

BIOL 414 LM2 Laboratory 0 credits Spring 2025

This course is the corequisite course for BIOL 414 Principles of Biology II

Term: January 21-May 5, 2025

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Office #557 and phone-603-641-4140

University requirements-Discovery Biology, Inquiry, 0 credits

Modality-In Person

Prerequisites-none

Corequisite course- BIOL 414 lecture

Credit Workload= 45 hours of student academic work per credit

Class meeting Wednesdays 1:10 room 540

Learning Resources- *Principles of Biology II Laboratory Manual* ISBN: 978013778039-6 this is a custom lab manual for your course and can only be purchased through the bookstore
https://unh.bncollege.com/c/BIOL-414-PRINCIPLES-BIOLOGY-II-LAB/p/235_844005865_used?currentCampus=235M&rental=false.

Dissection kits are provided, or you can purchase your own. For your safety **lab coats** are required and open toed shoes are not permitted. Food, water bottles or drinks are not permitted.

Office Hours: Tuesdays 4-5 pm, Wednesday after lab 4-5 pm or in room 557 or by appointment on zoom <https://unh.zoom.us/j/6832251062>

Course Description- laboratory survey of the five kingdoms of life; physiology of cells, tissues, organs, and organ systems; evolution; human impact on the biosphere. Required for students majoring in the life sciences. Cannot be taken for credit after BIOL 412 or equivalent. Lab fee.

***Land Acknowledgement:** As we all journey on the trail of life, we wish to acknowledge the spiritual and physical connection the Pennacook, Abenaki and Wabanaki Peoples have maintained to N'dakinna (homeland) and the aki (land), nibi (water), lolakwikak (flora) and awaasak (fauna) that the University of New Hampshire community is honored to steward today. We also acknowledge the hardships they continue to endure after the loss of unceded homelands and champion the university's responsibility to foster relationships and opportunities that strengthen the well-being of the Indigenous People who carry forward the traditions of their ancestors.*

Credit Hour Policy- This syllabus reflects the federal definition of a credit hour, which entails a minimum of 3 hours of engaged time per week per credit over a 15-week semester. Examples of engaged time include class time, assignments, examinations, laboratories, participation in course-related experiences (attending a talk or performance, speakers and events, fieldwork, etc.), conferences, and office hours. Student work reflects intended learning outcomes and is verified

through evidence of student achievement. For more information, please see: Pp111_Policy_On_Credits-And-Degrees.pdf (neche.org).

Credit hour workload estimate (e.g., a minimum of 45 hours of student academic work per credit per term)

Types: quizzes, lab practical exam

Class Preparation and Attendance Policy

To ensure your success in this class read the assigned material and review everything in the weekly module. Labs often require materials only ordered for that specific week and may not be able to be made up so weekly attendance is required. If you are sick it is your responsibility to contact the instructor and provide documentation for an excused absence. For an extenuating circumstance after contacting your professor follow this guideline <https://www.unh.edu/dean-of-students/processes-policies-protocols/absence-letters-dean-students>

Expectations Regarding Assignment deadlines late or missing work

Everyone has the same deadlines. They are firm. It is not fair to give one student an extension while the rest of the class completed the work on time.

Learning Objectives:

Students will-

Recognize the importance of lab safety protocols

Utilize the scientific method to create a hypothesis and test it

Investigate, classify and describe organisms from different phyla

Effectively communicate and work as a team for all exercises

| Lab Schedule: | Module # and Topic | Chapter # |
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| JAN 22 | 1.Introduction/Overview/Lab Safety/Classifications of life | |
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|--------|-----------------|---|
| JAN 29 | 2. Bacteriology | 1 |
|--------|-----------------|---|

Experiment A-Investigating Specific Environments. Phone on/off switch, plant soil, plant leaf, aquarium H₂O, hands before washing, hands after washing

Exercise 4-Controlling the Growth of Bacteria lab study B Using antiseptics and disinfectants to control bacterial growth

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|--|---------------|---|
| | <i>Quiz 1</i> | |
| FEB 5 | 3. Protists | 2 |
| Live organisms: Amoeba, Paramecium and Euglena | | |
| | <i>Quiz 2</i> | |

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|--|---------------------------------------|-------|
| FEB 12 | 4. The Kingdom Fungi | 3 |
| Three different types of mushrooms for dissection and comparative anatomy exercise | | |
| | <i>Quiz 3</i> | |
| FEB 19 | 5. Plant Anatomy and Plant Dissection | 4 |
| Fresh flowers for dissection and anatomy | | |
| | <i>Quiz 4</i> | |
| FEB 26 | 6. Plant Diversity I + II | 5 & 6 |
| Bryophytes-sporulating moss for dissection and anatomy | | |
| | <i>Quiz 5</i> | |
| MAR 5 | LAB PRACTICAL EXAM I | |
| MAR 12 | 7. Animal Diversity I | 7 |
| Live animals-Budding Hydra | | |
| Preserved Annelid work dissection | | |
| MAR 19 | <i>Spring Break</i> | |
| MAR 26 | 8. Animal Diversity II | 8 |
| Live animals-Mixed Planaria | | |
| Preserved crayfish dissection | | |
| | <i>Quiz 6</i> | |
| APRIL 2 | 9. Vertebrate Anatomy I | 9 |
| Heart anatomy and function with PhUn Week hearts | | |
| Preserved fetal pig dissection | | |
| | <i>Quiz 7</i> | |
| APRIL 9 | 10. Vertebrate Anatomy II | 10 |
| Preserved fetal pig dissection | | |
| | <i>Quiz 8</i> | |
| APRIL 16 | LAB PRACTICAL EXAM II | |

Graded Work

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|---|-----------|
| Quizzes 8 x 10= | 80 |
| Lab Exam 1: 25pts (Modules 1-6) | 25 |
| Lab Exam 2: 25pts (Modules 7-10) | 25 |
| Attendance, Teamwork and Effort 10 points | <u>10</u> |
| | 140 |

Your overall course grade will be determined by calculating the percentage of points earned out of the possible 525. **The grade scale is:** 94-100%=A; 90-93%=A-; 87-89%=B+; 84-86%=B; 80-83%=B-; 76-79%=C+; 73-75%=C; 70-72%=C-; 66-69%=D+; 63-65%=D; 60-62%=D; Below 59.99%=F.

Academic Honesty

The Biology Program at UNH Manchester will strictly adhere to the University policy on academic honesty, as published in the UNH Student Rights, Rules, and Responsibilities Handbook (<http://www.unh.edu/vpsas/handbook/academic-honesty>). By turning in any piece of work in this course, you declare that you have read and understand the policy, and that you did not engage in any form of academic dishonesty as defined in the Handbook.

Plagiarism can take many forms, such as: submitting someone else's work - in whole or in part - as your own; collaborating on answers for individual assignments or allowing your own work to be used by another student; copying information from a web site or other text without proper documentation; buying a pre-written paper or lab report. Cheating is mainly concerned with copying on exams or in lab, bringing crib notes into an exam or referring to notes, or textbook or any other source such as a programmable calculator, tablet, or cell phone during an exam. All electronic devices must be turned off and put away for the duration of the exam. Ear buds are not permitted. Any instances of cheating or plagiarism will result in consequences that can range from a failing grade on the assignment for all students involved to dismissal from the University, as defined in the UNH Student Rights, Rules, and Responsibilities Handbook.

Use of Automated Writing Tools (chatGPT) and other Artificial Intelligence Tools

Unless otherwise specified, the use of Automated Writing Tools, including chatGPT and similar artificial intelligence (AI) tools, is strictly prohibited in this course, even when properly attributed. The use of automated writing tools is considered plagiarism (as defined by SRRR 9.3) and will be handled in accordance with existing policy.

UNH Diversity Statement:

The University of New Hampshire is committed to building and nurturing an environment of inclusive excellence where all students, faculty, and staff can thrive. We also are committed to providing open and inclusive access for all alumni, volunteers, learners, employees, and visitors seeking to participate in our programs and activities. We venture to sustain a campus environment that fosters mutual respect and understanding. We believe diversity, equity, accessibility, and inclusion are foundational values inextricably linked to achieving our core educational mission and embrace the many characteristics of our community members that make them uniquely themselves. Here, you belong and all are welcome.

Library

The UNH Manchester librarians are available to assist you with your research. You can contact a librarian by calling 603-641-4173 or by emailing unhm.library@unh.edu.

The following online resources provide information about library resources and services:

UNH Manchester Library webpage: <https://manchester.unh.edu/library>

Online Research Guides: <https://libraryguides.unh.edu/index.php?b=s>

Access Library Resources Remotely: <https://libraryguides.unh.edu/remotearchive>

Reserve a study room for Zoom classes: <https://libraryguides.unh.edu/remotearchive/studyrooms>

Center for Academic Enrichment (CAE):

The **CAE** is a resource for all students enrolled in **UNH Manchester** courses. Our mission is to help under-prepared students prepare, prepared students advance, and advanced students excel. Trained peer tutors and professional staff provide free assistance with reading and writing in all courses, as well as content in all math and science courses. Support for other content areas is dependent on the background and competencies of current peer tutor staff. ***All enrolled students are entitled to 1 hour of free one-to-one tutoring per week, per course.*** In addition, peer and professional tutors may run study groups for you class and provide drop-in math tutoring. Please visit us online at manchester.unh.edu/student/center-academic-enrichment to learn more about our services or to make an appointment with a tutor.

ADA Statement:

The University is committed to providing students with documented disabilities equal access to all university programs and facilities. If you think you have a disability requiring accommodations, you must register with the Student Accessibility Services (SAS) office. Please reach out to the SAS office via email at sas.office@unh.edu for registration information and disability related questions.

For Emotional and Mental Health Services: In partnership with The Mental Health Center of Greater Manchester, UNHM offers consultation visits on a walk-in basis in Room 410H (located in the Student Services suites 4th floor). Services include: Free confidential screening & consultation with a licensed mental health clinician. Referrals to mental health or substance misuse treatment, and assistance in understanding how to afford additional treatment (with or without insurance!) or find free services. First step is to fill out the form to determine which counselor can be fit your needs <https://manchester.unh.edu/academics/academic-services/student-wellness>

Confidentiality and Mandatory Reporting of Sexual Violence or Harassment: The University of New Hampshire at Manchester and its community are committed to assuring a safe and productive educational environment for all students. Title IX makes it clear that violence, harassment, and discrimination 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 such as race, national origin, and ability.

If you or someone you know has experienced sexual or relationship violence, and/or stalking and harassment, you can find the appropriate resources below:

Reporting On Campus:

- Title IX Deputy Intake Coordinator: Lisa Enright 603-641-4336. Lisa's office is located on the fourth floor in Room 439.
- UNH Manchester Security: 603-641-4124 or located in the second floor foyer

Reporting Off Campus:

- Manchester Police Department - 603-668-8711, 405 Valley St. Manchester, NH
- or your local police department

For emergencies dial 911.

Confidential Support Resources:

- YWCA, NH – 603-668-2299(24hour), 72 Concord St. Manchester, NH
- Sexual Harassment and Rape Prevention Program (SHARPP): 603-862-7233(24hour), 8 Ballard Street, Wolff House, Durham NH 03824
- The Mental Health Center of Greater Manchester: See contact information and hours above
- 24 Hour NH Sexual Violence Hotline: 1-800-277-5570
- 24 Hour NH Domestic Violence Hotline: 1-866-644-3574

This syllabus is subject to change. Last updated February 6, 2025