

Course Location

This course meets in person, *with face to face lectures scheduled to meet in Anderson 203 on MWF 12:00-1:00 pm. Weekly lab meetings will be on Mondays, 3:30-6:30 pm in Anderson 314.* Course announcements and course materials can be accessed by signing into UA Blackboard. The Spring 2023 semester begins on Tuesday, January 17th.

Instructor information

Instructor	Dr. Julie Schram (she/her/hers)
Office location	UAS-Juneau Auke Lake Campus Anderson 205D
Phone	796-6599
Email	jbschram@alaska.edu
Office hours	Tuesday, Thursday 1- 3 pm, virtually in Office hr zoom room (Meeting ID: 498 711 7046; Passcode: 978173) or by appointment

Originally from Washington state, I completed my PhD in biology at the University of Alabama at Birmingham, where I studied the ecophysiological impacts of climate change on Antarctic invertebrates. I have been at UAS since Spring 2021 but have been teaching biology and related courses, in one form or another since 2008. I love researching and sharing my excitement for invertebrates and seaweeds with students.

Course Information**Course name**

Biol S103 Biology and Society

Course pre-requisite

MATH S105 or concurrent enrolment

Course text – Strongly recommended

The textbook for this class is available online in web view and PDF for free. You can also choose to purchase on iBooks or get a print version via OpenStax on Amazon.com. If you buy on Amazon, make sure you use the link on your book page on openstax.org so you get the official OpenStax print version.

Concepts of Biology from OpenStax,
Print ISBN 1938168119,
Digital ISBN 1947172034,
www.openstax.org/details/concepts-biology

Course overview:

At the successful completion of this course, the student should have basic familiarity with the principles of biology. Topics range from molecules to cells, cancer and pathogenic organisms, how plants make food and how animals extract energy from food, biodiversity, conservation biology, and global climate change. Laboratory sessions are designed to support the lecture material and to give students some hands-on experience in biology. Upon completion of the course the student should have the knowledge to be a more critical interpreter of current events in biology and the natural world.

Objective

The primary objective of Biology 103 is to provide Biology non-major students with a solid foundation in the basic principles and concepts behind the theory of evolution and the cell theory, the structure of DNA, cell reproduction, patterns of inheritance, ecology, and population dynamics. This foundation will foster scientific literacy and platform to critically evaluate science-related material as well as compile and communicate accurate scientific information to a wide variety of audiences. This course addresses six competencies that baccalaureate degree students should attain during their studies at UAS.

1. Communication
2. Quantitative skills
3. Information literacy
4. Computer usage
5. Professional behavior
6. Critical thinking

Learning objectives:

At the end of this course, students will be able to:

- Explain the basic principles foundational biological concepts (e.g., cell reproduction, structure of DNA, ecology, evolution)
- Identify special organismal adaptations that allow plants and animals to inhabit a variety of habitats
- Interpret popular and primary literature results through reading and discussions
- Write a short literature review consistent with scientific writing standards

Class Blackboard website:

You can find a copy of the syllabus, assignments, lecture notes and outlines as well as your grades on the UAS Blackboard web site for this course. Lecture notes will usually be posted sometime after the lecture. Please check your e-mail account that is associated with your class registration on a regular basis or have your mail forwarded to ensure you don't miss announcements. I will post or email information regarding schedule changes, due dates, and other information you would not want to miss throughout the course.

Course expectations and Grading

Name/Pronouns

If you have recently changed your name, it may not be the same as the name that appears on the UAS provided rosters. If this is the case, please let me know so I can update my records. To avoid confusion and unnecessary, please share your pronouns with myself and the class as appropriate.

Lecture:

Lectures will be delivered virtually and will be a combination of synchronous (when we meet during the scheduled lecture time slot) and asynchronous (I will pre-record and uploaded selected lectures). Asynchronous lectures will be posted at least 1 week prior to the scheduled lecture period during which we will have a corresponding discussion and/or group activities covering information presented in the recorded lecture. It will be your responsibility to watch and understand uploaded lectures prior to the corresponding lecture period.

Laboratory:

- Each student needs to be enrolled in a laboratory section for Biology 103. The laboratories have been designed to complement the lecture material and students should gain a practical knowledge of the biological concepts explained during the lecture portion of the class. Laboratories provide an active learning component that will complement and add to your understanding of the lecture material.
- You are responsible for cleaning up after yourself and the area where you have been working. That includes washing any glassware you may have used, putting it in the cart to drain and wiping off the table before you leave.
- One of the advantages of studying biology at UAS is the proximity of the university to marine, forest, and glacial ecosystems. We will promote field trips when possible to explore and observe nature. Dress appropriately for these outings!
- Discussions are an integral part of the biology laboratory and class participation is greatly encouraged. Laboratory attendance is an important component of your laboratory grade. There will be quizzes and other lab assignments. Your grade can be affected if one or two laboratories are missed. **Absence from three laboratories will result in an F in the course. The laboratory grade will be integrated into the final course grade.**

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Course expectations

1. Read required materials and come to class ready to discuss the readings.
2. Participate in class discussions, assignments, and activities.
3. Complete all exams.

General Course policies:

- 1) Attendance is expected. Students are responsible for all materials presented and discussed during class periods, including instructor, guest lectures and peer presentations.
- 2) Laboratory class participation is a significant portion of this course. There will be individual and/or group activities for which students receive credit as part of their daily class participation. There are no make-ups for missed participation points unless accompanied by an appropriate excuse. **If you have 3 or more unexcused laboratory absences, you will automatically fail this course.**
- 3) If a student is ill or otherwise unable to attend class, contact your instructor before you miss class to obtain an alternate assignment to take the place of missed participation points and, if necessary, arrange a make-up exam. If you are ill you must present a dated medical documentation of your illness within one week of the absence.
- 4) There will be limited opportunities for extra credit. Extra credit will only be available for the entire class; there will be no individual extra credit. There will not be sufficient opportunities for extra credit to make up for any assignment.

Expectations and Evaluation:

- Lecture subjects are noted in the attached syllabus schedule, you are expected to attend/view all lectures.
- *Please read the assigned material before coming to class.*
- The syllabus may be revised. Some minor adjustment may be necessary to make additional time for certain subjects or less for others.

Regrade Policy:

If a student wishes a re-grade on an assignment or exam, the student must request the re-grade in writing within 48 hours of the assignment or exam being returned. The request must include the question/topic in dispute.

Late Assignment Policy:

All tests, presentations, and lab assignments must be completed and handed in on the required date. Your grade for that assignment will be decreased 10% by each class day your work is late. After one-week, the maximum credit that can be earned is 50%. **Missing assignments (defined as any assignment not turned in) will receive a zero. Exceptions can be made only if discussed and approved well in advance of absence**

Grading scheme:

Your grade will reflect an accumulation of your total points earned in the class.

Assignment	# of assignments	Points per assignment	Total points per assignment
Exams	4	50	200
Final exam	1	100	100
Blackboard quizzes	20	5	100
TOI title	1	5	5
TOI literature list	1	10	10
TOI outline	1	10	10
TOI paper drafts	1	25	25
TOI paper (final)	1	50	50
Lab assignments	10	10	100
Lab participation	10	5	50
Lab notebook check	2	25	50
Lab practical	2	25	50
Total Points possible:	---	---	750

Points	Grade percentage	Letter grade
697 ≤	93 ≤	A
675 – 696	90-92%	A-
652 – 674	87-89%	B+
622 – 651	83-86%	B
600 – 621	80-82%	B-
577 – 599	77-79%	C+
547 – 576	73-76%	C
525 – 546	70-72%	C-
502 – 524	67-69%	D+
472 – 501	63-66%	D
450 - 471	60-62%	D-
≤ 449	≤59%	F

Note: Incompletes (I) represent a temporary grade for a student that has completed most of the coursework (with a C or better) and for personal reasons outside of the student's control, are unable to complete the full requirements of the course (e.g., medical emergencies). Poor performance in a course is not a valid reason for taking an incomplete. For more information, please see the [UAS Academic Catalog](#) for more details.

Exam and assignment summaries

Examinations and Quizzes:

During the lecture portion of Biology 103, there will be 5 exams worth 50 points each. You can drop the grade for your lowest exam score. **The final exam is also worth 100 points and will cumulative and will require you to integrate material presented throughout the course.** During the lecture, there will be readings as detailed in the lecture schedule and some discussions. *Your on-time attendance is required for exams.*

Blackboard quizzes are designed to help students check their understanding of the material covered at their own pace. Quizzes will be due on the day before the exam on which material will be covered by the quiz will be tested.

Topic of interest Paper (100 pts):

Write a 3-5-page scientific topic paper critique for the instructor-approved media of your choice. You can look through the Journal of Experimental Biology Highlights (other journal articles will also be made available) or look through TED talks of 17 minutes or longer. I can help you explore your topic interest, just check in with me early and we can brainstorm some appropriate media/topics.

Tentative writing timeline

Date	Assigned writing
February 6	Paper subject proposal submitted
February 22	Literature review list due
March 3	Paper outline due
April 3	Full draft of paper due for review
May 3	Final paper + response to comments due

Hints for Success:

As I am sure you are aware, attending lectures is extremely important to the success of each student.

- If you miss a lecture, make sure you can get notes from someone in class.
- Do not wait until the last minute to study for an exam.
- Allocate at least 2 hours three times a week during which you can study Biology. In addition to the biological knowledge that you learn in this course, you will become more successful with time management.
- If you feel that you are falling behind, please email me or 'drop' by my office hours or schedule an appointment to meet with me at the earliest possible time. I am happy to help you figure out where you stand in the class and brainstorm studying techniques to complement what you are already doing.

Other important information

Land acknowledgement

UAS campuses reside on the unceded territories of the Áak'w ƙwáan, Taant'á ƙwáan, and Sheetk'á ƙwáan on Lingít Aaní, also known as Juneau, Ketchikan, and Sitka, Alaska. We acknowledge that Lingít Peoples have been stewards of the land on which we work and reside since time immemorial, and we are grateful for that stewardship and incredible care. We also recognize that our campuses are adjacent to the ancestral home of the Ƙaaḏas and Ts'msyen and we commit to serving their peoples with equity and care. We recognize the series of unjust actions that attempted to remove them from their land, which includes forced relocations and the burning of villages. We honor the relationships that exist

between Lingít, Xaadas, and Ts'msyen peoples, and their sovereign relationships to their lands, their languages, their ancestors, and future generations. We aspire to work toward healing and liberation, recognizing our paths are intertwined in the complex histories of colonization in Alaska. We acknowledge that we arrived here by listening to the peoples/elders/lessons from the past and these stories carry us as we weave a healthier world for future generations.

A note about recent events

Over the past several months and years, we have experienced repeated upheavals, including but not limited to an ongoing global COVID-19 pandemic and war in Ukraine as well as a resurgence in awareness and reckoning with the consequences of violence and systematic racism against the Black community and racialized minorities. Normalization of violence and political attacks over disagreements has become more prevalent. These wide-reaching events can compound with day-to-day stresses and as a result, it is normal to feel overwhelmed or anxious. It is difficult to learn when we feel stressed or unsafe. I have designed this class to provide space for reasonable accommodations to foster a positive and supportive learning environment. If you recognize that your physical or mental health are being impacted by recent world or local events, please make use of UAS resources, some of which I have outlined below.

UAS COVID and Mask Policy

Current UAS COVID policy has been relaxed compared to previous semesters. At this time, masking is **not** required however, the course policy will be updated as necessary to reflect current best practices and university policy to ensure student safety. Please see the UAS [COVID Plan & FAQ](#) website for updated information. Full policies and resources can be found at the [UAS/UA COVID-19 Information site](#).

Academic support and services

UAS provides extensive academic supports for students to assist students in their academic journey. The most successful students learn to utilize these supports as needed. If you are interested in learning more about available supports and services, please don't hesitate to reach out to me to find more information about a specific service. Below I have outlined some of the most utilized services.

Learning center

The Learning Center is located on the first floor of the Egan Library. Tutors for a wide variety of academic subjects are regularly available to support student learning. This is also a good location to get additional help or find classmates for group study. Hours and availabilities are posted on the [UAS Learning Center website](#). Staff at the learning center can be contacted by email (Juneau.testing@alaska.edu) or phone (907-796-6348).

Accommodations and disability support:

Students needing accommodations or modifications should contact and arrange to meet with the course instructor. To request accommodations for this and any other UAS

courses, please contact Disability Services as soon as possible. Accommodations will need to be requested each semester of attendance.

For more information, contact:

Disability Services, [DSS website](#)

Student Resource Center in the Mourant building.

907-796-6000

Counseling services

UAS provides [individual personal counseling services](#) to support student mental wellbeing and success as well as [groups and workshops](#). Counselors are based in Juneau and are available to work with students in person or via tele-health on personal challenges and emotion management as well as goal setting. To learn more about available services, visit the [UAS Counseling Services website](#). Mental health crisis intervention is available M-F 8am-5pm (907-796-6000 for appointments). Additional UAS policies

Non Discrimination Statement

The University of Alaska is an affirmative action/equal opportunity employer and educational institution. The University of Alaska does not discriminate based on race, religion, color, national origin, citizenship, age, sex, physical or mental disability, status as a protected veteran, marital status, changes in marital status, pregnancy, childbirth or related medical conditions, parenthood, sexual orientation, gender identity, political affiliation or belief, genetic information, or other legally protected status. The University's commitment to nondiscrimination, including against sex discrimination, applies to students, employees, and applicants for admission and employment. Contact information, applicable laws, and complaint procedures are included on UA's statement of nondiscrimination available at www.alaska.edu/nondiscrimination.

For more information, contact:

UAS Office of Equity and Compliance

11066 Auke Lake Way, Novatney Building 103, Juneau, AK 99801

907-796-6371

uas.titleix@alaska.edu

Academic Integrity: Student Conduct Policy and Plagiarism

Academic integrity is essential creating a learning environment, this includes accurate and appropriate attribution of ideas and text and honest reflection of your work and understanding of the subject matter covered. Grades are only a reflection of understanding as assessed by assignments, it is not a representation of the quality of your work or a measure of true success. In my experience, situations in which students have violated the [UAS Student Code of Conduct](#), it has resulted from some combination of stress or lack of sleep, demands outside of a student's control, and completing assignments at the last minute. This combination of factors can contribute to poor-decision making and tempting students to take short cuts that result in violation of the UAS academic integrity policies. If

you find yourself tempted engage in problematic behavior/practices that could lead to plagiarism or cheating, please contact me so we can strategize appropriate alternate strategies to complete assignments with full integrity.

For additional information on the tolerance and repercussions of academic dishonesty at UAS, please contact:

Lori Klein,
UAS Student Conduct Administrator
907-796-6529
laklein@uas.alaska.edu

Title IX/Sex and Gender-based Discrimination

UAS students, faculty, staff, and visitors have the right to be free from all forms of gender and sex-based discrimination. UAS prohibits sexual harassment, sexual assault, other forms of sexual violence, domestic violence, dating violence and stalking. In the event of an act of prohibited conduct does occur, UAS will take steps to stop the behavior, prevent its recurrence, and provide remedies. All employees at the University of Alaska Southeast, with the exception of UAS counselors and health care providers, are consider “responsible employees” and must share any reports of gender-based and sexual misconduct with the UAS Title IX Office. Students are encouraged to speak up and help end the silence surrounding sexual violence and harassment.

For more information, see <https://www.alaska.edu/titleIXcompliance/>

As your instructor, I am a mandatory reporter. If you have experienced gender-based and/or sexual misconduct, check out the following links for information on systems in place that can assist you in exploring options and support:

11066 Auke Lake Way, Hendrickson Building 202, Juneau, AK 99801
Phone: 907-796-6036
Email: uas.titleix@alaska.edu
Website: www.uas.alaska.edu/titleix

Lecture Schedule

Day	Wk	Date	Topics	Reading
W	1	18-Jan	Introduction to course & class organization; Intro biological themes and concepts	Ch 1
F	1	20-Jan	The process of science	Ch 1
M	2	23-Jan	No in-person class.	---
W	2	25-Jan	Chemistry of life: building blocks of molecules and water	Ch 2
F	2	27-Jan	Cell structure and function: how cells are studied; prokaryotic and eukaryotic cells	Ch 3
M	3	30-Jan	Cell structure and function: how cells are studied; prokaryotic and eukaryotic cells	Ch 3
W	3	1-Feb	Cellular transport: active & passive transport	Ch 3
F	3	3-Feb	How cells obtain energy: energy metabolism & glycolysis	Ch 4
M	4	6-Feb	Exam review/catch-up day, **Propose subject for Topic of Interest (TOI) paper	Ch 1-4
W	4	8-Feb	Exam #1 (50 pts) in the testing center	Ch 1-4
F	4	10-Feb	Photosynthesis,	Ch 5
M	5	13-Feb	Reproduction at the cellular level	Ch 6
W	5	15-Feb	Reproduction at the cellular level	Ch 6
F	5	17-Feb	The cellular basis of inheritance	Ch 7
M	6	20-Feb	The cellular basis of inheritance	Ch 7
W	6	22-Feb	Exam review/catch-up day ** Literature review list for TOI paper due	Ch 5-7
F	6	24-Feb	Exam #2 (50 pts)	Ch 5-7
M	7	27-Feb	Patterns of inheritance,	Ch 8
W	7	1-Mar	Patterns of inheritance	Ch 8
F	7	3-Mar	Molecular biology, **TOI paper outline due	Ch 9
M	8	6-Mar	Biotechnology	Ch 10
W	8	8-Mar	Exam review/catch-up day	Ch 8-10
F	8	10-Mar	Exam #3 (50 pts)	Ch 8-10
Spring break 13-17 March				
M	9	20-Mar	Evolution and its processes	Ch 11
W	9	22-Mar	Evolution and its processes , Diversity of life	Ch 11,12
F	9	24-Mar	Diversity of microbes, fungi, and protists	Ch 13
M	10	27-Mar	Diversity of microbes, fungi, and protists	Ch 13

W	10	29-Mar	Exam review/catch-up day	
F	10	31-Mar	Exam #4 (50 pts)	Ch 11-13
M	11	3-Apr	The body's systems: digestive and circulatory and respiratory systems	Ch 16
W	11	5-Apr	The body's systems: the endocrine and neuromuscular systems, **TOI draft paper due	Ch 16
F	11	7-Apr	The immune system and disease	Ch 17
M	12	10-Apr	The immune system and disease	Ch 17
W	12	12-Apr	Animal reproduction and development	Ch 18
F	12	14-Apr	Exam review/catch-up day	Ch 16-18
M	13	17-Apr	Exam #5 (50 pts)	Ch 16-18
W	13	19-Apr	Population and community ecology	Ch 19
F	13	21-Apr	Ecosystems and the biosphere	Ch 20
M	14	24-Apr	Conservation and biodiversity	Ch 21
W	14	26-Apr	Conservation and biodiversity	Ch 21
F	14	28-Apr	Final exam review/catch-up day	Ch 19-21

Final exam (Cumulative final, 100 pts) is scheduled during finals week on **Wednesday May 3rd, 12:30 – 2:30 pm**

*If you have not turned in your topic paper by now, this is the final due date!

Lab Schedule

Day	Wk	Date	Topics
M	3	30-Jan	Laboratory: Lab safety and lab protocol review. Microscopy & metric measurements (HW)
M	4	6-Feb	Lab cancelled
M	5	13-Feb	Photosynthesis lab
M	6	20-Feb	Human genetics, mitosis, & meiosis
M	7	27-Feb	Biotechnology lab
M	8	6-Mar	Lab practical #1
M	9	20-Mar	Lab cancelled
M	10	27-Mar	Enzymes
M	11	3-Apr	Overview of plants
M	12	10-Apr	Overview of animals (invertebrates and vertebrates)
M	13	17-Apr	Microbiology, food microbiology and disease transmission
M	14	24-Apr	Lab practical #2 Succession field trip, changes in biodiversity - Mendenhall glacier ecology trail