Organisms to Ecosystems

Course Title: Principles of Biology: Organisms to Ecosystems
Course Number: BIOL 2102
Course Credits: 3
Term: Fall 2026
Section 001 Meeting Time: MWF 10:00 AM – 10:50 AM
Section 001 Location: ANTH 163
Section 002 Meeting Time: MWF 3:00 PM – 3:50 PM
Section 002 Location: NTHP 122

Instructor (First Half): Moses J. Michelsohn (he/him)
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Instructor (Second Half): Dr. Lisa Barrow (she/her)
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Instructor Student Drop-In Hours: By appointment using link on UNM Canvas.

Course Description: The Biology Introductory Series (BIOL 2101, 2102, and 2103L) introduces undergraduate students to the breadth of topics investigated in the field of biology. BIOL 2102 is an introduction to 1) basic evolutionary principles underlying the diverse array of organisms observed in nature, 2) the structural and physiological solutions to fundamental problems in organismal biology, and 3) the principles and characteristics of population, community, and ecosystem ecology.

Course Goals: Students enrolled in BIOL 2102 will:

1) develop a fundamental understanding of the process of evolution by natural selection, the formation of species, and the historical processes giving rise to the diversity of extant multicellular organisms.
2) gain familiarity with the relationships between form and function in multicellular organisms and the processes used by different taxonomic groups to solve fundamental problems faced by all organisms.
3) build a basic understanding of the processes that govern the characteristics and functions of populations, communities, and ecosystems.

Student Learning Outcomes: Students who complete BIOL 2102 will be able to demonstrate a coherent understanding of:

1) evolution by natural selection and the process of species formation.
2) topological representation of species diversification through time (phylogenetic tree-thinking).
3) the relationship between tissues, organs, and organ systems from a structural, functional, and evolutionary perspective.
4) how multicellular organisms obtain energy from their environment.
5) resource distribution in multicellular organisms.
6) how organisms sense and respond to environmental stimuli.
7) the variation in reproductive cycles across multicellular organisms.
8) the hierarchical organization of ecology from organisms to the biosphere.
9) how population growth is measured and how it is influenced by demography and life history.
10) the diversity and dynamics of species interactions and food webs.
11) how abiotic factors influence the diversity and distribution of biomes.
12) how human activities have impacted ecosystem function, ecosystem services, biodiversity, and biogeochemical cycles.

Required Materials: Students enrolled in BIOL 2102 are required to obtain the following materials:

- Urry, L. A., M. L. Cain, P. V. Minorsky, K. L. Hull, & R. B. Orr (2024) *Campbell Biology in Focus, 4th edition*. Pearson.
- iClicker+ Student Remote (or compatible device or application)

Course Requirements: This course includes multiple opportunities for students to engage with the material and receive feedback on their performance. Learning requires time and practice. These course requirements are designed to emphasize engagement with concepts in-class (PA), practicing material at students' own pace outside of class (RQ), and regularly assessing student understanding (EX). The lowest scores in each of these grade categories will be dropped allowing students some flexibility throughout the semester (additional details below).

Student performance in BIOL 2102 is based on the following:

- **Lecture Participation (PA):** Students are required to attend each lecture and engage with the presented material. Student participation will be assessed using iClicker+ questions throughout the lectures. Students are responsible for registering their iClicker+ devices, bringing their iClicker+ devices to lecture in working order, and setting their devices to the proper channel. Students should actively track their Lecture Participation scores to ensure their participation is recorded.
- **Reading Quizzes (RQ):** Students are required to read assigned sections of the textbook or provided supplementary materials prior to attending lecture. Students are required to complete an online Reading Quiz through UNM Canvas each week. This assignment will include a combination of questions reviewing previously discussed topics and material included in readings for the upcoming week. Reading Quizzes will open at 8:00am on Mondays and must be completed by 11:59pm on Sundays. The lowest four scores (of fourteen total) will be dropped for each student.
- **Examinations (EX):** Students are required to complete six in-class examinations during the semester. Examinations will emphasize material covered in the previous 2–3 weeks but may include any material covered in BIOL 2102 at the time of the exam (knowledge in biology is often cumulative). There is no additional final examination in BIOL 2102 during Week 17. The lowest score (of six total) will be dropped automatically for each student.
- **Course Surveys (CS):** Students will complete two course survey assignments during the semester – one at the start of the semester and one at the end of the semester. These surveys will be completed on UNM Canvas. Anonymized results of these surveys will be used by the Department of Biology to evaluate, revise, and improve the curricula of biology courses.

Student Time Management: Learning new concepts that cover a broad range of topics in biology takes time and practice. Students are expected to spend approximately six hours working on course materials outside of their scheduled course times each week.

Lecture Participation and Reading Quizzes contribute to course grades and help students identify knowledge gaps in preparation for Examinations. The course instruction team for this and all biology courses are dedicated to helping our students achieve success in their courses and eventual careers. Students that feel their efforts in this course are not reflected by their assignment grades are encouraged to reach out to their course instruction team to help develop strategies to improve their performance. Students are encouraged to review the schedule of Student Assistance Drop-In Hours (available on UNM Canvas) while planning when to work on their assignments.

Attendance and Late Work: Students are expected to attend all lectures each semester to maximize their success in this course. Students are required to arrive on-time to their lecture

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section every time and are expected to remain in class for the duration of their scheduled section. Students that arrive late may miss the opportunity to record their participation. Students that choose to leave early may also lose credit for attendance.

Students that miss a lecture section will receive a zero for the Lecture Participation grade associated with that lecture session. Students that miss an Examination must contact their Lecture Instructor in a timely fashion to arrange an alternative.

All late work in BIOL 2102 (Reading Quizzes and Course Surveys) will receive a zero. Reading Quizzes and Course Assignments are completed online through UNM Canvas and will not allow student access following their due dates.

The lowest four scores on Lecture Participation, the lowest four scores on Reading Quizzes, and the lowest score on an Examination are dropped automatically for all students in BIOL 2102. This grading scheme gives students multiple chances to miss a lecture session during the semester without serious implications for their course grade (zeros on Lecture Participation dropped as lowest grades). Students who miss lecture without excuse do not need to contact their Graduate Teaching Assistant or the Lecture Instructor following a missed lecture session.

Students who miss a lecture for a potentially excused reason (Medical, Bereavement, Armed Services, UNM Athletics, Traditional Obligation, etc.) must submit an absence report to the Lecture Instructor using the link on UNM Canvas in a timely fashion.

Course Grades: Students are responsible for actively tracking their grades online through UNM Canvas. Students with grade concerns should address them with their course instruction team as soon as possible upon receiving graded work. All grades are considered permanent two weeks after the grade is assigned. Students are responsible for adhering to all UNM grade policies. This course is not offered for Credit/No Credit.

Course Grading Scheme

Assignment Category	Iterations	Drops	Grade Portion
Lecture Participation	40	Four lowest scores	20%
Reading Quizzes	14	Four lowest scores	19%
Examinations	6	One lowest score	60%
Course Surveys	2	None	1%

Semester Grading Scheme

Grade Range	0 - 59.49	59.5 - 69.49	69.5 - 77.49	77.5 - 79.49	79.5 - 87.49	87.5 - 89.49	89.5 - 97.49	97.5+
Letter Grade	F	D	C	C+	B	B+	A	A+

UNM Accommodations Statement: UNM is committed to providing equitable access to learning opportunities for students with documented disabilities. As your instructor, it is my objective to facilitate an inclusive classroom setting, in which students have full access and opportunity to participate. To engage in a confidential conversation about the process for requesting reasonable accommodations for this class and/or program, please contact Accessibility Resource Center at arcsrvs@unm.edu or 505-277-3506.

UNM Course Materials Access Statement: Your digital course materials are directly available now on the My Shelf link in Canvas. Your physical course materials, such as books and required lab/studio course kits, are available at the UNM Bookstore, and you will receive an email about how to pick them up. To simplify your course materials access, you are automatically enrolled in a Complete option at a flat rate of $279 per semester. This will show

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up on your bursar bill. The Complete option covers all your required course materials for all your Albuquerque campus courses, including any graduate courses you may be taking (branch campus course materials are billed and available separately). If you are interested in course materials access for only selected courses, or if you want to opt out entirely, you will need to select the option you want in the My Shelf link in Canvas. You can change your selected option in the My Shelf link in Canvas until the registrar's "Last Day to Drop Without a 'W' Grade and 100% Tuition Refund." Make sure that you review the video and information here to understand cost and the options for Complete (automatic enrollment), Select (take action), and Opt-out (take action).

UNM Credit-hour Statement: This is a three credit-hour course. Class meets for three 50-minute sessions of direct instruction for fifteen weeks during the Spring 2025 semester. Please plan for a minimum of six hours of out-of-class work (or homework, study, assignment completion, and class preparation) each week.

UNM Respectful Conduct Expectations Statement: We are committed to building with you a positive classroom environment in which everyone can learn. We (the Course Instruction Team) reserve the right to intervene and enforce standards of respectful behavior when classroom conduct is inconsistent with University expectations [and/or classroom community agreements]. Interventions and enforcement may include but are not limited to required meetings to discuss classroom expectations, written notification of expectations, and/or removal from a class meeting. Removal from a class meeting will result in an unexcused absence. The University of New Mexico ensures freedom of academic inquiry, free expression and open debate, and a respectful campus through adherence to the following policies: D75: Classroom Conduct, Student Code of Conduct, University Policy 2240 – Respectful Campus, University Policy 2210 – Campus Violence.

UNM Responsible Learning and Academic Honesty Statement: Cheating and plagiarism (academic dishonesty) are often driven by lack of time, desperation, or lack of knowledge about how to identify a source. Communicate with instructors and ask for help, even at the last minute, rather than risking your academic career by committing academic dishonesty. Academic dishonesty involves claiming that work created by another source is your own original work. It is a Student Code of Conduct violation that can lead to a disciplinary procedure. When you use a resource in work submitted for this class, document how you used it and distinguish clearly between your original work and the material taken from the resource.

UNM Thriving and Finding Support Statement: Students are especially successful at UNM when they take advantage of support and get involved in campus and academic life. Your MyUNM login page provides direct links to wellbeing resources, including financial capability, mental health, food, jobs, and resource centers. MyUNM will help you identify academic resources like peer tutoring and opportunities like study abroad. You can contact academic advisors and resource advisors for information and guidance via Student Hub on MyUNM. We look forward to providing you with information about academic opportunities related to our class and to helping you find support resources.

UNM UAP 2720 and 2740 Statement: Our classroom and university should foster mutual respect, kindness, and support. If you have concerns about discrimination, harassment, or violence, please seek support and report incidents. Find confidential services at LoboRESPECT Advocacy Center, the Women's Resource Center, and the LGBTQ Resource Center. UNM prohibits discrimination on the basis of sex (including gender, sex stereotyping, gender expression, and gender identity). All instructors are "responsible employees" who must communicate reports of sexual harassment, sexual misconduct and sexual violence

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to Compliance, Ethics and Equal Opportunity. For more information, please see UAP 2720 and UAP 2740.

UNM Indigenous Peoples' Land and Territory Acknowledgement: Founded in 1889, the University of New Mexico sits on the traditional homelands of the Pueblo of Sandia. The original peoples of New Mexico — Pueblo, Navajo, and Apache — since time immemorial, have deep connections to the land and have made significant contributions to the broader community statewide. We honor the land itself and those who remain stewards of this land throughout the generations and also acknowledge our committed relationship to Indigenous peoples. We gratefully recognize our history.

UNM Religions and Faith Traditions Statement: The University of New Mexico promotes respect for all religions and faith traditions. Any student who is unable to attend classes or to participate in any examination, presentation, or assignment on a given day because of the observance of a major religious holiday or cultural observance, or due to related travel, is encouraged to speak with their instructor about an excused absence and opportunities to make up, without unreasonable burden, any work that has been missed.

UNM Statement Acknowledging the Labor and Sacrifices of Black Americans: UNM Statement Acknowledging the Labor and Sacrifices of Black Americans: At UNM, we respectfully acknowledge the traumatic history of brutality against and forced labor by Black Americans who have advanced our country. We are indebted to the enslaved and exploited descendants of the African continent whose sacrifices established our U.S. infrastructure and economy, advanced civil rights, and continue to influence popular culture, agriculture, the sciences, health care, and all aspects of society. We are obligated to continuously recognize, and repair historic and current systemic oppression and injustices placed on Black Americans. We are grateful to them and their ancestors; without them, we would not be where we are today.

UNM Statement Honoring Immigrants in The United States: UNM Statement Honoring Immigrants in The United States: The United States of America is a country that is built on the strength of immigrants that came here, either voluntarily or involuntarily. Whether they look or speak differently from us, we will do our best to understand, respect, appreciate, and value their cultures and contributions, with the ultimate goal to welcome them and elicit their potential for the betterment of all societies.

BIOL 2102 Use of Artificial Intelligence (AI) Statement: Student use of generative Artificial Intelligence (AI) tools is welcome so long as student use aligns with the course goals and student learning outcomes. Reading Quizzes (RQ) are the only 'open-book' graded assignments in this course. Reading quizzes are intended to help students comprehend course material and highlight important aspects of the required reading – students are asked to complete these assignments in ways that encourage their own professional growth and understanding of the course content – keep in mind that students will be required to demonstrate competency of simillar concepts during 'closed book' examinations.

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Course Schedule: Fall 2026

Week	Date	Lecture Topic and Assigned Readings
01	Aug 17	Lecture Topic: Descent with Modification Readings: Campbell 1
	Aug 19	Lecture Topic: The Struggle for Existence Readings: Campbell 19, 23.4
	Aug 21	Lecture Topic: Species Concepts Readings: Campbell 22
02	Aug 24	Lecture Topic: The Speciation Process Readings: Campbell 20, 30.3
	Aug 26	**Examination 1 (EX-01)**
	Aug 28	Lecture Topic: Origins of Complex Multicellularity Readings: Campbell 25.2, 25.3
03	Aug 31	Lecture Topic: Cells, Tissues, & Organs Readings: Campbell 28.1, 32.1
	Sep 02	Lecture Topic: Diversity of Autotrophs Readings: Campbell 26.1, 26.3, 26.4
	Sep 04	Lecture Topic: Diversity of Heterotrophs Readings: Campbell 26.2, 26.5, 27
04	Sep 07	No Lecture: Labor Day
	Sep 09	Lecture Topic: Structural Support in Plants Readings: Campbell 28
	Sep 11	Lecture Topic: Structural Support in Animals Readings: Campbell 39.2
05	Sep 14	Lecture Topic: Motility Readings: Campbell 30.1, 39
	Sep 16	Lecture Topic: Resource Acquisition Readings: Campbell 8
	Sep 18	**Examination 2 (EX-02)**
06	Sep 21	Lecture Topic: Homeostasis Readings: Campbell 32
	Sep 23	Lecture Topic: Excretory and Digestive Systems Readings: Campbell 32, 33
	Sep 25	Lecture Topic: Vascular Systems Readings: Campbell 29
07	Sep 29	Lecture Topic: Respiratory and Circulatory Systems Readings: Campbell 34
	Sep 30	Lecture Topic: Sensory Systems in Plants Readings: Campbell 31.2, 31.3, 31.4, 38.4
	Oct 02	Lecture Topic: Hormones in Plants Readings: Campbell 31
08	Oct 05	Lecture Topic: Sensory Systems in Animals Readings: Campbell 37, 38
	Oct 07	**Examination 3 (EX-03)**
	Oct 09	No Lecture: UNM Fall Break

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Week	Date	Lecture Topic and Assigned Readings
09	Oct 12	Lecture Topic: Immune Systems Readings: Campbell 31.4, 35
	Oct 14	Lecture Topic: Life Cycles Readings: Campbell 25.3, 26.1, 26.2
	Oct 16	Lecture Topic: Sexual Reproduction Readings: Campbell 10.2, 30.2, 36
10	Oct 19	Lecture Topic: Growth and Development Readings: Campbell 23.3, 28.3, 28.4, 31.1, 36.4,
	Oct 21	Lecture Topic: Hierarchical Organization of Ecology Readings: Campbell 1.1
	Oct 23	Lecture Topic: Population Dynamics Readings: Campbell 40.4, 40.5
11	Oct 26	Lecture Topic: Demography Readings: Campbell 40.3, 40.4
	Oct 28	**Examination 4 (EX-04)**
	Oct 30	Lecture Topic: Life History Strategies Readings: Campbell 40.6
12	Nov 02	Lecture Topic: Evolution in Populations Readings: Campbell 21
	Nov 04	Lecture Topic: Biological Communities Readings: Campbell 41
	Nov 06	Lecture Topic: Species Interactions Readings: Campbell 26.5, 41.1
13	Nov 09	Lecture Topic: Ecological Succession Readings: Campbell 41.3
	Nov 11	Lecture Topic: Energy Flow in Ecosystems Readings: Campbell 42
	Nov 13	**Examination 5 (EX-05)**
14	Nov 16	Lecture Topic: Distribution of Biomes Readings: Campbell 40.1, Figure 40.9, 40.2, Figure 40.11
	Nov 18	Lecture Topic: Patterns of Biodiversity Readings: Campbell 40.1, 40.2, 40.3, 40.4, 41.4
	Nov 20	Lecture Topic: Ecosystem Function and Ecosystem Services Readings: Campbell 42.5, 43.1
15	Nov 23	Lecture Topic: Biogeochemical Cycles Readings: Campbell 42.4
	Nov 25	No Lecture: Thanksgiving
	Nov 27	No Lecture: Thanksgiving
16	Nov 30	Lecture Topic: History of the Biosphere Readings: Campbell 23.1, 23.2, 43.4
	Dec 02	Lecture Topic: Conservation Biology Readings: Campbell 42.5, 43.2, 43.3, 43.5, 43.6
	Dec 04	**Examination 6 (EX-06)**
17	Dec 07 – Dec 11	No Lecture Sections Final Exams (BIOL 2102 does not have a Final Exam)

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