

SYLLABUS (tentative)
BILD 1: The Cell Spring 2024

Lecture: Tuesday/Thursday 11:00am-12:20pm. Mosaic room 0113

Discussion session: We 4:00pm-4:50pm RCLAS

Instructor: Michael Burg, Ph.D. mburg@ucsd.edu

Office and Office Hours: TBD

Note: Attendance to lectures/discussions not mandatory; Lectures will be videocast (however sometimes they don't work)...you will learn more and have a more positive experience if you attend lectures)

BOTH EXAMS MUST BE IN PERSON AT THE DESIGNATED DAY, TIME, LOCATION

Course Description: This is an introductory course detailing cellular and molecular biology.

Student Learning Outcomes:

Upon completion of BILD1 a successful student should:

1. Understand the major atomic, molecular, and cellular processes which underlie living things
2. Demonstrate mastery of the major principles of cellular structure, cellular physiology, and the flow of genetic information in cells

Recommended Texts, Materials, and Web-Enhancement

- **NOT REQUIRED** Campbell Biology in Focus, Urry, Cain, Wassermann, Minorsky, Jackson, and Reese, Pearson (2014) or Campbell Biology, 9th Edition (2011), Campbell and Reece, are **optional texts**. Lectures will be, in part based upon topics covered in these texts. These are available on reserve at Geisel Library
- *Some additional readings will be provided via Canvas*
- All powerpoint lectures, associated handouts, and other relevant material are available on Canvas
- *Check for announcements on Canvas*
- *Instructional Assistants/Tutors: Names, sections, and contact information will be posted on Canvas*

Attendance, class ethics, and additional considerations

1. Attendance to class lectures and sections are **not required** but will ensure your success in the class.
 2. Exams will be based upon material in class, assigned science articles; Class attendance will be important for success.
- 1- **Academic dishonesty and plagiarism (the unauthorized or uncredited use of someone else's work) will result in a grade of "F" for the assignment. Its continued practice will be reported to the appropriate deans for possible disciplinary action and may result in an "F" for the course.**

Extra Credit: 5 extra points for >80% SET response rate

Exams and other assignments

1. There will be two exams (midterm 100pts; final 150pts) on the material stipulated in the study sheets, text reading, supplementary readings and videos and lectures. All exams count; **You must take all exams during the scheduled times.** Exams will include both multiple choice and short answer
2. There will be several written assignments (worth total around 200 pts) on material to be explained later

Letter grades will be assigned as follows:

GRADING

Your grade is based upon a percentage of the total points you accumulate during the semester.

- A⁺ = 99% - 100% of the total possible points
- A = 90% - 98.9% of the total possible points
- B⁺ = 89% - 89.9% of the total possible points
- B = 80% - 88.9% of the total possible points
- C⁺ = 79% - 79.9% of the total possible points
- C = 70% - 78.9% of the total possible points
- D = 60% - 69.9% of the total possible points
- F = Less than 60% of the total possible**

| WEEK | Date | Lecture Topic |
|--------|------|---|
| 1 Tue | 4/2 | Introduction, Homeostasis |
| Thu | 4/4 | Homeostasis ; Basic Chemistry |
| 2 Tue | 4/9 | Biomolecules |
| Thu | 4/11 | Energy and Metabolism |
| 3 Tue | 4/16 | The cell Membrane transport |
| Thu | 4/18 | Membrane transport |
| 4 Tue | 4/23 | Membrane transport |
| Thu | 4/25 | <i>Catch up and review</i> |
| 5 Tue | 4/30 | Exam 1 |
| Thu | 5/2 | iDNA structure and replication |
| 6 Tue | 5/7 | Flow of genetic information |
| Thu | 5/9 | Transcriptional control Epigenomics |
| 7 Tue | 5/14 | Post-transcriptional gene control: mRNA, noncoding RNAs and translational control |
| Thu | 5/16 | Post-transcriptional gene control: mRNA, noncoding RNAs and translational control |
| 8 Tue | 5/21 | Genetic Manipulation:CRISPR |
| Thu | 5/23 | Stem cells and cellular differentiation |
| 9 Tue | 5/28 | Stem cells and cellular differentiation |
| Thu | 5/30 | Cell signaling and cell cycle |
| 10 Tue | 6/4 | Introduction to cancer |
| Thu | 6/6 | <i>Catch up and review</i> |
| Tue | 6/11 | Final exam 11:30-2:30 |