

Biology in the 21st Century (BIOL1010), (DV/SF, Vickers; synchronous and online)

WELCOME TO BIOL1010! This course is designed to engage you in contemporary biology by providing relevant applications, historical references, and current connections to economics, policy, social issues, and more. BIOL1010 supports varied learning styles and *assumes you have no prior science knowledge*. The online version of BIOL1010 is delivered synchronously and affords you with a learning experience that mirrors in person instruction. *We'll be meeting "live", over Zoom, during scheduled class time. Note: A more detailed syllabus and other information about the course is available on the Canvas course pages (opens on or before Monday, August 23).*

IMPORTANT SCHEDULING INFORMATION AND DATES

- Fall 2021: Class held live/Zoom, T, Th / 9:10 – 10:30AM
- TA led Discussions (optional/recommended): Offered via Zoom (1 hour):
 - Zoom: Anna/Wed 6PM, Taylor/Th 6PM, Callie/(time to be determined by a poll on day-1 of class)
- First class: T, August 24; Last class: Th, December 9, Last assignment (Prompt 5): due December 15 (no final exam)
- Last day to...add without permission code: Fri, Aug 27; add/drop/audit: Fri, Sept 3; Withdraw deadline: Oct 22
- Holidays: Fall break= Oct 10 - 17; Thanksgiving break= Nov 25 – 28

COVID Information (University of Utah)

Request BIOL1010 COVID accommodation (Form required: <https://www.biology.utah.edu/secure/covid-accommodations/>)

*COVID accommodation requests will be reviewed and considered on a case by case basis and may require documentation.

COURSE DESCRIPTION: Biology, as the study of life, is a broad discipline that includes efforts to improve our understanding of humans, which ranges from how the body works, to the sources of variation that underlie ethnicity and biological sex, while also considering environmental interactions. Scientific discoveries and innovations can inform actions and policies that protect our environment and address our understanding of human diversity. The discriminatory nature of humans can be enabled or contributed to by science that is faulty in interpretation, form, argument, or representation. Yet, in spite of sometimes enabling and contributing to discrimination, science also offers tools to refute these views. BIOL 1010 provides students with the opportunity to consider the full spectrum of the human experience, ranging from sexuality and gender to race, in the context of the informative science underlying our understanding of life.

GENERAL TOPIC OUTLINE. BIOL1010 is divided into three segments: Module A, B, and C

Current news (policy, economics, equity, environment) is integrated throughout all three modules.

- **MODULE A:** Scientific process; sexual fitness, natural and artificial selection; racism vs. ancestry; microevolution; medicine and dogma; homeostasis; defining life
- **MODULE B:** Cells, viruses, bacteria; DNA (genes, mutations, heredity, epigenetics); reproduction and fertility; forensics and personal DNA analysis (ancestry, health); cancer (DNA, medicine, and discrimination); gender and biological sex
- **MODULE C:** Ecosystems, global heating, sustainability; conservation biology, environmental inequity. Closing lectures (2): COVID-19 science update

LEARNING OUTCOMES: Students in Biology 1010 will...

Basic Concepts

- understand cells and the DNA molecule in the context of the human body, genetics, disease & wellness
- appreciate modern DNA technologies and the environmental and ethical controversies surrounding their usage
- appreciate how microevolutionary change has contributed to diversity in the human population
- understand that while genetics influences diversity, humans are 99.9% the same on a molecular level
- understand how to find reliable scientific information, and when we should question data or seek more details
- appreciate that climate change impacts ecosystems (biodiversity), human health, and economics

Biology and Society

- understand the limitations and potential of biology and science in terms of informing innovation and change
- understand scientific evidence can be used to inform policies, educate youth, and reduce bias to build a more informed citizenry
- appreciate how to engage in a multi-stakeholder dialogue to consider the limitations and potential for using scientific information

Systemic Oppression and Diversity

- understand that race is a social construct, that is not underpinned by science
- appreciate how gender bias and socioeconomic status have influenced medical research and discoveries, thereby compromising data and medical treatments that are based on this information
- be able to relate historic and/or modern examples of miscommunications, atrocities, and information distortions in the name of science to diversity, privilege, and oppression
- understand there is cellular, genetic, and evolutionary evidence to support a non-binary definition of gender
- gain an understanding of environmental privilege and the challenges we face advancing environmental justice
- understand there are resources, courses, and other opportunities to support building a more inclusive campus community
- learn to assess their own perspectives and views critically in order to address biases and perhaps discriminatory tendencies

Research

- understand the research process, gain basic analytical skills, and appreciate how scientific studies are conducted to add to our basic understanding of life and ecosystems
- understand historic and modern connections to ethical considerations in obtaining consent for recruiting research subjects
- appreciate how privilege, coercion and socioeconomic status factor into recruiting volunteers

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SUPPORT OUTSIDE CLASS TIME: OFFICE HOURS & DISCUSSIONS

DISCUSSIONS (TA led, optional/recommended, see Canvas for schedule and Zoom links):

Zoom: Anna/Wed 6PM, Taylor/Th 6PM, Callie/(time to be determined by a poll on day-1 of class)

Attend TA led Discussions for a recap of key points from class, for a review in advance of a quiz, for help on assignments, and to get your questions answered. TAs will also incorporate problem solving from the weekly practice problems. *Discussions are not recorded and answers to practice problems and vocab are not posted. Attend one or more discussions each week and find the TA that complements your learning style.*

OFFICE HOURS Offered via Zoom

Instructor drop in hours to be announced (times will vary)

TAs have limited availability (by appointment, 15-minute sessions)

Email us through the BIOL1010 Canvas course

Please use email for grade and scheduling questions. Content questions should be addressed during discussion and/or office hours.

DELIVERY OF INFORMATION AND CLASS EXPERIENCE

- **Most content will be synchronous (IVC):** delivered during regularly scheduled class time, live via ZOOM. Sessions are recorded and posted on Canvas later the same day
- Required/recommended readings and links to other media serve as text and will be posted to Canvas weekly
- **While attendance and participation are required**, there are 3 drops. Credit for guest lectures and special topics are doubled and do not qualify for the drops
- **Active learning is a signature part of BIOL1010.** iClicker App, breakout rooms, games, and other activities
- **iClicker** (respond live, during class). This application is used to facilitate engagement and discussions. *Watch for an email (to your umail) inviting you to register for iClicker (\$16, free option for the first two weeks after registering). The app must be registered to BIOL1010 to align with the Canvas gradebook (for participation and attendance credit). iClicker will be required beginning week-2 of class.*

WHAT YOU'LL NEED

- **No text.** Since BIOL1010 is focused on contemporary topics, a textbook is not part of the learning experience. *Contemporary news, and other online resources will serve as text for this course.*
- **Cell phone.** We recommend using your Cell phone for the iClicker and questions that are posed during class (polling, multiple choice, word clouds, etc...). However, this app will work on a tablet or laptop as well.
- **Desktop or laptop computer and internet access**
- **iClicker** (phone, tablet, and/or desktop). *Watch for an email (to your umail) inviting you to register for iClicker (\$16, free option for the first two weeks after registering). The app must be registered to BIOL1010 to align with the Canvas gradebook and earn credit. iClicker will be required beginning week-2 of class.*
- **In your Canvas Account Settings.... "push notifications"** to your phone to ensure you receive announcements, emails, and assignment information

ZOOM BASICS

- Use the Canvas **Zoom tab to join class and discussion (the URLs are embedded)**
- Class is 9:10 – 10:30AM (Zoom room will **open at 9AM and will close at 10:45AM**)
- BIOL1010 is a **synchronous/IVC course**, so you are expected to attend class and participation is part of the experience (and your grade).
- **Include your preferred fullname** so it appears with your camera image during class. Add gender pronouns after your name if there is space
- We hope you'll have your **camera on** during class and **microphone on mute** (unless open discussion is open)
- **Join early** to ensure you are connected and to ask questions or say hi
- **Stay late** for informal conversation or to get additional questions answered.

GRADING SCALE. Grades are not curved & are assigned accordingly

(A)= 93-100%; (A-)= 89-92%; (B+)= 86-88%; (B)= 81-85%; (B-)= 78-80%;
(C+)= 75-77%; (C)= 69-74%; (C-)= 65-68%; (D)= 55-64%; (F)= <55%

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ASSIGNMENT CATEGORIES

Diversified assessments are used to support a variety of learning styles, minimize stress, and foster an enjoyable learning experience. You'll find the core assignment schedule below. *Take advantage of TA Discussions and support to get 100% on your assignments!*

20% Attendance & Participation 3 drops, participate using the iClicker App

Multiple choice, word clouds, games, and more

Attendance/Participation for guest and special event lectures doubled

Each class will include ~4 - 10 questions, answer >50% and earn 6pts, answer <50% of the questions will result in "0" credit. There are 3 drops for missed classes, illness, and/or an internet problem.

20% Class work and complementary homework 1-drop | 12pts | 50% penalty when submitted up to 1-week late

These assignments are sporadic and are designed to reinforce concepts covered during class

30% Quizzes 5 quizzes | ~10 questions | timed= 20-30 minutes | 20pts each | NO drops | no late quizzes

Quizzes assess your understanding of core concepts and key vocabulary; quizzes replace exams

Multiple choice format, delivered via Canvas quiz tool

Use of class notes is encouraged. No collaborating with peers and internet use is not allowed

Each quiz may include questions from any portion of the current Module content

30% Prompts 5 assignments | 20pts per assignment | NO drops | 50% penalty when submitted up to 1-week late

Apply concepts introduced during class and use required vocabulary

Short written responses and problem solving

Prompts are Module specific (not comprehensive to prior modules)

0% Practice Problems and Vocabulary

Posted weekly | Module specific | select questions and terms that complement information from lecture

Add solved problems and definitions to your notes and have this information on hand during quizzes

Support is available during weekly TA led Discussions

NO EXAMS AND NO COMPREHENSIVE FINAL

CORE ASSIGNMENTS

Students will be given reasonable notice should a change in the schedule be required

In class assignments (problem solving, group work) and homework is designed to complement and reinforce concepts presented during class. These assignments will be announced and generally started in class and will be posted to Canvas.

There are no makeup assignments. In general, late work will not be accepted.

Module A

Quiz-1	opens September 10 by 1PM, closes September 11 at midnight
Prompt-1	opens September 9, due September 16. Apply concepts/terms from class.
Quiz-2	opens October 1 by 1PM, closes October 2 at midnight
Prompt-2	opens September 30, due October 7. Apply concepts/terms from class.

Module B

Quiz-3	opens October 29 by 1PM, closes October 30 at midnight
Prompt-3	opens October 28, due November 4. Apply concepts/terms from class.
Quiz-4	opens November 23 by 1PM, closes November 24 at midnight
Prompt-4	opens November 23, due December 2. Apply concepts/terms from class

Module C

Quiz-5	opens December 10 by 1PM, closes December 11 at midnight
Prompt-5	opens December 9, Due December 15. Apply concepts/terms from class

STRATEGIES FOR SUCCESS

- Set up Canvas Notifications: push assignments, announcements, and email information to your phone
- Arrive to class on time and avoid leaving early
- Be prepared to engage in problem solving during class using iClicker
- Track announcements and Canvas emails
- Attend one or more TA led Discussions to get your questions addressed, for help with assignments and problem solving, and to review for a quiz
- Build strong lecture notes as resource for quizzes and assignments since everything is open notes... and to avoid re-listening to class Zoom recordings
- Define vocab, and solve module practice problems to ensure you're prepared for quizzes and prompt assignments. *These notes can be used during quizzes as well.*
- Complete required and recommended readings (posted weekly), which serve as text in BIOL 1010. Add notes from these resources to your class notes.

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CLASS CONDUCT

Inclusiveness: The University of Utah considers the diversity of its students, faculty, and staff to be a strength and critical to its educational mission. The university expects every member of the campus community to contribute to an inclusive and respectful culture for all in its classrooms, work environments, and at campus events. Dimensions of diversity can include sex, race, age, national origin, ethnicity, gender identity and expression, intellectual and physical ability, sexual orientation, income, faith perspectives, socio-economic class, political ideology, education, primary language, family status, military experience, cognitive style, and communication style. The individual intersection of these experiences and characteristics must be valued in our community.

Learning environment: Throughout the semester discussions, lectures and assignments will incorporate issues centered on race/ethnicity and gender. The content in this course will explore historical and modern perspectives that are relevant to science. The science will afford you with opportunities to consider how misinformation, flawed science and/or privilege contributes to discrimination and stereotypes. Please be respectful when sharing your own thoughts, ideas and perspectives.

Academic Misconduct/Plagiarism: *Copying entries produced by other students (homework, papers, etc..) &/or copying information from a reference (without proper citation) is considered plagiarism. Unless specified, all student work should be independently written, even when students are collaborating or working together to answer questions for an assignment. Students who plagiarize will forfeit all credit for an assignment. *Plagiarism will be reported to Academic Affairs.*

Faculty/Student Responsibilities: All students are expected to behave in a professional manner & refrain from cheating, plagiarism & other unethical behaviors, as outlined in Student Code. It is the instructor's responsibility to enforce appropriate behavior in order to maintain a climate conducive to thinking & learning, with consequences ranging from verbal warnings to dismissal from the course. Students may appeal such action to the Student Behavior Committee.

CAMPUS SERVICES

The Americans with Disabilities Act. 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 Center for Disability Services, 162 Olpin Union Building, 801-581-5020. CDS will work with you and the instructor to make arrangements for accommodations. All written information in this course can be made available in an alternative format with prior notification to the Center for Disability Services.

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).

Campus Safety. The University of Utah values the safety of all campus community members. To report suspicious activity, 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.

Names/Pronouns. Class rosters are provided to the instructor with the student's legal name as well as "Preferred first name" (if previously entered by you in the Student Profile section of your CIS account, which can be managed at any time). While CIS refers to this as merely a preference, I will honor you by referring to you with the name and pronoun that feels best for you in class or on assignments. Please advise me of any name or pronoun changes so I can help create a learning environment in which you, your name, and your pronoun are respected. If you need any assistance or support, please reach out to the LGBT Resource Center. https://lgbt.utah.edu/campus/faculty_resources.php

Wellness. Personal concerns such as stress, anxiety, relationship difficulties, depression, cross-cultural differences, etc., can interfere with a student's ability to succeed and thrive at the University of Utah. For helpful resources contact the Center for Student Wellness at www.wellness.utah.edu or 801-581-7776.

Veterans Center. If you are a student veteran, the U of Utah has a Veterans Support Center located in Room 161 in the Olpin Union Building. Hours: M-F 8-5pm. Please visit their website for more information about what support they offer, a list of ongoing events and links to outside resources: <http://veteranscenter.utah.edu/>. Please also let me know if you need any additional support in this class for any reason.

English Language Learners. If you are an English language learner, please consider the campus resources available to support you with your language and writing development. These resources include: the Writing Center (<http://writingcenter.utah.edu/>); the Writing Program (<http://writing-program.utah.edu/>); the English Language Institute (<http://continue.utah.edu/eli/>). Please let us know if there is additional support you would like to discuss for this class.