learn HOW to work through the problem); and (3) do the weekly Practice Quiz Questions.

**Note** that the time/length of a Quiz and the dates may be changed with sufficient notice.

Quiz 0, 0 pts	~30 minutes timed	Open. It is highly advised to take this as practice!
Quiz 1, 30 pts	~30 minutes timed	Friday, Oct 16, 1 AM – Saturday, Oct 17, midnight
Quiz 2, 30 pts	~30 minutes timed	Friday, Oct 30, 1 AM – Saturday, Oct 31, midnight
Quiz 3, 30 pts	~30 minutes timed	Friday, Nov 13, 1 AM – Saturday, Nov 14, midnight
Quiz 4, 30 pts	~30 minutes timed	Friday, Nov 27, 1 AM – Saturday, Nov 28, midnight
Quiz 5, 30 pts	~30 minutes timed	Friday, Dec 11, 1 AM – Saturday, Dec 12, midnight
Final Quiz 6, 60 pts	~90 minutes timed	Thursday, Dec 17, 1 AM – Friday, Dec 18, 2:30 PM

Generally, the bi-weekly Quizzes will test the content covered in the most recent two weeks of lectures. However, material from content earlier in the course may appear on later Quizzes, as you will be expected to build on your knowledge. Material covered in the entire course will be tested on the comprehensive Final Quiz.

Automatically, your lowest Quiz score from the Quiz 1- Quiz 5 will be dropped, so that the total of only 4x 30-point Quizzes (120 pts) will be applied toward your course grade (40%). The Final Quiz is the remaining 20% of the Quiz portion of your grade. Only if all five Quiz 1 – Quiz 5 are taken, then a student may choose to opt out of the Final Quiz 6. In this case, the top 4 Quiz scores will be weighted at 60% of the course grade.

### **QUIZ REGRADE POLICY**

To submit a re-grade request, you must write a letter (by email) specifying which specific problem(s) should be reviewed, and fully describe why you think the problem(s) were wrongly graded. The letter should include your email address, full name and student ID. Requests must be submitted by the announced deadlines.

## GRADING

The course grade is assigned from the total points at the end of the quarter (300 points possible). In order to ensure that everyone has a chance at getting a grade that reflects the effort that they put into the class, the grading will be on a straight percentage basis. If the average student grade falls below a B-, the total points will be normalized to the top 5% of scores, and the percentage cut-offs will be readjusted (in students' favor!). **There is no limit to the number of As, or any grade, that can be awarded in this class.**

40%	120 pts	Quizzes [top 4 scores from Quiz 1-5; lowest score automatically dropped]
20%	60 pts	Final Quiz [comprehensive]
10%	30 pts	Problem Sets [6 PS for full credit; lowest/missing PS dropped]
10%	30 pts	Lecture Preview Questions [12 needed for full credit; lowest dropped]
10%	30 pts	Lecture Practice Quiz Questions [12 for full credit; lowest dropped]
10%	30 pts	Lecture Learning Objective Response [10 for full credit; lowest dropped]

OR

Only if all five of Quiz 1-Quiz 5 are taken, then a student may choose to opt out of the Final Quiz 6. In this case, the top 4 Quiz scores will be weighted as 60% of the course grade:

60%	180 pts	Quizzes [top 4 scores from Quiz 1-5; lowest score automatically dropped]
10%	30 pts	Problem Sets [6 PS for full credit; lowest/missing PS dropped]
10%	30 pts	Lecture Preview Questions [12 needed for full credit; lowest dropped]
10%	30 pts	Lecture Practice Quiz Questions [12 for full credit; lowest dropped]
10%	30 pts	Lecture Learning Objective Response [10 for full credit; lowest dropped]

## EXTRA CREDIT

There may be several opportunities to earn extra credit in and out of class.

- Extra credit questions on Quizzes.
- Extra credit 'brownie points' for exemplary effort demonstrated through consistent attendance and engagement in Sections/Office Hours, as determined at the discretion of Dr. Kiger with input from IAs at the end of the quarter ( $\leq 0.5\%$  total class points).
- Extra credit for participation in Discussion Board prompts. It will be announced when and how it is possible to obtain extra credit for relevant posts. ( $\leq 1\%$  total class points)

## EMAIL TO INSTRUCTOR & IAs

Do not rely on email as an immediate form of communication with the instructor. The most certain way to get your questions answered is to attend Office Hours. Include "BICD110" in the subject line and sign both your first and last names.

## EMAIL TO STUDENTS

Occasionally, the Instructor will communicate with the entire class by email using the roster of enrolled student UCSD email addresses through Canvas. If you do not receive any announcements by the first Lecture 0, you must take appropriate steps to ensure that you can receive announcements.

## UCSD POLICY ON ACADEMIC INTEGRITY

All academic work must be done by the student to whom it is assigned, without unauthorized



aid of any kind. Please read the official UCSD policy:

<http://senate.ucsd.edu/Operating-Procedures/Senate-Manual/Appendices/2>

**Take the Pledge!**

<https://academicintegrity.ucsd.edu/forms/form-pledge.html>

**ADMINISTRATIVE ?**

**Undergraduate Student and Instructional Services (USIS)**

<http://biology.ucsd.edu/education/undergrad/advising/index.html>

biousis@ucsd.edu or phone 858-534-0557, First Floor of Pacific Hall

See USIS for advising questions related to enrollment and prerequisites.