

## Biology in the 21<sup>st</sup> Century (BIOL 1010), Fall 2020

**Instructor:** Tanya Vickers (*she, her, hers*)

**Instructor email:** Please use CANVAS email

**Alternate email:** tanya.vickers@utah.edu

**WELCOME!** In BIOL 1010, my goal is to engage you in contemporary biology by providing relevant applications, historical references, and connections to policies and social issues. *The TAs and I are also a resource for students who are new to the U. If you need help connecting, in the sciences or across campus, we are here to help.* BIOL1010 is designed to support varied learning styles and *assumes you have no prior science knowledge.* The online version of BIOL1010 has been designed to provide you with a learning experience that mirrors in person classroom instruction. You will have an opportunity to discuss issues, problem solve, and engage in games through small group collaborations, which makes learning fun!

**COVID-19 Considerations:** Students must self-report if they test positive for COVID-19 via [coronavirus.utah.edu](https://coronavirus.utah.edu)

**First class:** T, August 25

**Last class:** Th, Dec. 3

**Last day to add without permission code:** Friday, August 28

**Last day to add/drop/audit:** F, Sept 4

**Withdraw=** Friday, October 16

**No Fall break due to COVID-19**

**COURSE INTRODUCTION:** 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.

Teaching Assistants Please email TAs through Canvas	
TA	Hours/Discussion Times
Audrey Brown ( <i>she, her, hers</i> )	See Canvas (homepage)
Shaistah Din ( <i>she, her, hers</i> )	
Braylin Wandtke ( <i>she, her, hers</i> )	

### Delivery of Information.

Information on class, assignments, and learning resources, including Zoom links, will be available in Canvas. A video introduction to navigating the BIOL1010 Canvas course will be included on the homepage.

- **Most content will be synchronous:** Content delivered during regularly scheduled class time, live via ZOOM.
- **Active learning, a signature part of BIOL1010.** Provided through breakout rooms and gaming activities.
- Some content will be delivered via pre-recorded video, readings, and/or other media.
- **Weekly Discussions** (optional/recommended): Attend one or more TA led Discussions for a recap of key points from class that week. TAs will also walk through a priming problem from the recommended practice problems and will integrate vocabulary and lecture information into their explanation. After the priming problem, attendees are invited to ask for help solving other problems, including those on any assigned homework. During Discussion, TAs will serve as facilitators, helping students to develop critical thinking and problem-solving skills.

### BIOL-1010 is divided into 3 parts, Modules- A, B & C.

*This outline is a guide. I may modify the information with reasonable notice to you (changes will be posted to Canvas)*

#### Module A Introduction to biology and research

Scientific process; sexual fitness, natural and artificial selection; racism vs. ancestry; microevolution; science, medicine and dogma; research, medicine and bias; homeostasis; defining life

#### Module B The secret of life

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, energy, pollution, sustainability

Ecosystems; sustainability; conservation biology, environmental inequity

#### Modules A/B/C In the news

Topics currently in the news will be integrated into the science and diversity curriculum explored during this course, including COVID-19/vaccines/epidemiology, global heating and climate, and others

## Biology in the 21<sup>st</sup> Century (BIOL 1010), Fall 2020

### What You'll Need

- As a contemporary topics course, a textbook is not part of this learning experience. Contemporary news, and other sources, available online, will serve as text for this course.
- Computer to engage in course through Zoom and to access the curriculum.
- Cell phone to engage live, during a Zoom session (polling, multiple choice, word clouds, etc...)
- **Turning Technologies APP and license (on your phone and/or desktop)**
  - **Already have a Turning Point account?** Please navigate to your Turning Tech account (you can do this on the BIOL1010 Canvas course) and make sure you have access to BIOL1010. Note: You will need an active Turning Tech license, and not just the App, to participate in the course.
  - **Need the app?**
    - **Short video:** [New Student Registration Workflow](#)
    - **See document:** [Canvas Turning Point Participants](#), for information on how to align your app with the BIOL1010 course (this is done in the Canvas course, so you will need to wait until the class is published and then enter the Canvas course to get this done).
  - Since we will be presenting class through Zoom, while at the same time using Turning Tech (to engage you in multiple choice, polling, gaming, and word cloud questions), we recommend using your phone for Turning Tech questions and a computer or pad for lecture/zoom.

Getting started with Turning Tech App: Short video tutorials

- [New Student Registration Workflow \(Links to an external site.\)](#)
- [Responding with the Turning Point App \(Links to an external site.\)](#)
- [Responding with a Web Browser](#)

### **LEARNING OUTCOMES** Basic Concepts. 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

## Biology in the 21<sup>st</sup> Century (BIOL 1010), Fall 2020

### **COURSE GRADE WEIGHTED BASED ON THESE CATEGORIES.**

#### **45% Quizzes/Polls/Games** (6 - 24pts each, 3 drops)

- *Quizzes will be used to assess knowledge.* Each week's quiz may include questions from any portion of the current Module and will be comprised of questions randomly selected from a larger pool.
- *Canvas Quiz tool;* Canvas automatically drops your lowest or missed scores
- *Up to 3 grades, valued at 0 to 6pts will be dropped in the Canvas gradebook (quizzes).* Thus, larger point value quizzes, intended to replace more comprehensive exams, will not be dropped. You'll have access to notes and other resources for all assessments. Since quizzes are timed, it's important to study and prepare.

#### **10% Participation** (6 pts each/day, 4 drops)

- Attendance and other engagement

#### **45% Prompt responses** (6-24pts each, 3 drops)

- Students are required to take notes during class and for any assigned readings and videos
- Each class and/or week, prompts will be posted that challenge you to integrate information presented in class
- Submission guidelines, including a word count, will be included in the assignment information for each prompt
- Plagiarized submissions, "0" credit
- Class meetings will be recorded. Thus, if you are ill, miss a class, or need to complete it at another time, please view the recording then answer and submit your prompt responses.
- Late prompt responses. Your assignments are due on time. A 3-day grace period will be available pending an approved excuse (a medical note may be required). Two drops are allowed for missed assignments.

*Drops (Quizzes, Participation, Prompt responses): The primary reason for allowing drops is to accommodate emergencies. To keep things fair for all, there will be no additional opportunities to make up missed days or assignments. If you're unable to take a quiz or participate, you'll receive a "0". Circumstances tied to COVID-19 should be reported to the TAs/Instructor and will be considered.*

**FINAL GRADES** (track your grades on Canvas) Grades are not curved & are assigned according to the scale below.

(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%

*\*Please follow your grades on Canvas. Once a grade is posted, you have 1-week to inquire about missing or incorrect grades.*

### **STRATEGIES FOR SUCCESS IN BIOL 1010**

- Attend one or more Discussions each week
- Set up Canvas Notifications to be pushed to your phone
- Be prepared and ready to engage in problem solving using your Turning Tech App
- Track announcements and Canvas emails; Participate and follow the Digital Class Forum
- Attend TA Office hours/Discussions as questions surface and/or for help with assignments and problem solving
- Build strong lecture notes
- Define vocab, and solve module practice problems to ensure you're prepared for quizzes.
- Required and recommended readings (posted weekly) will serve as text for BIOL 1010

### **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.

## Biology in the 21<sup>st</sup> Century (BIOL 1010), Fall 2020

**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](https://safeu.utah.edu).

**Other Inclusivity Statements are Recommended with the following verbiage: 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 managed 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](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](http://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.