Biography of the 21st Century (BIOL 1010), Spring 2020

Instructor: Tanya Vickers

Lecture: T, Th 10:45AM-12:05PM, CSC 205; Campus mailbox: BLDG-84, Rm 201; Instructor & TA email: CANVAS

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 In BIOL 1010, my goal is to engage you in contemporary biology by providing relevant applications, historical references, and connections to policies and social issues.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.

BIOL 1010 is designed to support varied learning styles and assumes you have no prior science knowledge. To support your success, we offer weekly student hours. Discuss your grades, review lecture notes, get help solving problems, or receive support completing an assignment during these hours.

| Instructor: Tanya Vickers | Student HRs: 8:15 – 9:00AM T, Th or by appointment (location TBA) |

<table>
<thead>
<tr>
<th>Teaching Assistants</th>
<th>Student Support Hours</th>
<th>Location (TBA)</th>
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<tbody>
<tr>
<td>Hannah</td>
<td>Monday, 9:00 – 10:00AM</td>
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<tr>
<td>Audrey</td>
<td>Wednesday, 12NOON – 1:00PM</td>
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<tr>
<td>Hattie</td>
<td>Tuesday 12:15PM – 1:15PM</td>
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First class: T, Jan 7; Last class: T, Apr 21; Final exam: T, Apr 21; Last day to add/delete: F, Jan 17; Withdraw= F, Mar 6; SP-break: Mar 8-15

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, 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.

MATERIALS REQUIRED FOR THIS COURSE:

CLICKERS are used to reward participation, for quizzes, and for Jeopardy exam reviews!

A. WHAT YOU WILL NEED: Purchase a clicker and license (please see details below)
   • New or used Turning Point Clicker/handheld receiver (bookstore: ~ $33)
   • One device license (bookstore: ~ $28). A license is valid for 1-year and allows you to register the clicker for multiple courses. The Turning Point Clicker was adopted by the U and will likely be used in other courses.
   • The phone App will not be used in this course due to issues with cell phone/app/instructor receiver connectivity and because internet access is not allowed during quizzes.

B. REGISTERING YOUR DEVICE AND LICENSE: YOUR CLICKER may only be registered to 1010 through our Canvas course
   1. Navigate to the BIOL 1010 Canvas course
   2. Once in Canvas, navigate to Modules, read the instructions and then use the Clicker registration tool.

C. USING YOUR CLICKER: BIOL 1010 will be using Channel-55. See following page for how clicker responses will be graded.

D. IMPORTANT: REGISTER your CLICKER by Th, Jan 9 to participate in a practice session and by T, Jan 14 to earn credit.

E. TECHNICAL SUPPORT FOR CLICKERS: Bria Bennett | Turning Tech., bbennett@turningtechnologies.com

CANVAS: Course information, including announcements, text references, and assignments are only available through Canvas.

A. WHERE: Connect to BIOL 1010 through CIS page or via utah.instructure.com

B. PHONE NOTIFICATIONS: In Canvas, set notifications to receive announcements, assignments, grade updates, and emails.

C. IMPORTANT CANVAS PAGES (tabs):
   • Announcements (reminders and what’s next in class); Homepage (syllabus, important dates, TA/Instructor student hours)
   • Assignments and Gradebook
   • Modules (clicker registration tool, Module A-B-C...lecture slides, readings/videos, required terms, and practice problems)

BIOL 1010 does not require a costly textbook. Instead, study resources are posted weekly, in the current study Module.

TECHNICAL SUPPORT FOR CANVAS: Email: classhelp@utah.edu or phone: 801-581-6112 (option 2)
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Diversified assessments support different learning styles and your success in this survey course.

COURSE GRADE WEIGHTED BASED ON THESE CATEGORIES:

1. **50% Modules A, B, C Exams** (3 exams, short answer questions, ~60 - 75 minutes in length)
   - Exams are module specific (some fundamental concepts carryover).
   - There’s no comprehensive exam in 1010!
2. **20% Quizzes, in class exercises, guest lectures, and homework** (6pts each, 3 drops)
   - Canvas automatically drops your lowest or missed scores.
   - Guest lectures are required and included on exams (valued at 12 quiz pts), no drops (see Canvas for schedule)
   - Clicker quizzes and assignments may or may not be announced, so students should come to class prepared.
3. **10% Attendance and participation, opinion polls, jeopardy reviews** (6 pts each/day, 5 drops)
   - Canvas automatically drops your lowest or missed scores.
   - Jeopardy exam reviews valued at 12 points and may not be dropped.
4. **20% In the News.**
   - 60 pts. Short news summary (400 – 500 words)
   - 40pts. one PPT slide that summarizes your science news topic.
   - The best reporting will be recognized with 5pts extra credit (applied to exams). TAs will be leading a discussion and sharing top stories with the class (same day as the Jeopardy Review).

**Dropped Quizzes and Attendance:** The primary reason for allowing you to drop 3 quizzes and 5 attendance scores is to accommodate emergencies and officially excused events. 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 miss class, you’ll receive a “0”. This includes illnesses, events such as jury duty, funerals, weddings, birth of a baby, or forgetting to bring your clicker to class, dead batteries, or malfunctioning clickers.

**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.

**LEARNING OUTCOMES:**

Basic Concepts. Students in Biology 1010 will...
- 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 advise policy makers, 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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COURSE SCHEDULE

BIOL-1010 is divided into 3 parts, Modules- A, B & C. Each section ends with an exam. The topics listed are subject to change based on current news, time available, and guest speaker schedules.

STRATEGIES FOR SUCCESS IN BIOL 1010

Attend class. There’s no textbook so mastering the content presented in class is central to succeeding in BIOL 1010. TA/Instructor hours. We are here to help you succeed and are happy to review content form lecture; we are also available to assist on homework assignments and weekly practice problems.

Resources available on Canvas:
- Track announcements and Canvas emails
- Build strong lecture notes (a study resource) by printing slides so that you can add notes during each class
- Solve practice problems and define vocab terms (posted each week) to ensure you are prepared for exams
- Required and recommended readings (posted weekly) will serve as text for BIOL 1010

Note: This syllabus is meant to serve as an outline and guide for our course. I may modify the information and/or schedule with reasonable notice to you. Any changes will be announced in class and posted on Canvas under Announcements.

<table>
<thead>
<tr>
<th>MODULE-A DATES</th>
<th>Module-A: Introduction to biology and research</th>
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<tbody>
<tr>
<td>Jan 7. Course content begins</td>
<td>General topic list: Scientific process: scientific method, sexual fitness &amp; mate selection; natural and artificial selection; racism vs. ancestry; microevolution: human adaptations, environmental change; Nobel Prize winning research and the challenges science and medicine face undoing dogma; Research and medicine: implicit bias, discrimination, problems with a “one size fits all” approach to medicine; homeostasis: disease, environment; what is it to be alive</td>
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<td>Jan 9. Practice using clickers</td>
<td>To participate, register your device to 1010 using the Canvas course tool located in Modules.</td>
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<td>Jan 14. First for credit clicker activity</td>
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<td>Jan 30. News assignment due</td>
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<td>Feb 4. TAs share sci news, Jeopardy review</td>
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<td>Feb 6. Module-A Exam</td>
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<tr>
<th>MODULE-B DATES</th>
<th>Module-B: The secret of life</th>
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<tr>
<td>Mar 19. News assignment due</td>
<td>General topic list: Cells, viruses, bacteria, antibiotics; DNA-genes-mutations, disease, epigenetics, twins, fertility treatments, human genome sequence: technology, forensics, personal DNA analysis (ancestry, health); Cancer: DNA, cells, Henrietta Lacks, medicine, and discrimination; Heredity and genetics; Gender and Biology Sex, it’s not as simple as XX and XY</td>
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<tr>
<td>Mar 24. TAs share sci news, Jeopardy review</td>
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<td>Mar 26. Module-B Exam</td>
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<th>MODULE-C DATES</th>
<th>Module-C: Ecosystems, energy, pollution, sustainability</th>
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<tr>
<td>April 9. News assignment due</td>
<td>General topic list: Conservation biology; habitat fragmentation, overuse (land use and animals), invasive species; environmental inequality; fossil fuel dependence, climate change (direct and indirect consequences); food webs, environmental justice</td>
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<tr>
<td>April 16. TAs share sci news, Jeopardy review</td>
<td>Environmental issues are primarily covered through a series of guest lecture from active research scientists. See Canvas-Modules for bios and a schedule.</td>
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<tr>
<td>April 21. Module-C Exam</td>
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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.

**Classroom environment:** Throughout the semester class 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.

**Cell phones, MP3 Devices, Tablets and Computers:** Usage is not allowed at any time during lectures & class activities unless the devices are integral to instruction. This includes text messaging. Students using one of the devices listed during class activities or lecture will receive a “0” for work that day. This policy will be strictly enforced. Electronic devices are disruptive to neighboring students.

**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 the classroom 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 U seeks to provide equal access to its programs, services and activities for people with disabilities. If you will need accommodations in the class, reasonable prior notice needs to be given to the Center for Disability Services, 162 Union Building, 581-5020 (V/TDD). 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). Find more resources at the U: Victim Advocates (advocate.wellness.utah.edu or 801-581-7779), Counseling Center (counselingcenter.utah.edu or 801-581-6826)

**Names/Pronouns.** Class rosters are provided to the instructor with the student’s legal name as well as “Preferred first name”. We will do our best to honor you by referring to you with the name and pronoun that feels best for you in class and/or on assignments. Please advise me (and the TAs) 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

**Campus Safety.** The University 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 for training resources, visit safedu.utah.edu.

**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 U. 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 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 support, 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://writingprogram.utah.edu/); the English Language Institute (http://continue.utah.edu/eli/). Please consider attending TA hours for additional support navigating weekly course materials.