

# BILD1: The Cell

## Welcome to BILD1!

BILD1 is an introduction to cellular structure and function, to biological molecules, bioenergetics, to the genetics of both prokaryotic and eukaryotic organisms, and to the elements of molecular biology. There are no prerequisites for this course but some experience with chemistry will be helpful.

This course will have **in person lectures and in person discussion section**. Active learning in the classroom has been shown to promote learning for people from all different backgrounds so we encourage you to come to class and participate.

Research has also shown that low stakes opportunities to engage with material also improve student learning. So, this class will also include **weekly pre lecture discussions, in class participation credit, and end of week quizzes**.

Since this is a summer session course, the class will be fast paced but don't let that daunt you. The teaching team and your fellow students will be available throughout the course to encourage and support you. The teaching team will hold **office hours** and you will be able to set up appointments with the teaching team at their discretion. In addition, discussion sections will be taught by our IAs who are always ready and willing to answer questions.

Periodically throughout the course I will ask for **feedback** from you about the performance of the teaching team, IAs and Instructor included. While this feedback is optional it is really helpful to us so that we can improve the class for your benefit.

## Course Information

|                           |   |
|---------------------------|---|
| <b>Course Description</b> | An introduction to cellular structure and function, to biological molecules, bioenergetics, to the genetics of both prokaryotic and eukaryotic organisms, and to the elements of molecular biology. |
| <b>Credits</b>            | 4   |
| <b>Instructor</b>         | <i>Chelsea Blankenchip</i>  |
| <b>IAs</b>                | <i>Justin Chi and Julieann Nodora</i>   |

## Course Learning Outcomes

Upon completion of this course, students will be able to:

1. Demonstrate an understanding of the structure and function of cells, especially cells in organisms like humans, and how information is transmitted from generation to generation.
2. Predict how a change in a molecule, structure, or cell (like through disease or experimental manipulation) will affect its function and the function of the cell as a whole.
3. Develop critical thinking skills to be able to think like a biologist and solve biologically relevant problems.

## Course Format

BILD1 will be taught in person synchronously. Lectures will be held Monday-Thursday each week and they will be recorded for your later use. There will also be in-class activities and **lecture participation credit** to encourage you to attend class. Section will be held every Tuesday and Thursday during the summer session. To get **section participation credit** you must either attend section or complete an alternate assignment.

Before each unit there will be a **pre-lecture discussion** assignment on canvas based on an assigned reading or other relevant media. At the end of each week there will be an **end of week quiz** on canvas regarding the material covered that week.

Please come visit us in office hours. This is time that we have set aside just for you, and we hope you utilize it.

### Lectures:

Location: Peterson 102

Time: Mon-Thur 2pm-3:20pm

### Section:

Location: Humanities and Social Sciences Building 2150

Time: Tue and Thurs 4-4:50pm or 5-5:50pm

### Online Course Elements:

UC San Diego's Learning Management System: <https://canvas.ucsd.edu>

Login: UC San Diego Active Directory credentials

Course elements on Canvas: Pre-lecture discussion, end of week quizzes, alternate assignments, recorded lectures, Lecture slides.

Class Question Board: Slack

Course elements on Slack: Space to ask questions about the course.

Join the slack here: [https://join.slack.com/t/bild12023ss2/shared\\_invite/zt-20egboh2o-Ka1R8a75Me9eN~asDZii7g](https://join.slack.com/t/bild12023ss2/shared_invite/zt-20egboh2o-Ka1R8a75Me9eN~asDZii7g)

## Types of Assignments

Pre-lecture discussion – Due at the start of a new unit

End of week Quizzes – Due on Friday each week

Section assignments – If you choose the alternate assignment, it is due on Friday of each week.

## A Typical Week in This Course

| Day       | Attend or Watch                                 | Do   |
|-----------|---|--|
| Monday    | Monday Lecture                                  |  |
| Tuesday   | Tuesday Lecture<br>Tuesday Discussion section   | Do pre-lecture discussion assignment for Wednesday |
| Wednesday | Wednesday Lecture                               |  |
| Thursday  | Thursday Lecture<br>Thursday Discussion section |  |
| Friday    |   | Complete weekly quiz on canvas                     |
| Weekend   |   | Do Pre-lecture discussion assignment for Monday    |

## Course Materials and Tools

### Optional:

Textbook: *Campbell Biology* (8<sup>th</sup>, 9<sup>th</sup>, 10<sup>th</sup>, or 11<sup>th</sup> edition)

### Technology Requirements:

iClicker or iClicker2 must be registered on Canvas

## Assignments, Projects, and Grading

### Grade Criteria

| Assignment                               | Points     | % of Grade  |
|--|------------|-------------|
| Lecture Participation (12@5 points each) | 60         | 7%          |
| Pre-Lecture Discussion (9@10points each) | 80         | 9%          |
| End of Week Quizzes (4@20 points each)   | 80         | 9%          |
| Section participation (9@10 points each) | 90         | 10%         |
| Midterms (2@150 points each)             | 300        | 32.5%       |
| Final Exam                               | 300        | 32.5%       |
|  | <b>910</b> | <b>100%</b> |

## Grading Scale

| %     | Grade | %     | Grade | %     | Grade | %     | Grade |
|-------|-------|-------|-------|-------|-------|-------|-------|
| >97   | A+    | 87-89 | B+    | 77-79 | C+    | 60-69 | D     |
| 94-96 | A     | 84-86 | B     | 74-76 | C     | 0-59  | F     |
| 90-93 | A-    | 80-83 | B-    | 70-73 | C-    |       |       |

## Grading Procedure and Feedback

The Grade on assignments will be based on the percentage of total points earned. Numeric grades are rounded to the nearest integer before assigning a letter grade. We believe that your grade should ultimately reflect *your* effort and understanding, not anyone else's, and want to encourage everyone to help each other. Therefore, **no grades are ever curved**. We do not decide your grade, but rather **you as a student do the work to earn your grade**. (But we are delighted to help you strategize about how you can maximize your learning.)

**Late assignments** will receive half credit. If you are having difficulty or experiencing an emergency that requires an extension, please reach out to me via slack or email and we can work out an accommodation.

## Midterms and Final Exam

There will be three midterms and a final exam in this class. Midterms will take place during regularly scheduled class sessions. One 8 ½ x 11in sheet of notes, front and back is allowed for midterms and the final exam.

## Attendance and Participation

Lecture attendance will be determined based on participation in clicker questions during class. Section attendance will be determined either by attendance during section or the completion of an alternate assignment.

## Dropped Assignments

We understand that life can get hectic sometimes. As a result, each assignment type will have a little wiggle room.

| Assignment Type        | Number of Lowest Scores Dropped |
|------------------------|---------------------------------|
| Midterms               | 1 (does not include final exam) |
| Lecture attendance     | 4                               |
| Pre-lecture Discussion | 1                               |
| End of week quizzes    | 1                               |
| Section participation  | 1                               |

**Overall Course Expectations**

| What you can do to support your success in the course:  | What I will do to support your success in the course:  |
|---|--|
| Read the syllabus and stay current with course information  | Be prepared and bring my enthusiasm for teaching to each session   |
| Keep up with readings and assignments, as each one builds on the previous one.  | Respond to emails within one working day and provide timely feedback on assignments.   |
| Contribute to the learning environment with <a href="#">fairness, cooperation, and professionalism</a>                                      | Establish a learning environment with fairness, cooperation, and professionalism, and will take action if these principles are violated.   |
| Treat your classmates, instructional assistants and myself honestly and ethically   | Treat you honestly and ethically, and will address any concerns you might have   |
| Commit to excel with integrity <sup>1</sup> . Have the courage to act in ways that are honest, fair, responsible, respectful & trustworthy. | Uphold integrity standards and create an atmosphere that fosters active learning, creativity, critical thinking, and honest collaboration. |
| Manage your time, so you can stay on track with the course and complete tasks on time   | Only assign work that is vital to the course, and will work to meet the standard credit hour allotment for the course.                     |
| Communicate with me if you determine that a deadline cannot be met due to extenuating circumstances   | Consider requests for adjustments and will make reasonable exceptions available to all students when approved                              |

1. Please read UC San Diego's [Policy on Integrity of Scholarship](#) and take the [integrity pledge!](#)

## Instructional Team: Who Are My Instructors?

### Instructor



Name: Chelsea Blankenchip

Email: [clblanke@health.ucsd.edu](mailto:clblanke@health.ucsd.edu)

I have a Bachelor of Arts degree in biochemistry from Occidental College where I was a first-generation college graduate. After graduating from college, I worked with the non-profit City Year as a teaching assistant in high school biology and algebra. In winter 2023, I worked as an IA for BILD1. I am currently a rising 5<sup>th</sup> year PhD student in Biomedical Sciences here at UCSD. My research is about how bacteria defend themselves from viral infection. When I graduate from UCSD I want to become a professor. Since this is my first time instructing a class, I am excited to learn from all of you and to share what I know about The Cell.

Office Hours: Tues/Thurs 12:30-1:30pm at art of espresso and Wed 4-5pm via zoom

### Teaching Assistants



Julieann Nodora

Office Hours: *Mon and Wed 1-2pm Via Zoom*

Fun Facts:

1. Attended two performing arts schools where she majored in music. Played the piano and the flute
2. Studies spinal cord injury and treatments in a lab at UCSD



Justin Chi

Office Hours: *Tue and Thur 6-7pm HSS1145L*

Fun Facts:

1. Enjoys playing the piano
2. Enjoys playing tennis

## Resources for Support and Learning

|   |  |
|---|--|
| <p><b>Learning and Academic Support</b></p>   |  |
| <p><b><u><a href="#">Ask a Librarian: Library Support</a></u></b><br/> <i>Chat or make an appointment with a librarian to focus on your research needs</i></p> <p><b><u><a href="#">First Gen Student Success Coaching Program</a></u></b><br/> <i>Peer mentor program that provides students with information, resources, and support in meeting their goals</i></p> <p><b><u><a href="#">Office of Academic Support &amp; Instructional Services (OASIS)</a></u></b><br/> <i>Intellectual and personal development support</i></p>  | <p><b><u><a href="#">Supplemental Instruction</a></u></b><br/> <i>Peer-assisted study sessions through the Academic Achievement Hub to improve success in historically challenging courses</i></p> <p><b><u><a href="#">Tutoring – Content</a></u></b><br/> <i>Drop-in and online tutoring through the Academic Achievement Hub</i></p>  |
| <p><b>Support for Well-being and Inclusion</b></p>  |  |
| <p><b><u><a href="#">Basic Needs at UCSD</a></u></b><br/> <i>Any student who has difficulty accessing sufficient food to eat every day, or who lacks a safe and stable place to live is encouraged to contact: <a href="mailto:foodpantry@ucsd.edu">foodpantry@ucsd.edu</a>   <a href="mailto:basicneeds@ucsd.edu">basicneeds@ucsd.edu</a>   (858) 246-2632</i></p> <p><b><u><a href="#">Counseling and Psychological Services</a></u></b><br/> <i>Confidential counseling and consultations for psychiatric service and mental health programming</i></p> <p><b><u><a href="#">Triton Concern Line</a></u></b><br/> <i>Report students of concern: (858) 246-1111</i></p> <p><b><u><a href="#">Office for Students with Disabilities (OSD)</a></u></b><br/> <i>Supports students with disabilities and accessibility across campus</i></p> | <p><b><u><a href="#">Community and Resource Centers Office of Equity, Diversity, and Inclusion</a></u></b><br/> <i>As part of the <a href="#">Office of Equity, Diversity, and Inclusion</a> the campus community centers provide programs and resources for students and contribute toward the evolution of a socially just campus</i></p> <p><b><u><a href="#">Get Involved</a></u></b><br/> <i>Student organizations, clubs, service opportunities, and many other ways to connect with others on campus</i></p> <p><b><u><a href="#">Undocumented Student Services</a></u></b><br/> <i>Programs and services are designed to help students overcome obstacles that arise from their immigration status and support them through personal and academic excellence</i></p> |

## Campus and Course Policies

### Course Policies

#### Health and Well-Being Statement

Life happens. If you need accommodation for any reason, please reach out to me and we can work something out.

#### Subject to Change Policy

Information in the syllabus is subject to change. As the class progresses, we may need to change the syllabus to better fit our needs. If the syllabus is changed you all will receive an email regarding the change and an updated syllabus will be posted on canvas.

### Campus Policies

- [UC San Diego Principles of Community](#)
- [UC San Diego Policy on Integrity of Scholarship](#)
- [Religious Accommodation](#)
- [Nondiscrimination and Harassment](#)

### Course Schedule

| Date                         | Unit  | Assignments due                           |
|------------------------------|---|---|
| <b>Class #1 M<br/>Aug 7</b>  | Introduction<br>Definitions of Life                     |   |
| <b>Class #2<br/>T Aug 8</b>  | Definitions of Life and Chemistry of Life<br>Section #1 | Pre-Lecture Discussion                    |
| <b>Class #3 W<br/>Aug 9</b>  | Chemistry of Life                                       | Pre-Lecture Discussion                    |
| <b>Class #4<br/>R Aug 10</b> | Membrane Transport<br>Section #2                        | Pre-Lecture Discussion                    |
| <b>F Aug 11</b>              | <b>NO CLASS</b>   | Section participation<br>End of week Quiz |
| <b>Class #5<br/>M Aug 14</b> | <b>Exam #1 (Classes 1-4)</b>                            |   |
| <b>Class #6<br/>T Aug 15</b> | Enzymes<br>Section #3                                   | Pre-Lecture Discussion                    |
| <b>Class #7<br/>W Aug 16</b> | Cellular Metabolism: Photosynthesis                     | Pre-Lecture Discussion                    |
| <b>Class #8<br/>R Aug 17</b> | Cellular Metabolism: Cellular Respiration<br>Section #4 |   |



|                                |  |   |
|--------------------------------|--|---|
| <b>F Aug 18</b>                | <b>NO CLASS</b>                              | Section participation<br>End of week Quiz |
| <b>Class #9<br/>M Aug 21</b>   | Cellular Signaling                           | Pre-Lecture Discussion                    |
| <b>Class #10<br/>T Aug 22</b>  | Central Dogma<br>Section #5                  | Pre-Lecture Discussion                    |
| <b>Class #11<br/>W Aug 23</b>  | <b>Exam #2 (Classes 6-9)</b>                 |   |
| <b>Class #12<br/>R Aug 24</b>  | Central Dogma<br>Section #6                  |   |
| <b>F Aug 25</b>                | <b>NO CLASS</b>                              | Section participation<br>End of week Quiz |
| <b>Class #13<br/>M Aug 28</b>  | Cellular Replication: Mitosis                | Pre-Lecture Discussion                    |
| <b>Class #14<br/>T Aug 29</b>  | Cellular Replication: Meiosis<br>Section #7  |   |
| <b>Class #15<br/>W Aug 30</b>  | Review                                       |   |
| <b>Class #16<br/>R Aug 31</b>  | <b>Exam #3 (Classes 10-15)</b><br>Section #8 |   |
| <b>F Sept 1</b>                | <b>NO CLASS</b>                              | Section participation<br>End of week Quiz |
| <b>M Sept 4</b>                | <b>NO CLASS!!!</b>                           |   |
| <b>Class #17<br/>T Sept 5</b>  | Genetics<br>Section #9                       | Pre-lecture discussion                    |
| <b>Class #18<br/>W Sept 6</b>  | Genetics                                     |   |
| <b>Class #19<br/>R Sept 7</b>  | Review<br>Section #10                        |   |
| <b>Final Exam<br/>F Sept 8</b> | Final Exam                                   | Section participation<br>End of week quiz |