

# Biology 2020, Principles in Cell Biology (Fall 2023)

**Lectures:** Tu/Th from 10:45 to 12:05 in ASB220

**Enforced prerequisites:** Biol 1210 (or Biol 1610) and Chem 1210

**Instructure:** Markus Babst (babst@biology.utah.edu)  
I will meet with students only after e-mail contact.  
For questions regarding the course content please contact first your assigned teaching assistants.

## Teaching assistants:

- Group 1: Eron Powell (u1379578@utah.edu)  
Jilian Ulibarri (jilian.ulibarri@utah.edu)
- Group 2: Jasmine Phan (jasmine.phan@utah.edu)  
Caden Lewis (u1327938@utah.edu)
- Group 3: Suprim Tha (suprim.tha@utah.edu)  
Will Loveland (u1331516@utah.edu)
- Group 4: Khushpreet Saini (u1335979@utah.edu)  
Himani Makkar (himani.makkar@utah.edu)

Each TA group is responsible for the following students:

- Group 1: A – Enloe
- Group 2: Eskelson – Manning
- Group 3: Manova – Rossy
- Group 4: Sadat – Z

If you (student) have questions, please contact the TAs assigned to your group!

## Student Code of Conduct:

As with every University of Utah course, you are required to obey the Student Code:  
<https://regulations.utah.edu/academics/6-400.php>

We encourage you to work together to understand the material covered in this course. Form study groups, attend discussions, ask questions, use the Canvas site, talk with your colleagues and TAs. *You may work together and discuss the problem set questions and answers, but each student must submit their own problem set. Exams must be your own work, and solely your own work.* We will be actively monitoring the class to ensure a level playing field. Academic misconduct will not be tolerated, including cheating, misrepresentation, and plagiarism.

We aim to maintain a climate conducive to thinking and learning. The instructors and teaching assistants value diversity in nature and in the community of this classroom. We will foster inclusivity in our course, and respect the dignity of our students and their rights as persons. We expect all participants in the course will treat each other with respect and value the differences among us. Please communicate with an instructor if there is anything we should know to enhance the effectiveness of your learning in this course.

**Goals / Topics:** Principles of Cell Biology explores the relationship between cell structure and function and the experimental foundation underlying the science of cell biology, using examples from eukaryotes (plants, animals, and fungi). Students successfully completing Biology 2020 Principles of Cell Biology will understand:

- What are cells
- Evolution of cells
- Methods of studying cells
- Organelles and structure of the cell
- Chemical components of the cell
- Proteins: protein folding and structure
- Protein function: enzymes
- Metabolism
- Transmembrane proteins and membranes
- Protein function: channels and transporters
- The life of an enzyme: transcription, translation
- The life of an enzyme: function and regulation
- The life of an enzyme: loss of function and degradation
- The life of a transporter: translation and translocation at the ER
- The life of a transporter: folding at the ER and trafficking to the cell surface
- The life of a transporter: endocytosis and degradation
- Cell division: DNA replication, chromosome segregation, cytokinesis
- Cell signaling and sensing

**Required text and assigned reading:** Alberts et al., Essential Cell Biology, 6th edition; (ECB6; Garland Publishing). I do NOT recommend using earlier editions of ECB! Reading from this text will be assigned each week. I encourage students to test and improve their cell biology knowledge by answering questions and work with material from Smartwork that is linked to the e-book.

**Electronics:** Students have to be able to access Canvas during and after lectures.

**TA Tutoring:** One-on-one and/or small group tutoring by the TAs can be requested by sending an e-mail to your assigned TAs. Additional one-on-one tutoring for BIOL 2020 is available through the Biology Learning Center.

**Problem solving / discussion sessions:** Weekly discussion sessions will be conducted by the TAs. You can go to any of these discussion sessions.

- Monday 8-9am in AEB 350
- Monday 3-4pm in JTB 130
- Tuesday 12:15-1:15pm in ASB 210
- Tuesday 5-6pm in JTB 130

Attendance at these sessions is optional but highly recommended. During these sessions the TAs will work with you on the Problem Sets.

**Exams:** There will be three midterm exams (40% of grade) and one final exam (30% of grade). Together the exams count for 70% of your grade. You can miss one midterm exam. If you don't miss an exam, the exam with the lowest score will be dropped.

**Quizzes:** During each lecture there will be a short quiz (3 multiple-choice questions, 3min) about the topic discussed in the lecture. The quizzes will be posted through Canvas and only available for students that are present in class. The quizzes count for 10% of your grade. There will be 24 quizzes, 5 points each. You will get 2 points for being present and one point for each correct answer. You can miss 4 quizzes and still get full points (assuming you answer the remaining 20 quizzes correct). If you have more than 100 points, the additional quiz points will count towards your grade. There are no make-up quizzes.

**Problem Sets:** Most Thursday's, a Problem Set will be posted on Canvas. The Problem Set has to be hand written/drawn on paper and a picture of the problem set has to be downloaded into Gradescope by the following Thursday (see class schedule at the end of this document). Students are allowed to discuss the Problem Set and help each other solving it. Problem Sets answered in MSWord or similar programs are not accepted. TAs are also allowed to assist. Students are allowed to have the same answer but each problem set has to be written by the student and cannot be a copy of another student's Problem Set. I encourage you to go to the Discussion Sessions which will discuss these assignments! You need 8 of the 10 Problem Sets to get full points (8x25 points = 20% of your grade).

**Missing Problem Sets, Quizzes and Exams:** You can miss 2 of the 10 Problem Sets without penalties for your final grade. You can miss 4 of the 24 quizzes and still get full points if you answer the remaining quizzes correct. Therefore, you don't have to inform the instructor or the TAs if you miss class for a week (you don't get extra points). If you miss class for more than one week because of sickness or other serious problems, contact the lecturer.

**Grade:** Total points: 1000. The Problem Sets will count for 20% of the final grade (8 problem sets for full points; each 25 points; no extra points). The quizzes count for 10% (20 quizzes with correct answers for full points). Additional points from the quizzes will count towards the grade (120 points maximal). Two of the three midterm exams will count together for 40% of the grade. The final exam, which will be comprehensive, will count 30% of the grade.

Grade scale:

600	630	670	700	730	770	800	830	870	900	930	
E	D-	D	D+	C-	C	C+	B-	B	B+	A-	A

**Incompletes:** University policy allows assignment of a grade of incomplete (I) if 80% of the class has been completed (20% or less of the course work remains unfinished). An "I" grade cannot be used to avoid paying tuition to retake a class. We will consider assigning an "incomplete (I)" only under EXCEPTIONAL circumstances unrelated to academic performance, and only if a student is passing the course with a C- or better when the "Incomplete" is requested.

**A.D.A. :** The University of Utah seeks to provide equal access to its programs, services, and activities for people with disabilities. If you will need accommodations in this class,

reasonable prior notice needs to be given to the instructor and to the Center for Disability Services, 162 Olpin Union Building, 581-5020 (V/TDD) to make arrangements for these accommodations.

**University Safety Statement:** The University of Utah values the safety of all campus community members. To report suspicious activity or to request a courtesy escort, call campus police at 801-585-COPS (801-585-2677). You will receive important emergency alerts and safety messages regarding campus safety via text message. For more information regarding safety and to view available training resources, including helpful videos, visit [safeu.utah.edu](http://safeu.utah.edu).

**Addressing Sexual Misconduct.** Title IX makes it clear that violence and harassment based on sex and gender (which includes sexual orientation and gender identity/expression) is a civil rights offense subject to the same kinds of accountability and the same kinds of support applied to offenses against other protected categories such as race, national origin, color, religion, age, status as a person with a disability, veteran's status or genetic information. If you or someone you know has been harassed or assaulted, you are encouraged to report it to the Title IX Coordinator in the Office of Equal Opportunity and Affirmative Action, 135 Park Building, 801-581-8365, or the Office of the Dean of Students, 270 Union Building, 801-581-7066. For support and confidential consultation, contact the Center for Student Wellness, 426 SSB, 801-581-7776. To report to the police, contact the Department of Public Safety, 801-585-2677(COPS).

## Biol 2020 Class Schedule, Fall 2023

Tuesday	08.22	First lecture, Intros	
Thursday	08.24		Test-Quiz (does not count)
Tuesday	08.29		Quiz 1
Thursday	08.31		Quiz 2
Tuesday	09.05		Quiz 3
Thursday	09.07		Quiz 4; Problem Set #1 due
Tuesday	09.12		Exam #1
Thursday	09.14		Quiz 5; Problem Set #2 due
Tuesday	09.19		Quiz 6
Thursday	09.21		Quiz 7; Problem Set #3 due
Tuesday	09.26		Quiz 8
Thursday	09.28		Quiz 9; Problem Set #4 due
Tuesday	10.03		Quiz 10
Thursday	10.05		Quiz 11; Problem Set #5 due
Tuesday	10.10	Fall break	
Thursday	10.12	Fall break	
Tuesday	10.17		Quiz 12
Thursday	10.19		Exam #2
Tuesday	10.24		Quiz 13
Thursday	10.26		Quiz 14; Problem Set #6 due
Tuesday	10.31		Quiz 15
Thursday	11.02		Quiz 16; Problem Set #7 due
Tuesday	11.07		Quiz 17
Thursday	11.09		Quiz 18; Problem Set #8 due
Tuesday	11.14		Exam #3
Thursday	11.16		Quiz 19; Problem Set #9 due
Tuesday	11.21		Quiz 20
Thursday	11.23	Thanksgiving break	
Tuesday	11.28		Quiz 21
Thursday	11.30		Quiz 22; Problem Set #10 due
Tuesday	12.05		Quiz 23
Thursday	12.07		Quiz 24

Final Exam: December 12, 10:30am-12:30pm