Term Information

Effective Term	Spring 2026

General Information

Course Bulletin Listing/Subject Area	Biology
Fiscal Unit/Academic Org	Introductory Biology - D0326
College/Academic Group	Arts and Sciences
Level/Career	Undergraduate
Course Number/Catalog	3050
Course Title	Current Events in Biology
Transcript Abbreviation	Crnt Events in Bio
Course Description	An exploration of contemporary issues and breakthroughs in biology from diverse biological fields. Students will analyze scientific literature and various media sources, discuss ethical and societal implications, and develop critical thinking skills by evaluating how biology shapes our world in real time.
Semester Credit Hours/Units	Fixed: 1

Offering Information

Length Of Course	14 Week, 12 Week, 8 Week, 7 Week
Flexibly Scheduled Course	Never
Does any section of this course have a distance education component?	No
Grading Basis	Letter Grade
Repeatable	No
Course Components	Lecture
Grade Roster Component	Lecture
Credit Available by Exam	No
Admission Condition Course	No
Off Campus	Never
Campus of Offering	Columbus, Lima, Mansfield, Marion, Newark, Wooster

Prerequisites and Exclusions

Prerequisites/Corequisites	1101, 1110, or (1112 or 1113x) and 1114x
Exclusions	
Electronically Enforced	Yes

Cross-Listings

Cross-Listings	

Subject/CIP Code

Subject/CIP Code	26.0101
Subsidy Level	Baccalaureate Course
Intended Rank	Sophomore, Junior, Senior

Requirement/Elective Designation

The course is an elective (for this or other units) or is a service course for other units

Course Details

Course goals or learning objectives/outcomes

- Engage in critical and logical thinking about the topics and ideas of Biology current events.
- Conduct advanced, in-depth, scholarly exploration of Biology current events.
- Analyze and interpret current biological research and news articles to evaluate the validity and impact of scientific findings.
- Explain key biological concepts underlying contemporary issues such as emerging diseases, genetic engineering, and environmental change.
- Critically assess the role of science communication in shaping public perception and policy decisions related to biological topics.
- Discuss ethical and societal implications of modern biological advancements, such as biotechnology, conservation efforts, and medical innovations.
- Engage in evidence-based discussions on controversial and evolving topics in biology, demonstrating scientific literacy and reasoning.
- Synthesize and communicate current biological issues through written and oral presentations and discussions, effectively conveying complex scientific ideas to diverse audiences.

Content Topic List

- Scientific literacy
- Current events
- Critical thinking
- Ethics

Sought Concurrence

No

Attachments

- Biology 3050 Syllabus.pdf

  (Syllabus. Owner: Andrews,Adam Lee)

- Biology BS Curriculum Map.pdf: CURRICULUM MAP FOR BIO BS

  (Academic Program Revision Stmt. Owner: Andrews,Adam Lee)

Comments

Workflow Information

Status	User(s)	Date/Time	Step
Submitted	Andrews,Adam Lee	04/11/2025 02:24 PM	Submitted for Approval
Approved	Kulesza,Amy Elizabeth	04/11/2025 04:09 PM	Unit Approval
Approved	Vankeerbergen,Bernadette Chantal	04/16/2025 11:16 AM	College Approval
Pending Approval	Jenkins,Mary Ellen Bigler Hanlin,Deborah Kay Hilty,Michael Neff,Jennifer Vankeerbergen,Bernadette Chantal Steele,Rachel Lea	04/16/2025 11:16 AM	ASCCAO Approval

THE OHIO STATE UNIVERSITY

Biology 3050:
Current Events in Biology
Spring 2026 – 1 Credit Hour

Lecturer:

Email:

Office:

Phone:

Office hours:

Class Meeting Schedule:

A 7-week course with twice-weekly sessions lasting 55 minutes each

Prerequisites:

Biology 1101, 1110, or 1112 or 1113x and 1114x

Required Course Materials:

None. All required material will be provided by the instructor through Carmen.

Meeting schedule, Credit Hours and Work Expectation:

We will meet twice a week for 55 minutes each session. This is a 1-credit-hour course, 7-week course. According to Ohio State policy, students should expect around 2 hours per week of time spent on direct instruction in addition to 4 hours of homework to receive a grade of C average over the seven weeks.

Course Description:

An exploration of contemporary issues and breakthroughs in biology from diverse biological fields. Students will analyze scientific literature and various media sources, discuss ethical and societal implications, and develop critical thinking skills by evaluating how biology shapes our world in real time.

Expected Learning Outcomes	Associated Activity
Successful students will be able to … 1. **Engage** in critical and logical thinking about the topics and ideas of Biology current events.	**Activity: "Current Events Critique and Response"** • **Setup:** Provide students with a **recent article or news story** related to a current biological event (e.g., new findings in cancer research, emerging infectious diseases, climate change impacts on biodiversity). • **Task:** 1. Students individually read the article, identifying key points, assumptions, and conclusions. 2. They then work in **small groups** to **critically assess** the validity of the findings using logical reasoning. For example, they might examine whether the research methods were sound or if there is any bias in the presentation.

	3. Each group presents a **critique of the article**, including strengths, weaknesses, and questions raised. 4. Finally, the groups **discuss** how the findings might impact public perception, policy, or future research.
2. **Conduct** advanced, in-depth, scholarly exploration of Biology current events.	**Activity: "Expert Group Research and Presentation"** • **Setup:** Provide students with a **list of current biological research topics** (e.g., CRISPR gene editing, microbial resistance, artificial intelligence in drug development). Divide the class into **small expert groups** (3-4 students) and assign each group a specific topic. • **Task:** 1. Each group conducts **in-depth research** into their topic using **academic journals, scientific databases, and reputable sources**. They should focus on understanding the **latest advancements, challenges, and controversies** within their assigned topic. 2. The group synthesizes the research into a **scholarly presentation** that includes background information, current advancements, unanswered questions, and implications for future research or society. 3. After preparing the presentation, each group **presents** their findings to the class, providing a **critical analysis** of the ongoing developments and their potential impacts. 4. The class engages in a **Q&A session**, where students ask questions, challenge assumptions, and suggest future research directions.
3. **Analyze and interpret** current biological research and news articles to evaluate the validity and impact of scientific findings.	**Activity: Research Validity Debate** • **Setup:** Provide students with **two recent biology-related articles**—one from a peer-reviewed journal and another from a mainstream media source. • **Task:** In groups, students analyze study design, sample size, controls, and conclusions, then **debate the credibility** of each source. • **Goal:** Develops critical thinking and evaluation skills for interpreting scientific research.
4. **Explain key biological concepts** underlying contemporary issues such as emerging diseases, genetic engineering, and	**Activity: "Scientific Detective" Case Study** • **Setup:** Present students with an **emerging biology issue** (e.g., a new virus outbreak or recent CRISPR experiment). Provide some real and some misleading explanations. • **Task:** Students work in groups to **identify key biological**

environmental change.	**principles**, differentiate facts from misconceptions, and present their findings to the class. • **Goal:** Enhances understanding of biological concepts and their real-world applications.
5. **Critically assess** the role of science communication in shaping public perception and policy decisions related to biological topics.	**Activity: Media vs. Science Analysis** • **Setup:** Provide students with **a scientific paper and 2-3 media articles** covering the same topic. • **Task:** Students compare how the findings are presented in academic vs. public domains, analyzing biases, simplifications, and accuracy. • **Goal:** Develops skills in **science literacy and communication analysis**, preparing students to engage with science in public discourse.
6. **Discuss ethical and societal implications** of modern biological advancements, such as biotechnology, conservation efforts, and medical innovations.	**Activity: Bioethics Town Hall** • **Setup:** Assign each student a stakeholder role (e.g., scientist, policymaker, activist, journalist, biotech CEO, patient advocate) in a discussion on **a controversial topic** (e.g., gene editing, biodiversity conservation, synthetic biology). • **Task:** Students debate the ethical, social, and economic implications from their assigned perspective. • **Goal:** Encourages **multifaceted thinking** on how biology impacts society.
7. **Engage in evidence-based discussions** on controversial and evolving topics in biology, demonstrating scientific literacy and reasoning.	**Activity: "Two-Minute Expert" Debates** • **Setup:** Assign groups different controversial biological topics (e.g., vaccine mandates, climate engineering, lab-grown meat). • **Task:** Each group presents a **two-minute evidence-based argument**, then fields counterpoints from classmates. • **Goal:** Strengthens **scientific reasoning and argumentation skills** using current research.

8. **Synthesize and communicate** current biological issues through written and oral presentations and discussions, effectively conveying complex scientific ideas to diverse audiences.	**Activity: Science Podcast or Infographic Creation**
	• **Setup:** Students select a **current biology issue** and create either:
	  ○ A **3-minute podcast episode** summarizing key findings in an engaging way.
	  ○ A **one-page infographic** visually explaining the topic for a general audience.
	• **Task:** Present their work in small groups and provide peer feedback.
	• **Goal:** Enhances **communication skills** by translating complex science into accessible formats.

Students in Biology 3050 will build on foundational biology content to explore current topics in Biology. The course will use current research in scientific literature, news articles and other media to engage students in the investigation of Biological topics. The course will work in a split instruction fashion, one day a week students will review a current event topic selected by the instructor from the last 90 days. The second-class day will be student driven, with students presenting their own current events for class discussion. The topics for each week will be selected by the course instructor but be open and flexible to changing information and student interest.

Course Goals:

- **Develop Scientific Literacy:** Equip students with the ability to critically evaluate and interpret current biological research, media reports, and scientific literature related to contemporary issues in biology.
- **Connect Biology to Real-World Issues:** Foster an understanding of how biological concepts apply to pressing global challenges, including public health, climate change, biotechnology, and conservation.
- **Enhance Critical Thinking and Communication:** Encourage students to engage in thoughtful discussions, debates, and written analyses of current biological events, emphasizing evidence-based reasoning and clear communication.
- **Explore Ethical and Societal Implications:** Examine the ethical, legal, and societal impacts of biological advancements, such as genetic engineering, disease outbreaks, and environmental policies.
- **Encourage Lifelong Engagement with Science:** Inspire students to stay informed about ongoing developments in biology beyond the classroom, promoting continuous learning and civic engagement in scientific discourse.

Grading and Evaluation:

Graded assignments may come in three forms, and students should note the expectations for each in the descriptions of our class assignments below:

- **Independent Work ( )**: Strictly non-collaborative, original-individual work. You may discuss this assignment only with your instructor. Discussions with other individuals, either in person or electronically, are strictly prohibited and constitute academic misconduct.

- **Required Collaboration ( )**: An explicit expectation for collaboration among students either in-class or outside (i.e., group work).
- **Optional Collaboration ( )**: Students are permitted, but not required, to discuss the assignment or ideas with each other. However, all submitted work must be one's original and individual creation.

Assignment	Points	Assignment Type
Article Reflections (7 x 20 pts each)	140	
In-Class Activities	75	
Article presentations	20	
Homework (5 x 20 points each)	100	
Attendance / Participation (14 x 10 pts each)	140	
Quizzes (3 x 10 points)	30	
TOTAL POINTS	625	

Article Reflections

Weekly, students will read a chosen current event source, which will be linked on Carmen. From that students will answer directed questions intended to guide students in an understanding of the paper. This reflection will be a combination of in class discussion and individual writing.

In-Class Activities

Throughout the lectures, participation will be encouraged and assessed through a range of active learning activities, which may include interactive questions, case-studies, small group work, worksheets, etc. Some will be completed individually while others will require discussion and engagement with other students in the class.

Article Presentations

Students will select a current event to give a short summary of in class. Articles will be discussed in small groups. Then be analyzed by the larger class.

Homework

1. **Develop Scientific Literacy**

   Activity: "Fact or Fiction? Analyzing Biology in the Media"

   Objective: Equip students with skills to critically evaluate and interpret biological research and media reports.

   Instructions:

   - Provide students with a mix of **real scientific studies**, **news articles**, and **misleading media reports** on a biological topic (e.g., vaccines, CRISPR, climate change effects on biodiversity).
   - In groups, students will analyze each source, identifying signs of credibility (e.g., peer-reviewed sources, reputable authors, citations).
   - They will present their findings, justifying which sources are reliable and which may contain misinformation.
   - Conclude with a discussion on the importance of scientific literacy in daily life.

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2. **Connect Biology to Real-World Issues**

Activity: "Biology in the News: Global Challenges"
Objective: Demonstrate how biological concepts relate to real-world issues such as public health, conservation, and climate change.
Instructions:
- Assign each student a **current global issue** related to biology (e.g., antibiotic resistance, deforestation, pandemic preparedness).
- They will research the biological principles behind the issue and **create an infographic** summarizing the science, its impact, and potential solutions.
- Host a **gallery walk** where students display their infographics and discuss their topics with peers.
- Wrap up with a reflection on how biology helps address these challenges.

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3. **Enhance Critical Thinking and Communication**
   Activity: "The Great Debate: Biology's Toughest Questions"
   Objective: Foster critical thinking and evidence-based reasoning through discussion and debate.
   Instructions:
   - Divide students into teams and assign each a **controversial biological issue** (e.g., gene editing in humans, banning plastic, reintroducing extinct species via cloning).
   - Each team will **research scientific evidence** supporting their assigned stance.
   - Conduct a **structured debate**, where teams present arguments, counterarguments, and rebuttals.
   - The class will vote on which team provided the most compelling evidence-based argument.
   - Conclude with a discussion on the importance of **communicating science effectively**.

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4. **Explore Ethical and Societal Implications**
   Activity: "Bioethics Roundtable: What Would You Decide?"
   Objective: Examine ethical, legal, and societal considerations in biology.
   Instructions:
   - Present students with a **real-world bioethics case study** (e.g., CRISPR-modified embryos, allocating limited vaccines, the ethics of animal testing).
   - In small groups, students will take on roles (e.g., scientist, policymaker, ethicist, affected individual) and discuss **the risks, benefits, and ethical concerns**.
   - Groups will develop a **policy recommendation** and present their decision to the class.
   - End with a reflection on how ethics influence scientific advancements and policies.

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5. **Encourage Lifelong Engagement with Science**
   Activity: "Citizen Science Challenge: Be a Biologist"
   Objective: Inspire students to stay engaged with biology beyond the classroom.
   Instructions:
   - Introduce students to **citizen science projects** they can participate in (e.g., iNaturalist for biodiversity tracking, Foldit for protein folding, Globe Observer for climate data).
   - Each student selects a project and **actively contributes** for a set period (e.g., two weeks).
   - They will keep a **journal** of their observations, findings, and reflections on how their participation contributes to real scientific research.
   - Students will present their experiences and insights to the class, discussing how they can stay engaged with science in the future.

Attendance/Participation (10 pts per class).

You cannot contribute to nor benefit from class discussions and activities if you are not present, nor if you are present but inattentive. Students who miss class sessions should insofar as possible, alert me in advance. Simply letting me know you will be absent will not be an excused absence. Excused absences will require documentation for verification (doctor's note, advisor email etc.). Any student who has 5 or more unexcused absences will have their final grade reduced by 5% for each absence above 4. When a session is missed, the student is responsible for getting assignments turned in on time and for scheduling/planning with me any alternative activities deemed by me to be appropriate to attain the objectives for missed sessions. Any student who misses class for an unexcused absence will lose their attendance/participation points for that day.

Attendance/participation points will be given for each day you attend, on time, and participate in class. If you are late for class attendance will be dropped by 50% and being absent results in the loss 100% of points for that day. Brining in documentation for an **excused** absence will result in the return of any lost attendance points. **All students are granted 2 excused absences during the course—no questions asked**.

Any student who is not prepared for class will have their attendance/participation points reduced. Success of this class depends significantly on the professionalism, dedication, attendance, and contributions of each person. Any student who is disrespectful to members of the class or the instructor will have their points reduced. Any student who does not participate in any given activity or uses technology for non-class related activities will have their points reduced. The instructor reserves the right to assign points based on your preparedness, attitude, and participation. Please no texting, no handicrafts, no working on other assignments during class. If the manipulation of kinesthetic learning aids (clay, stress balls, etc.) becomes a distraction you will be required to put these items away. During class, you will be involved in class discussions, presentations, and activities. All these events will be important to your learning in this course. Your presence, positive participation, and professional disposition will count heavily toward your grade. When I evaluate your participation, I will consider the following:

- On-time, regular attendance to class meetings
- Preparation for class
- Participation in class activities and discussions

You are expected to read, have all necessary materials, and be ready to discuss all assignments in order to participate fully in class. Class participation includes: asking thoughtful questions, engaging in informed dialogue, participating in hands on activities and leading activities/lessons. As a learning community, if someone does not show up for class, what we all learn will be different. In that sense, there are as many teachers as students in this class. Be ready to grapple with difficult subject matter and live with some ambiguity. I expect our class to be a place of respectful behavior, critical thinking, and active and engaged learning.

Quizzes: (10 pts per quiz)

Online quizzes posted on Carmen. These will be timed and will have to be completed in one session. Typically the quiz will consist of 5-10 questions, multiple choice and True or False questions.

Submitting Assignments:

Assignments, unless otherwise noted, are to be typed and double-spaced using Times New Roman, 12-point font with 1" margins. You may submit a cover page or place your name and name of assignment in the header of the paper. Failure to follow the protocol results in a 10 percent grade reduction.

NOTE: You should note that a lot of time spent on an assignment does not necessarily translate into earning a higher grade.

Your Final Grade:

Your final grade will be based on the percentage of the 625 points that you earn during the course of the semester as described above. Please note that we do not grade the course on a curve and Carmen does not round averages up to the next nearest percentage point, so 92.11% and 92.97% both earn the grade of A-. Final letter grades will be determined by the grade scale below:

Grading Scale

A	A-	B+	B	B-	C+	C	C-	D+	D	E
100 – 93.0%	92.9 – 90.0%	89.9 – 87.0%	86.9 – 83.0%	82.9 – 80.0%	79.9 – 77.0%	76.9 – 73.0%	72.9 – 70.0%	69.9 – 67.0%	66.9 – 60.0%	59.9 – 0%

Late Work:

An assignment is considered late if it is not submitted at the given due date and time. Late assignments receive a reduction down to 75%, **before** I begin grading them, assuming the assignment is turned in. Please take advantage of e-mail and office hours to communicate any anticipated difficulties prior to an assignment due date so other accommodations can be made **if possible**.

Disability Services:

The university strives to maintain a healthy and accessible environment to support student learning in and out of the classroom. If you anticipate or experience academic barriers based on your disability (including mental health, chronic, or temporary medical conditions), please let the Course Coordinator know immediately so that we can privately discuss options. To establish reasonable accommodations, we may request that you register with Student Life Disability Services. After registration, make arrangements with the Course Coordinator as soon as possible to discuss your accommodations so that they may be implemented in a timely fashion. Only the course coordinator is authorized to complete SLDS accommodations. This will help us ensure that your individual needs will be met appropriately and fairly.

If you are ill and need to miss class, including if you are staying home and away from others while experiencing symptoms of a viral infection or fever, please let your instructor know immediately. In cases where illness interacts with an underlying medical condition, please consult with Student Life Disability Services to request reasonable accommodations. You can connect with them at slds@osu.edu; 614-292-3307; or slds.osu.edu.

Religious Accommodations:

Ohio State has had a longstanding practice of making reasonable academic accommodations for students' religious beliefs and practices in accordance with applicable law. In 2023, Ohio State updated its practice to align with new state legislation. Under this new provision, students must be in early communication with their instructors regarding any known accommodation requests for religious beliefs and practices, providing notice of specific dates for which they request alternative accommodations within 14 days after the first instructional day of the course. Instructors in turn shall not question the sincerity of a student's religious or spiritual belief system in reviewing such requests and shall keep requests for accommodations confidential.

With sufficient notice, instructors will provide students with reasonable alternative accommodations with regard to examinations and other academic requirements with respect to students' sincerely held religious beliefs and practices by allowing up to three absences each semester for the student to attend or participate in religious activities. Examples of religious accommodations can include, but are not limited to, rescheduling an exam, altering the time of a student's presentation, allowing make-up assignments to substitute for missed class work, or flexibility in due dates or research responsibilities. If concerns arise about a requested accommodation, instructors are to consult their tenure initiating unit head for assistance.

A student's request for time off shall be provided if the student's sincerely held religious belief or practice severely affects the student's ability to take an exam or meet an academic requirement and the student has notified their instructor, in writing during the first 14 days after the course begins, of the date of each absence. Although students are required to provide notice within the first 14 days after a course begins, instructors are strongly encouraged to work with the student to provide a reasonable accommodation if a request is made outside the notice period. A student may not be penalized for an absence approved under this policy.

If students have questions or disputes related to academic accommodations, they should contact their course instructor, and then their department or college office. For questions or to report discrimination or harassment based on religion, individuals should contact the Office of Institutional Equity.

Policy: Religious Holidays, Holy Days and Observances

Weather or Other Short-Term Closing:

Should in-person classes be canceled, students will be notified as to which alternative methods of teaching will be offered to ensure continuity of instruction for this class. Communication will be via Carmen announcements and course-wide email.

Instructor Feedback and Response Expectations

- **Email response**: The CLSE's expectation of instructors is that emails will be responded to within one business day. If your email is sent during the evening or over the weekend, you may not receive a response until the next business day.
- **Class announcements**: I will send important class-wide messages through the Announcements tool in Carmen. Please check your notification preferences (go.osu.edu/canvas-notifications) to ensure you receive these messages.
- **Graded assignments:** Assignments will be graded and returned to you within one week after they were due. All scores are posted on Carmen no later than the day the graded assignment is returned.

Course Technology:

For help with your password, university e-mail, Carmen, or any other technology issues, questions, or requests, contact the OSU IT Service Desk. Standard support hours are available at https://ocio.osu.edu/help/hours, and support for urgent issues is available 24x7.

- **Self-Service and Chat support:** http://ocio.osu.edu/selfservice
- **Phone:** 614-688-HELP (4357)
- **Email:** 8help@osu.edu
- **TDD:** 614-688-8743

Carmen

- Carmen, Ohio State's Learning Management System, will be used to host materials and activities throughout this course. To access Carmen, visit Carmen.osu.edu. Log in to Carmen using your name.# and password. If you have not setup a name.# and password, visit my.osu.edu.
- Help guides on the use of Carmen can be found at https://resourcecenter.odee.osu.edu/carmen
- **This online course requires use of Carmen (Ohio State's learning management system) and other online communication and multimedia tools. If you need additional services to use these technologies, please request accommodations with your instructor.**
- Carmen accessibility

CarmenZoom

- Office hours will be held through Ohio State's conferencing platform, CarmenZoom. A separate guide to accessing CarmenZoom and our office hours is posted on the course Carmen page under Files.
- Students may use the audio and video functions if a webcam and microphone are available. If not, there is still a chat function within CarmenZoom for the student to live chat with the professor or TA in the virtual office hours room.
- Carmen Zoom help guide

TurnItIn

- Students at The Ohio State University are accountable for the integrity of the work they submit. Therefore, you should be familiar with the guidelines provided by the Committee on Academic Misconduct (COAM) and Section A of OSU's Code of Student Conduct in order to meet the academic expectations concerning appropriate documentation of sources. In addition, OSU has made TurnItIn, a learning tool and plagiarism prevention system, available to instructors. For this class, you will submit your papers to TurnItIn from Carmen. When grading your work, I will interpret the originality report, following Section A of OSU's Code of Student Conduct as appropriate. For more information about TurnItIn, please see the vendor's guide for students. Note that submitted final papers become part of the OSU database.

- Please know that I view TurnItIn first and foremost as a teaching tool to make you a better writer. You will see in your individual originality reports exactly what the instructors see. We WANT you to look at this report as soon as you submit your assignments. If you see an issue, please correct it right away, before we start grading the assignment. You can resubmit without penalty as many times as you want prior to the established due date for any assignment. After the due date, the late policy is in effect.

Discussion and Communication Guidelines:

The following are expectations for how we should communicate as a class. Above all, please remember to be respectful and thoughtful.

- **Tone and civility**: Let's maintain a supportive learning community where everyone feels safe and where people can disagree amicably. Remember that sarcasm doesn't always come across online and is not always appreciated in-person. The instructional team work very hard to provide a positive learning experience. Please keep this in mind and remain civilized and respectful in your class communications.
- **Citing your sources**: When we have academic discussions, please cite your sources to back up what you say.

Issue Resolution:

The CLSE believes that student concerns are usually most effectively addressed by the staff closest to the situation. Therefore, students are ordinarily expected to address issues or concerns first with their instructors. If the issue cannot be resolved by your instructor, or for some reason you feel that you absolutely cannot address your concern with your instructor, please feel free to contact the Course Coordinator or Assistant Director Adam Andrews (andrews.171@osu.edu).

Building Emergency Action Plan:

Each building on campus has a Building Emergency Action Plan (BEAP) outlining that specific building's specific procedures to be followed in the event of a range of emergency situations, including fire, weather, terrorism, chemical spills, etc. It is the role of every Buckeye to help keep each other safe and to be aware of these procedures. You can find all of the campus BEAPs at https://dps.osu.edu/beap.

Lyft Ride Smart:

Lyft Ride Smart at Ohio State offers eligible students discounted rides, inside the university-designated service area, from 7 p.m. to 7 a.m. Prices may be impacted by distance, traffic, time of day, special events and prime time surcharges. To qualify for program discounts, users must select "shared ride" when booking in the Lyft app. For more information, visit: https://ttm.osu.edu/ride-smart.

Mental Health:

As a student you may experience a range of issues that can cause barriers to learning, such as strained relationships, increased anxiety, alcohol/drug problems, feeling down, difficulty concentrating and/or lack of motivation. These mental health concerns or stressful events may lead to diminished academic performance or reduce a student's ability to participate in daily activities. The Ohio State University offers services to assist you with addressing these and other concerns you

may be experiencing. If you or someone you know are suffering from any of the aforementioned conditions, you can learn more about the broad range of confidential mental health services available on campus via the Office of Student Life's Counseling and Consultation Service (CCS) by visiting ccs.osu.edu or calling 614-292-5766. CCS is located on the 4th Floor of the Younkin Success Center and 10th Floor of Lincoln Tower. You can reach an on call counselor when CCS is closed at 614-292-5766 and 24 hour emergency help is also available 24/7 by dialing 988 to reach the Suicide and Crisis Lifeline.

Title IX:

Title IX makes it clear that violence and harassment based on sex and gender are Civil Rights offenses subject to the same kinds of accountability and the same kinds of support applied to offenses against other protected categories (e.g., race). If you or someone you know has been sexually harassed or assaulted, you may find the appropriate resources at http://titleix.osu.edu or by contacting the Ohio State Title IX Coordinator at titleix@osu.edu.

Diversity:

The Ohio State University affirms the importance and value of diversity of people and ideas. We believe in creating equitable research opportunities for all students and to providing programs and curricula that allow our students to understand critical societal challenges from diverse perspectives and aspire to use research to promote sustainable solutions for all. We are committed to maintaining an inclusive community that recognizes and values the inherent worth and dignity of every person; fosters sensitivity, understanding, and mutual respect among all members; and encourages each individual to strive to reach their own potential. The Ohio State University does not discriminate on the basis of age, ancestry, color, disability, gender identity or expression, genetic information, HIV/AIDS status, military status, national origin, race, religion, sex, gender, sexual orientation, pregnancy, protected veteran status, or any other bases under the law, in its activities, academic programs, admission, and employment. (To learn more about diversity, equity, and inclusion and for opportunities to get involved, please visit: **https://odi.osu.edu/** or **https://cbsc.osu.edu**)

Academic Misconduct:

It is the responsibility of the Committee on Academic Misconduct to investigate or establish procedures for the investigation of all reported cases of student academic misconduct. The term "academic misconduct" includes all forms of student academic misconduct wherever committed, illustrated by, but not limited to, cases of plagiarism and dishonest practices in connection with examinations. Instructors report all instances of alleged academic misconduct to the committee (Faculty Rule 3335-5-487). For additional information, see the Code of Student Conduct http://studentlife.osu.edu/csc/. We will adhere to this policy.

- Unless otherwise specified for a particular assignment, all submitted work should be a student's own unique effort. Collaborative efforts are not permitted unless expressly sanctioned for a particular assignment.
- Unless otherwise specified for a particular assignment, use of AI-generated materials for course submissions is not permitted.
- Reusing past work: In general, you are prohibited in university courses from turning in work from a past class to your current class, even if you modify it. If you want to build on past research or revisit a topic you've explored in previous courses, please discuss the situation with me.
- Using others' verbatim words without the use of quotation marks *and* citation is plagiarism. Paraphrased work requires citation to denote the use of others' ideas. Copying other's words without quotation while using citations is still considered plagiarism.

- Use of any technology during a quiz or exam (including but not limited to cell phones, smart watches, headphones, electronic dictionaries, etc.) is strictly prohibited.

Copyrighted Class Materials:

Course Schedule (example)

Schedule and assignments subject to change with as much advance notice as possible

Week	Topic	Article	Activities	Homework
1	Emerging Infectious Diseases & Pandemics	*Article:* "Applying Lessons of COVID-19 and Other Emerging Infectious Diseases to Future Outbreaks" *Source:* mBio, Volume 15, Issue 5 (September 2024)	Day1: Article reflections Day2: Case study **"Current Events Critique and Response"**	**HW:** Develop Scientific Literacy Activity: "Fact or Fiction? Analyzing Biology in the Media"
2	CRISPR and Genetic Engineering	*Article:* "CRISPR 2023 Breakthroughs: Top Developments in the Field" *Source:* Synthego, January 2024	Day1: Article reflections Day2: Group Work and class discussion **-Research Validity Debate** **-Media vs. Science Analysis**	**HW:** MC quiz over week 1 and 2
3	Climate Change and Biodiversity Loss	*Article:* "Interconnecting Global Threats: Climate Change, Biodiversity Loss, and Emerging Infectious Diseases" *Source: The Lancet Planetary Health*, Volume 8, Issue 2, February 2025.	Day1: Article reflections Day2: Article presentation **"Scientific Detective" Case Study**	**HW:** Connect Biology to Real-World Issues Activity: "Biology in the News: Global Challenges"
4	Microplastics and Environmental Pollution	*Article:* "Microplastics Are Filling the Skies. Will They Affect the Climate?" *Source:* Yale Environment 360, July 2023	Day1: Article reflections Day2: Case Study **"Two-Minute Expert" Debates**	**HW:** MC quiz over week 3 and 4 Midterm over weeks 1,2,3
5	Antibiotic Resistance and Superbugs	*Article:* "Superbugs: Causes, Symptoms, Treatments &	Day1: Article reflections Day2: Analysis	**HW:** Enhance Critical Thinking

		Examples" *Source:* Cleveland Clinic, July 2024	questions and class discussion **Science Podcast or Infographic Creation**	and Communication Activity: "The Great Debate: Biology's Toughest Questions"
6	Neuroscience and Brain-Computer Interfaces	*Article:* "Bridging Minds and Machines: The Recent Advances of Brain-Computer Interfaces in Neurological and Neurosurgical Applications" *Source*: *World Neurosurgery*, Volume 189, Pages 138-153 (September 2024)	Day1: Article reflections Day2: Article presentation **"Expert Group Research and Presentation"**	MC quiz over week 5 and 6 **HW:** Explore Ethical and Societal Implications Activity: "Bioethics Roundtable: What Would You Decide?"
7	Synthetic Biology and Bioengineering	*Article*: "Cyanobacterial Type I CRISPR-Cas Systems: Distribution, Mechanisms, and Genome Editing Applications in Synthetic Biology" *Source: Frontiers in Bioengineering and Biotechnology*, February 10, 2025	Day1: Article reflections Day2: Group work **Bioethics Town Hall**	**HW:** Encourage Lifelong Engagement with Science Activity: "Citizen Science Challenge: Be a Biologist"

Biology BS Curriculum Map

B = beginning, I = intermediate, A = advanced

Required Prerequisites for the Biology Major				Biology BS Learning Outcomes															
Semester Course Number		**Course Title**	**Sem. hrs.**	**1.1**	**1.2**	**1.3**	**1.4**	**1.5**	**1.6**	**1.7**	**2.1**	**2.2**	**2.3**	**3.1**	**3.2**	**3.3**	**3.4**	**3.5**	**4**
BIO Req. #1	BIOL 1113xx	*Biological Sciences: Energy Transfer and Development*	4-7	B	B	B	B	B				B		B	B	B	B	B	B
	or																		
	Bio 1111 + 1112	*Foundations of Biology 1 & 2* (3 + 4 hours)																	
BIOL 1114xx		*Biological Sciences: Form, Function, Diversity, and Ecology*	4-5		B		B	B	B	B				B	B	B	B	B	I
MATH Req. #1	MATH 1151	*Calculus 1* (5 Hrs.)	5-8																
	or																		
	Math 1140 + 1141	*Calculus with Review 1 & 2* (4 hours each)					B		B		B							B	
	or																		
	MATH 1156	*Calculus for Biol. Sciences* (5 Hrs.)																	
MATH Req. #2	MATH 1152	*Calculus 2* (5 Hrs.)	3 - 5																
	or																		
	MATH 1157	*Math. Modeling for Biol. Sciences* (5 Hrs.)																	
	or																		
	STATS 1450	*Intro. to the Practice of Statistics* (3 Hrs.)					B	B	B	B	B	B	B	B	B	B	B	B	B
	or																		
	STATS 2450	*Intro. to Statistical Analysis* (3 Hrs.)																	
	or																		
	STATS 2480	*Statistics for the Life Sciences* (3 Hrs.)																	
CHEM Req. #1	Chem 1210	*General Chemistry 1*	5-7	B		B						B		B	B		B		
	or																		
	Chem 1206 + 1208	*Foundations of Chemistry 1 & 2* (3 + 4 Hrs.)																	
CHEM 1220		*General Chemistry 2*	5	B		B						B		B	B		B		
CHEM 2510		*Organic Chemistry 1*	4	B		B						B							
CHEM 2520		*Organic Chemistry 2*	4	B		I						I							
CHEM 2540		*Organic Chemistry Lab 1*	2	B		B						I		B	B		B		
CHEM 2550		*Organic Chemistry Lab 2*	2	B		B						I		B	B		B		
PHYS Req. #1	Phys 1200	*Mechanics, Thermal Physics, Waves*	5-7	B		B							B	B	B		B		
	or																		
	Phys 1248 + 1249	*Mechanics, Work and Energy* (4 Hrs) + *Rotational Dynamics, Thermal Physics, and Vibrational Motion* (3 Hrs.)																	
	or																		

	Phys 1250	*Mechanics, Work and Energy, Thermal Physics (5 Hrs.)*																		
PHYS Req. #2	Phys 1201	*E&M, Optics, Modern Physics*	5	B		B							B	B	B		B			
	or																			
	Phys 1251	*E&M, Waves, Optics, Modern Physics*																		
Total Hrs.			**48-61**																	

Core Electives for the Major			**Biology BS Learning Outcomes**																
Sem. Course Number	**Course Title**	**Sem. hrs.**	**1.1**	**1.2**	**1.3**	**1.4**	**1.5**	**1.6**	**1.7**	**2.1**	**2.2**	**2.3**	**3.1**	**3.2**	**3.3**	**3.4**	**3.5**	**4**
MICRBIOL 4000 or 4100	*General Microbiology*	4/5	A	I	I	I	I	I	I				A	A	I	A	I	I
BIOCHEM 4511 or 5613 AND 5614	*Biochemistry*	4/6	A	I	A		I								I		I	I
MOLGEN 3300	*General Plant Biology*	4	A	I	I	I	I	I	I				A	A	I	A	I	I
MOLGEN 4500 or 4606	*General Genetics*	3 / 4	A	I	A	A	I	I							I		I	I
EEOB 2510 or 2511	*Human Anatomy*	3 / 4	I														I	B
EEOB 2520	*Human Physiology*	3	I														I	B
EEOB 3510 or MOLGEN 4700	*Cell Biology*	3	A	A	I	I	I						I					I
EEOB 3310	*Evolution*	4	A	I		I	A	I	I						I		I	I
EEOB 3410	*Ecology*	4	I	I			I		A				A	I	I	I	I	I
EEOB 3520	*Microscopic Anatomy*	3	I	I	I												I	I
EEOB 4510	*Comparative vertebrate anatomy*	3	I	I														I
ANTHRO 2200	*Physical Anthropology* (Additional Prereq)	4				B	B	B	B				B	B		B	B	B
BIO 3401 or 3501	*Integrated Biology* or *Integrative Skills in Biology*	4/3	I	I	I	I	I	I	I				I	B	I	I	I	I
BIO 4901	*Biological Capstone*	2	A	A	A	A	A	A	A	A	A	A	A	B	A	I	I	A

Additional Biology Electives			**Biology BS Learning Outcomes**																
Sem. Course Number	**Course Title**	**Sem. hrs.**	**1.1**	**1.2**	**1.3**	**1.4**	**1.5**	**1.6**	**1.7**	**2.1**	**2.2**	**2.3**	**3.1**	**3.2**	**3.3**	**3.4**	**3.5**	**4**
BIO 2200	*Genome Biology*	1		I		I							I	I	I	I	I	B
BIO 2750	*Scientific Thought in an Anecdotal World*	3													B		I	I
BIO 3050	*Current Events in Biology*	1													I	I	I	I
BIO 4210	*Undergraduate Research in Biology Education*	4											A	A	A	A	A	A
BIO 4798	*Scientific Roots in England*	3	I					I									I	I
BIO 5001	*Topics in Biology Teaching*	1															A	A

BS outcomes

1. Explain major biological concepts and discuss how these are connected with various areas of the biological and physical sciences.

    1.1. Describe the hierarchical relationship between structure and function at all levels: molecular, cellular, and organismic.

    1.2. Diagram, explain, and contrast the major cellular processes in Archaea, bacteria, and eukaryotes.

    1.3. Differentiate types of biological macromolecules and compare their contributions to cellular structure and function.

    1.4. Apply the principles of genetics and describe the flow of genetic information.

1.5. Explain changes in organisms through time by applying the principles of evolutionary biology.

1.6. Demonstrate how relationships among living things are understood through taxonomy and phylogenetic analysis.

1.7. Describe ecological relationships between organisms and their environment.

2. Apply concepts from mathematics and other science disciplines for the analysis of processes in living organisms.

2.1. Apply quantitative skills in the analysis of biological processes.

2.2. Apply concepts from chemistry in the analysis of biological processes.

2.3. Apply concepts from physics in the analysis of biological processes.

3. Demonstrate problem solving, analytical, and communication skills that will provide the foundation for lifelong learning and career development.

3.1. Apply the scientific process, including designing and conducting experiments and testing hypotheses.

3.2. Use laboratory equipment, employ safe laboratory practices, and adapt tools such as laboratory notebooks and spreadsheets to organize and analyze data associated with scientific processes.

3.3. Retrieve information from the life sciences literature; read, understand, and critically review scientific papers.

3.4. Prepare oral and written reports following a recognized scientific format.

3.5. Develop an awareness of the careers and professions that rely on knowledge of biological sciences.

4. Value biology as an integral part of society and everyday life.