

The Cell

BILD 1

Summer 2019

Instructor: Cindy Gustafson-Brown (Dr. Gus)
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Phone: 534-4242
email: cgb@ucsd.edu (Put **BILD 1** in the subject line!)
office hours: Thurs, 3:30-4:20 PM, Pepper Canyon 109 (*starting Thurs, Aug 8*)

Please present your questions about course material in person during office hours, not by email. I cannot guarantee an answer to your email, unless it is an urgent issue.

Course description

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. Recommended preparation: prior completion of high school- or college-level chemistry course.

Book

The required textbook is *Campbell Biology*, 11th Edition, by Urry, Cain, Wasserman, Minorsky & Reese (Pearson 2016). There will be copies of the textbook on reserve at the library.

Mandatory reading assignments, indicated on the schedule, are associated with every lecture. We assume you are here to learn! Just like athletic training for your body, learning requires **effort**. Readings in the textbook lay the foundation for our lectures. Prior reading of the textbook **before** lecture **is expected** in this class. This will enhance your ability to successfully answer clicker questions. It will also contribute significantly to your understanding of the lecture, even if you did not understand all the material the first time you read it. Do not be discouraged. It is normal for new understandings to develop over multiple exposures to any novel material. Research in psychology has shown that students who read before coming to lectures gain far more from the lecture than those who do not.

Students will also need **Mastering Biology**, an online program. It will provide a daily assignment based upon the reading for that day.

Supplemental reading

There may be additional, short reading assignments from non-technical, outside sources, such as news stories. They will be posted on CANVAS in the “supplemental reading” folder.

Podcast

This course will be podcast. podcast.ucsd.edu Be aware that sometimes there are technical glitches that may interfere with recording/posting of lectures. This is entirely out of my control.

Classroom etiquette

Minimizing distractions during lecture is important. Please have respect for your classmates and the instructor by silencing cell phones and other electronic devices, not talking, and minimizing other distracting activities in class. Research has demonstrated that taking notes by hand leads to better learning and retention than taking notes on a computer!

Web site

The class web site will be on CANVAS. Please check it regularly for important materials.

Discussion sections

Sections will start on *Thurs, Aug 8*.

Each section meets twice per week.

| Section | Days | Time | Location | IA | Email |
|---------|-------|-------------|-------------|---------------|-----------------|
| A01 | Tu/Th | 9-9:50 AM | HSS 1315 | Jennifer Doan | jedoan@ucsd.edu |
| A02 | Tu/Th | 10-10:50 AM | HSS 1315 | Jennifer Doan | jedoan@ucsd.edu |
| A03 | Tu/Th | 11-11:50 AM | MANDE B-150 | Jean Ooi | hooi@ucsd.edu |

In section you will review the lecture material and/or discuss the readings. There will be practice problems for you to work on to prepare for exams. 5% of your grade will be based upon participation in sections.

IA office hours (starting week 2)

You may attend the office hours of any IA.

| Name | Day | Time | Location |
|---------------|-------|--------------|--------------------------------|
| Jennifer Doan | Tues | 11-11:50 AM | Middle of Muir Cafe (MOM) |
| Jean Ooi | Thurs | 2:15-3:15 PM | Tapioca Express (Price Center) |

iClickers

You may earn points by answering iClicker questions starting on **Tues, Aug 6**, in lecture.

Your iClicker **MUST** be registered on CANVAS in order for your responses to be assigned to you.

Points available:

40 points for participation

20 points for accurate answers

60 points total = 6% of your grade.

iClicker Participation Points (40 points)

In order to receive these points each day, you must respond to 80% of the questions in that lecture.

It does NOT matter if your answer is correct.

There are different numbers of questions each day, so you may use the table below to determine how many times you must respond for participation credit a given day.

| | | | | | | | |
|--------------------|---|---|---|---|---|---|---|
| total questions | 7 | 6 | 5 | 4 | 3 | 2 | 1 |
| required responses | 6 | 5 | 4 | 4 | 3 | 2 | 1 |

Q. How many days will we have clicker questions?

Probably ~16-17 days.

Q. How do I get the participation points each day?

You must answer 80% of the questions posed that day. The number of questions will vary from lecture to lecture.

Q. How many days will I have to be present to qualify for full participation points?

You get two free absences without penalty. Full credit will be allocated if you click in every day except two.

Q. If my battery fails, or I forget my clicker, but I do attend the class, do I get participation for that day?

No. You are allowed two “permitted” absences – so you don’t have to ask me about making up the missed days. We don’t have to negotiate credit; you can still get all 42 participation points from the remaining days attended.

Q. If I only attend a few lectures, will I get any participation points?

Yes, you can still get points each day if you answer 80% of the questions that day.

iClicker Accuracy Points (20 points)

You may receive additional credit for answering questions correctly.

There are different numbers of questions during each lecture. Every question is graded individually, even if it is a repeated question (e.g. asked before and after group discussion). The total number of questions over the quarter is unpredictable, and will only be known when the quarter ends.

If you correctly answer 70% of the total questions in a quarter, you will receive the full 20 points possible for accuracy.

Here is a hypothetical example: IF there are 100 questions total in a quarter, you must answer 70 questions correctly to receive the maximum credit of 20 points. In that case, you will receive $20 \text{ pt}/70 \text{ Q} = 0.286$ points per question up to a maximum of 20 points.

This is NOT all or nothing. You get credit for as many as you answer correctly, up to 20 points.

Q. If my battery fails, or I forget my clicker, but I do attend the class, do I get accuracy points for that day?

No. You only need to get 70% of the questions correct in order to get full credit. Please do not ask about making up missed days. We don’t have to negotiate credit; you can still get all 20 points from the remaining days attended.

Additional iClicker information

Q. Where can I get a clicker?

You can buy one at the UCSD bookstore.

Q. Can I share a clicker with another student?

No! If you are found to be using another student’s clicker, or if another student is using your clicker, you will both receive a failing grade in the class, and will be referred to the Office of Academic Integrity for administrative discipline.

Q. Will the clicker results be posted on CANVAS?

No. You may keep track of your own results each day. The clicker questions are posted at the end of each day on CANVAS, with the lecture slides. The answers to the questions are revealed in class.

Q. What is my best strategy for getting all the points?

Do your reading in advance, show up for as many lectures as possible, stay awake, and PARTICIPATE!

Exams

Exams and quizzes will be closed-notes/closed-book, primarily short answer with a few true/false, multiple choice, and short essay questions. You will be accountable for **all material covered in lecture, PowerPoint slides, assigned material in Mastering Biology, and all required reading.**

The final exam will be comprehensive, with emphasis on the last part of the course.

BRING STUDENT ID. It will be checked at the exams.

You must write in nonerasable pen and avoid using white-out on the midterm in order to be considered for a regrade. Your handwriting must be legible; we will disregard answers which cannot be deciphered.

Old exams: This is the first quarter I have taught BILD 1. Consequently, I do not have old exams for this course. However, I have posted an old exam from BILD 10, so that you can see the style of my exams. (Note that BILD 10 is a class for non-majors, so it is much easier.)

Review sessions: The IAs will conduct review session before each exam:

| | | |
|-----------------------|-------------------------|-----------|
| first review session | Tues, Aug 13, 7-8:20 PM | PCYNH 109 |
| second review session | Mon, Aug 26, 7-8:20 PM | PCYNH 109 |
| third review session | Fri, Sept 6, 7-9 PM | PCYNH 109 |

Missed exams

There are NO alternate exams. Make sure your class schedule has NO exam conflicts, including the final exam! If you know in advance that you must miss an exam or quiz due to an unavoidable situation (e.g. surgery), it is your responsibility to clear it with Dr. Gus *as soon as the conflict becomes apparent*. If a spontaneous emergency (e.g. serious illness or accident) arises, you **must contact the instructor within 24 hours** of the missed exam to determine if you are eligible for a make-up exam. You will be required to provide documentation, without which there will not be a make-up. Do not ask to reschedule an exam or quiz for any reason other than a *dire emergency*. Make-up exams/quizzes are decided case-by-case. The format *may* be an oral or essay exam.

Regrades

Before submitting a regrade, read the entire regrade policy, posted on CANVAS. All regrade requests should be typed on a regrade request form, stapled to the exam, and submitted within four days. It is recommended that you (respectfully) speak with your IA about material you did not understand prior to submitting a request. Alternatively you may make an appointment with your IA, or come to Dr. Gus' office hours.

Course grade

This course will be graded on a curve. The class average will be a high B minus. Grades will include pluses and minuses. There are 1000 points possible in the quarter.

| | |
|-----|---|
| 5% | Participation in sections (for up to <u>eight</u> sections) |
| 6% | Clickers (participation + accuracy) |
| 13% | Online homework |
| 18% | Midterm 1 |
| 20% | Midterm 2 |
| 38% | Final exam |

This is a competitive course. The instructor must be completely fair to ALL students in the class and cannot under any circumstance give special consideration to an individual student. You will receive the grade that you have earned with no exceptions. Grades cannot be changed for individual students for any reason. If you have what you consider extraordinary circumstances that deserve special consideration, then you should contact an academic advisor or the dean of student affairs in your college.

How can I succeed in BILD 1?

1. **Read** the assigned pages before lecture. You will understand the lectures better and learn more. You will also get more clicker points toward your grade! The lecture will be related to the assigned reading, but may expand on the topic. Nevertheless, you are accountable for all reading. It will be covered on the exams. **Keep up with the reading.** Pace yourself with the reading schedule.
2. **Outline** the important points as you read. This will help you remember the flow of information and contextualize the details. You will not remember all the reading unless you take notes. Use index cards, or a notebook, to summarize the important points.
3. **Look up words** you don't understand in the glossary, a dictionary, or online.
4. **Come** to class and sit toward the front.
5. **Listen** to the podcast.
6. **Review** your notes within 24 hours of the lecture.
Even more effective: rewrite (outline) your notes within 24 hour of the lecture.
There will be material presented in lecture that is not in the textbook. You are accountable for all lecture material.
7. **Review** the PowerPoint slides with your lecture notes. PowerPoint slides will NOT contain the instructor's notes. They will contain announcements, illustrations, graphs, diagrams, and photos which augment the lecture. They will be posted after each lecture. You are accountable for everything in the PowerPoint slides.
8. **Study** a little bit every day, or a few times per week. Repetition over time is the key to retaining information. Your goal is to establish new neural pathways in your memory and fire them often! Cramming does not accomplish this.
9. **Study** with other students, and choose those who are serious about academics. Make up questions and quiz each other. Anticipate potential exam questions. This is a strategy that has been demonstrated to increase student learning.
10. **Go** to your discussion section. Participation is worth 5%. Further, there will be opportunities to review the material and ask questions.
11. **Go** to the office hours of the IAs and the instructor. This will encourage you to review the material, in order to have questions to discuss.
12. **Go** to the review sessions.
13. Utilize **study aids** provided on the course web site and on Mastering Biology.

Academic integrity

Students are expected to do their own work, as outlined in the UCSD Policy on Academic Integrity. Cheating will not be tolerated, and I may fail any student caught engaging in academic dishonesty. All exams/quizzes will be closed-book and closed-notes, so all personal materials must be stowed under your seat. Only exams/quizzes written in nonerasable pen will be considered for regrades. Exams will be photocopied for comparison with submitted regrades. Because all exams/quizzes are required for satisfactory completion of this course, any student caught cheating on an exam/quiz may receive a failing grade for the course. He/she may also be suspended from UCSD.

Students with disabilities (from their website)

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 the instructor 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)

Resources for students

- **Academic support**
 - **Teaching + Learning Commons** <http://commons.ucsd.edu>
offers tutoring, consultations, and workshops on learning strategies as well as assistance with writing in the Writing + Critical Expression Hub
- **Psychological support and physical safety**
 - **CAPS** <http://caps.ucsd.edu>
offers free, confidential counseling. They can help with urgent crises, such as an assault or thoughts of self-harm. They offer drop-in and group workshops and forums. They can also talk if you are worried about a friend or classmate. Their self-help library of resources covers many relevant topics, and can be accessed at <http://caps.ucsd.edu/selfhelp.html>
 - **CARE at SARC** <http://care.ucsd.edu>
Campus Advocacy, Resources, and Education at the Sexual Assault Resource Center (CARE at SARC) offers support for those of you who have experienced sexual violence or violence from a partner. They have free confidential counseling, including on nights and weekends.
- **Basic needs**
 - **Triton Food Pantry** <http://basicneeds.ucsd.edu/tritonfood-pantry/>
discreetly offers food for current UCSD students. Its goal is to ensure that each of you has enough energy and nutrition to get through the day
 - **The Hub** <https://basicneeds.ucsd.edu>
The Hub connects those of you who have trouble accessing basic needs, including food or stable housing, or who have financial emergencies. They can help you connect with a

variety of on-campus and off-campus programs, including the Food Pantry, CalFresh, emergency loans, emergency housing, or changes to your financial aid, depending on your situation.

Tentative lecture schedule

| Date | Session | Topics | Chapter | pages |
|---------------|---------|-----------------------------------|---------|---|
| Mon, Aug 5 | 1 | Introduction | | |
| Tues, Aug 6 | 2 | Small molecules | 2-4 | Concept 2.3 & 2.4 Concept 3.1, pg 49-50 Concept 4.2 and 4.3 |
| Wed, Aug 7 | 3 | Biological molecules | 5 | pages 68-70 Concept 5.3 through page 78 pages 80-81 pages 84-85 |
| Thur, Aug 8 | 4 | Cell structure | 6 | |
| Mon, Aug 12 | 5 | Membranes | 7 | |
| Tues, Aug 13 | 6 | Metabolism | 8 | |
| Wed, Aug 14 | 7 | MIDTERM 1 | | |
| Thur, Aug 15 | 8 | Cellular respiration | 9 | |
| Mon, Aug 19 | 9 | Photosynthesis | 10 | |
| Tues, Aug 20 | 10 | Cell communication | 11 | |
| Wed, Aug 21 | 11 | Cell cycle | 12 | |
| Thurs, Aug 22 | 12 | Meiosis | 13 | |
| Mon, Aug 26 | 13 | Genetics | 14 | |
| Tues, Aug 27 | 14 | MIDTERM 2 | | |
| Wed, Aug 28 | 15 | Chromosomes | 15 | |
| Thur, Aug 29 | 16 | DNA and inheritance | 16 | |
| Mon, Sept 2 | 17 | Gene expression | 17 | |
| Tues, Sept 3 | 18 | Gene regulation | 18 | |
| Wed, Sept 4 | 19 | Viruses | 19 | |
| Thur, Sept 5 | 20 | Biotechnology | 20 | |
| Sat, Sept 7 | -- | FINAL EXAM (11:30-2:30 PM) | | |