

BIOL 101H-001

PRINCIPLES OF BIOLOGY

An Honors course for undergraduate biology majors and non majors

3 Units

08/10/2020-11/24/2020

MWF: 10:40 AM-11:30 AM

Remote - online only

a mix of synchronous and asynchronous activities

N.B. Classes will be recorded and made available for review

Instructor

John P. Eylers, PhD

eylers@email.unc.edu

virtual office hours by appointment

Goals

Learn to:

Understand the place of biology among the natural sciences

Identify biological principles in action

Compose a thoughtful discourse on a biological topic

In order to:

THINK LIKE A BIOLOGIST

Texts

Biology: Life on Earth with Physiology, 12th Edition +
MASTERING

Audesirk, Audesirk and Byers (Pearson)

Semiosis

Sue Burke (TOR)

Grading

Homework on-line		
on time completion of weekly Dynamic Study Modules	45 points	
Class participation		
regular, active attendance at Zoom sessions	20	
Testing		
quizzes on-line at the end of each unit + final exam	20	
Essay		
2000 words, topic to be announced	20	

Grade (%) = Total points / 100

Absences and late submissions

No right or privilege exists that permits a student to be absent from any class meetings, except for these University Approved Absences:

1. Authorized University activities
2. Disability/religious observance/pregnancy, as required by law and approved by [Accessibility Resources and Service](#) and/or the [Equal Opportunity and Compliance Office \(EOC\)](#)
3. Significant health condition and/or personal/family emergency as approved by the [Office of the Dean of Students](#), [Gender Violence Service Coordinators](#), and/or the [Equal Opportunity and Compliance Office \(EOC\)](#).

All other absences will result in a reduction in the Class participation score unless other arrangements are made with the instructor. Please communicate early about potential absences. Be aware that you are bound by the [Honor Code](#) when making a request for a University approved absence.

Late submissions, without the permission of the instructor, will result in the loss of points for the exercise.

Changes to the syllabus

The instructor reserves the right to make changes to the syllabus, including due dates and test dates. These changes will be announced in a timely manner.

Honor Code

1. All students are expected to follow the guidelines of the UNC honor code. In particular, students are expected to refrain from “lying, cheating, or stealing” in

the academic context. If you are unsure about which actions violate that honor code, please see your instructor or consult honor.unc.edu.

2. Students are bound by the Honor Code in taking exams and in written work. The Honor Code of the University is in effect at all times, and the submission of work signifies understanding and acceptance of those requirements. Plagiarism will not be tolerated.
3. The University of North Carolina at Chapel Hill has had a student-administered honor system and judicial system for over 100 years. The system is the responsibility of students and is regulated and governed by them, but faculty share the responsibility. If you have questions about your responsibility under the honor code, please bring them to your instructor or consult with the office of the Dean of Students or the Instrument of Student Judicial Governance. This document, adopted by the Chancellor, the Faculty Council, and the Student Congress, contains all policies and procedures pertaining to the student honor system. Your full participation and observance of the honor code is expected (honor.unc.edu).

Calendar

Each Zoom session will be devoted to the intense scrutiny of one chapter from:
Biology Life on Earth with Physiology, 12th Edition

	Monday	Wednesday	Friday
August	10	12	14
UNIT 3 Evolution and Diversity of Life	Introduction	15 Principles of Evolution	16 How Populations Evolve
	17	19	21
	17 The Origin of Species	18 The History of Life	19 Systematics: Seeking Order Amid Diversity
	24	26	28
		20 The Diversity of Prokaryotes and Viruses	21 The Diversity of Protists
September	31	2	4
	22 The Diversity of Plants	23 The Diversity of Fungi	24 Animal Diversity I: Invertebrates
	7	9	11
UNIT 4 Behavior and Ecology		25 Animal Diversity II: Vertebrates	27 Population Growth and Regulation
		26 Animal Behavior	

	Monday	Wednesday	Friday
	14	16	18
	28 Community Interactions	29 Energy Flow and Nutrient Cycling in Ecosystems	30 Earth's Diverse Ecosystems
	21	23	25
UNIT 1 The Life of the Cell	31 Conserving Earth's Biodiversity	2 Atoms, Molecules, and Life	3 Biological Molecules
October	28	30	2
	4 Cell Structure and Function	5 Cell Membrane Structure and Function	6 Energy Flow in the Life of a Cell
	5	7	9
UNIT 2 Inheritance	7 Capturing Solar Energy: Photosynthesis	8 Harvesting Energy: Glycolysis and Cellular Respiration	9 Cellular Reproduction
	12	14	16
	10 Meiosis: The Basis of Sexual Reproduction	11 Patterns of Inheritance	12 DNA: The Molecule of Heredity
	19	21	23
UNIT 5 Animal Anatomy and Physiology	13 Gene Expression and Regulation 14 Biotechnology	32 Homeostasis and the Organization of the Animal Body	33 Circulation
	26	28	30
	34 Respiration	35 Nutrition and Digestion	36 The Urinary System
November	2	4	6
	37 Defenses Against Disease	38 Chemical Control of the Animal Body: The Endocrine System	39 The Nervous System
	9	11	13
	40 The Senses	41 Action and Support: The Muscles and Skeleton	42 Animal Reproduction
	16	18	20
UNIT 6 Plant Anatomy and Physiology	43 Animal Development	44 Plant Anatomy and Nutrient Transport	45 Plant Reproduction and Development 46 Plant Responses to the Environment

Monday

Wednesday

Friday

23

**Final Exam 8:00 -
11:00**