

Biology in the 21st Century (BIOL1010), SP2021 (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 This course is designed to engage you in contemporary biology by providing relevant applications, historical references, and current connections to economics, policy, social issues, and more.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 (T, Th from 10:45AM -12:05PM)*. *Note: A more detailed syllabus and other information about the course is available on the Canvas course pages.*

IMPORTANT DATES

- Class held live, T, Th / 10:45AM-12:05PM
- TA led Discussions (optional/recommended): Offered via Zoom (1 hour): T at 2PM, W at 5PM, Th at 6PM
- First class: T, January 19; Last class: Th, April 27
- Last day to...add without permission code: Fri, Jan 22; add/drop/audit: Fri, Jan 29; Withdraw deadline: Fri, Mar 12
- No spring break due to COVID-19; Holidays: Monday, February 15, Friday, March 5, Monday, April 5

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): Offered via Zoom (1 hour): T at 2PM, W at 5PM, Th at 6PM
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
Weekly instructor hour to be announced (time will vary)
TAs have limited availability (by appointment, 15-minute sessions)

DELIVERY OF INFORMATION AND CLASS EXPERIENCE

- **Most content will be synchronous:** 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 4 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.** Active learning involves use of an automated response app (Turning Point App), breakout rooms, games, and other activities
- **Turning Technologies/Turning Point App** (respond live, during class). This application is used to facilitate engagement and discussions. *The Turning Point App (and license) represent the primary tool used in tracking attendance and integrates with the Canvas grade book.*

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 Turning Point App and questions that are posed during class (polling, multiple choice, word clouds, etc...)
- **Desktop or laptop computer and internet access**
- **Turning Technologies APP and license** (on your phone and/or desktop). Find detailed registration instructions in the BIOL1010 Canvas syllabus. Download app, purchase license, and register within the BIOL1010 Canvas course by using the Turning Point Registration tool. Registering in Canvas ensures your app and license are affiliated with BIOL1010 (required to receive points).

ZOOM BASICS

- Use the Canvas **Zoom tab for direct links to class and discussion URLs**
- The Zoom room will **open at 10:30AM and will close at 12:15PM.**
- BIOL1010 is a **synchronous course**, so you are expected to attend class and participation is part of the experience (and your grade).
- **Include your preferred full name** so it appears with your camera image during class. Add gender pronouns after your name if there is space
- Please have your **camera on** during the entire class time and have your **microphone on mute** unless you want to say something (students are invited to contribute or ask questions at any time)
- **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.

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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 on the next page.

20% Attendance & Participation 4 drops, participate using the Turning Point App

Multiple choice, word clouds, games, and more

Attendance/Participation for guest and special event lectures doubled

20% Class work and complementary homework 2-drops | 6-12pts | 50% penalty went submitted up to 1-week late

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

25% Quizzes 6 quizzes | ~10 questions | timed= 20-30 minutes | 20pts each | 1 drop | 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

35% Prompts 6 assignments | 20pts per assignment | 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 FINAL

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%

CORE ASSIGNMENTS	
Assignment dates subject to change. Students will be given reasonable notice should a change in the schedule be required	
Module A	
<i>In class project work and homework to be announced in class and will be posted in Canvas assignments</i>	
Quiz-1	opens 1-29 by 1PM, closes 1-30 at midnight
Prompt-1	opens 2-5, closes 2-11. Apply concepts introduced during class. Module-A specific
Quiz-2	opens 2-12 by 1PM, closes 2-13 at midnight
Prompt-2	opens 2-19, closes 2-25. Apply concepts introduced during class. Module-A specific
Module B	
<i>In class project work and homework to be announced in class and will be posted in Canvas assignments</i>	
Quiz-3	opens 2-26 by 1PM, closes 2-27 at midnight
Prompt-3	opens 3-5, closes 3-11. Apply concepts introduced during class. Module-B specific
Quiz-4	opens 3-12 by 1PM, closes 3-13 at midnight
Prompt-4	opens 3-19, closes 3-25. Apply concepts introduced during class. Module-B specific
Quiz-5	opens 3-26 by 1PM, closes 3-27 at midnight
Prompt-5	opens 4-2, closes 4-8. Apply concepts introduced during class. Module-B specific
Module C	
<i>In class project work and homework to be announced in class and will be posted in Canvas assignments</i>	
Quiz-6	opens 4-16 by 1PM, closes 4-17 at midnight
Prompt-6	opens 4-27, closes 4-30. Apply concepts introduced during class. Module-C specific

STRATEGIES FOR SUCCESS

- Set up Canvas Notifications to 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 your Turning Tech App
- 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 weekly 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 Statement. 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 be aware of several resources on campus that will 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 me know if there is any additional support you would like to discuss for this class.