

Mayville State University

BIOL 332 GENERAL ECOLOGY Lecture

Michael E. Kjelland, M.S., Ph.D.

Fall 2024

3 Credit Hours

Contact Information

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Office Phone: 701-788-4733

Office Hours of Availability: Office SB 136B, MWF 11:00 am – 12:00 pm CST or by appointment

Instruction Mode: On-campus face-to-face

Time Zone: All times indicated throughout this syllabus reflect Central Standard Time (CST)

How to address your instructor: Dr. Kjelland

Meeting Times and Location: MWF 9:00 am - 9:50 am, MASU Science Bldg. Rm. 132

Course Description

This course acquaints students with the basic principles of ecology and the application of these principles to conservation and environmental problems. Multiple levels of ecological organization will be examined including: populations, communities and ecosystems, population growth, species interaction, energy flow and applications to current environmental issues.

Pre-/Co-requisites: None, **Pre-requisite:** None

Purpose of the Course

To provide the student with a basic understanding of ecological principles including: the constant change of the Earth over geologic time, concepts of adaptation, natural selection, and evolution, definitions of species and speciation, interactions of living organisms and the physical environment, inter- and intraspecific relationships, changes in ecological communities over time. In addition, students will be exposed to concepts of ecology as they relate to current major environmental problems.

Course Objectives

To successfully complete this course, the learner will be expected to meet the following objectives, as aligned to Composite Science Education Program Approval Standards through North Dakota's Education Standards and Practices Board ([ND ESPB](#)):

- Understand organismal interactions
- Know the differences between community, population and organismal scales of ecology.
- Understand ecosystems
- Understand basic theories in evolution
- Know, understand and determine gene flow using the Hardy-Weinberg formula
- Know the importance of genetic diversity
- Understand how natural selection, speciation and extinction occur
- Be able to explain the role of abiotic factors in ecology
- Be able to discuss species interactions
- Communicate with peers the importance of species diversity, species richness and succession

Standards Alignment (Composite Science Education Program Approval Standards-ND ESPB):

- 13047.1 Composite Science Major/General Science The composite/general science program requires that environmental science be incorporated within other courses or as a separate course. The composite/general science program requires: 1. Coursework in biology, chemistry, physics, and earth science, including: a. Minimum of twenty four semester hours in one area, b. Minimum of twelve semester hours in two other areas, c. Minimum of four semester hours in the fourth area, d. Courses must be from those that the institution allows toward graduation in the science major. 2. Study of mathematics through the pre-calculus level (college algebra and above) and statistics
- 13047.9 Professional Practice The program prepares candidates to participate in the professional community, improving practice through their personal actions, education, and development. The program uses varied performance assessments of candidate's understanding and ability to apply that knowledge.

Program Student Learning Outcomes (SLOs) Addressed in This Course (required)

The Academic Program Student Learning Outcomes document can be found in your course shell. It contains all learning outcomes pertaining to Essential Studies courses and all majors and minors. The document has an index, so you can quickly find the degree you are pursuing.

As part of Mayville State's effort to demonstrate continuous improvement in achieving student learning outcomes, this course:

<input type="checkbox"/> introduces SLO # <input checked="" type="checkbox"/> reinforces SLO # 1 <input type="checkbox"/> masters SLO # For Major / Minor:	<input type="checkbox"/> introduces SLO # <input checked="" type="checkbox"/> reinforces SLO # 2 <input type="checkbox"/> masters SLO # For Major / Minor:	<input type="checkbox"/> introduces SLO # <input checked="" type="checkbox"/> reinforces SLO # 3 <input type="checkbox"/> masters SLO # For Major / Minor:	<input type="checkbox"/> introduces SLO # <input checked="" type="checkbox"/> reinforces SLO # 4 <input type="checkbox"/> masters SLO # For Major / Minor:
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Course Improvements Based on Most Recent Assessment Findings

This course will be assessed in the future (based on the 2019-2025 assessment curriculum map) and the findings will be reported in this syllabus.

Required Materials

Elements of Ecology, 9th ed. Thomas M. Smith, Robert Leo Smith

Computer: You may occasionally need to bring your computer to class. I will let you know in advance if you will need to bring your computer to class. You will need access to a computer outside of class.

Instructional Strategies

The following instructional strategies will be employed to help you learn the material:

- Direct instruction
- Indirect instruction
- Interactive instruction
- Experimental learning
- Guided and independent study
- Cooperative learning activities
- Class Discussions
- Chapter Exams
- Application
- Inquiry approach
- Simulations
- Questioning skills
- Case Studies

Learning Experiences

- Read all materials prior to attending class, including chapters as noted, research articles, etc.
- Assignments will be given in class.
- Student presentations will be given live in the classroom.
- In class activities/presentations will ONLY be accepted during the class period they are administered or due. If a class is not attended by a student, make up work will not be accepted.

Instructional Technologies Utilized in this Course

- Blackboard®
- Starfish
- Zoom
- Yuja
- MS Office Suite (Mac programs/documents will not be accepted because they do not open)

Expectations/Protocols

As a student you are expected to:

- Begin the course when the semester begins.
- Answer questions appropriately: Some answers may be given without full sentence structure where appropriate to the questions asked, but must clearly answer all parts for the question, contain correct spelling and display appropriate grammar and word usage. Answers to other questions, such as essay questions or short answer questions, which ask students to “explain”, “compare” or “describe”, should display appropriate sentence structure and logical development of thought. **Every single answer needs to be put into your own words. Copy and paste is plagiarism and will receive a score of ZERO**
- Check your Mayville State email and the ANNOUNCEMENTS forum on the course home page a minimum of once daily to remain current on course information and changes.

This is not a course where you can expect to succeed without reading from the textbook. Lectures have been composed from the textbook that you can use to help you through the reading. These lectures will allow you to focus on main points in the chapters.

In-Class Activities/Questions/Participation: At any time, the instructor may have in-class activities. These can only be completed when the student is in attendance. No make-ups allowed. Attendance/participation/and attention in class are important.

Instructor/Student Communication

- Students are accountable for all academic communications sent to their Mayville State University e-mail address. Students should not use outside email. Instructor is not responsible for emails not received (by instructor themselves or by students) if outside email is used.
- Students are REQUIRED to have internet access through the duration of the course and “not having internet access” cannot be used as an excuse for late material.
- Faculty response time will be between 24-48 hours during the work week if a specific question is asked. If no questions are explicitly asked, a response may not be deemed necessary. Emails will not be checked on the weekends. An email sent on a Friday afternoon may not be responded to until the following Tuesday (or longer if there is a holiday). Please plan ahead accordingly.

You can also stop by my office to talk with me.

Method of Evaluation/Grading

1) Grades for labs, quizzes, exams and in-class assignments can be anticipated within 2 weeks of the due date. Sometimes, a set of assignments will take longer to grade, especially if the assignment is heavy in text and may take an additional week.

2) With regard to late submissions, they are not accepted. Make-up labs, missed assignments/study guides/quizzes are ONLY permitted if there is a UNIVERSITY EXCUSED ABSENCE AND THERE IS DOCUMENTATION. Being busy, over sleeping, taking an extra shift, or general issues are NOT university excused absences. Please do not ask for extensions based upon these issues. If a university excused absence is in place with documentation, the student has 1 (one) week to complete the activity. This is one week from the day of the due date. After 1 (one) week, no points will be awarded. Determination of a university excused absence is based upon being sick and having gone to a medical professional (who can provide documentation), university sporting event in which you are actively participating in (which documentation is required), death in the immediate family (grand parent, parent, sibling, child, aunt/uncle for which you can provide documentation), military deployment (which documentation can be provided for), or legal (such as a court date that documentation can be provided for). Moving or travel is NOT a university excused absence. Academic accommodations related to the aforementioned exceptions (or related ones) need to be approved by Katie Richards. In terms of attendance and/or participation points, please see section above.

The final grade for the semester will be tentatively (which means this can change) composed of the following:

Exams	400 points (4 @ 100 points each)
Quizzes	50 points (2 @ 25 points each potential, not guaranteed)
<u>In-class assignments</u>	<u>~200 points</u>
Total	~650 points

Final grades will be determined on the following scale

90-100% - A

80-89% - B

70-79% - C

60-69% - D

<60% - F

Please refrain from sending emails about submitting late work or “redoing” or “reopening” assignments/quizzes/study guides/exams in order to get extra points at the end of the semester. Those requests will be denied and may not warrant a response by the instructor.

Enrollment Verification

On-Campus Course Statement

The U.S. Department of Education requires instructors to conduct an activity which will validate student enrollment in this course. Class attendance will be used to verify enrollment in on-campus courses. If you do not attend, your enrollment in this course will be at risk.

Late Arrivals`

The grading system for students adding this course after the first day of instruction will not be modified. The student will be graded on the activities that transpired from the beginning of the course. Students will be penalized for missed assignments and the student is still responsible for learning the course material that was covered during their initial absence. By continuing the course, you accept this rule.

Important Student Information

In the Blackboard course, you will find a document entitled, “Important Student Information,” which includes information about:

- ✓ Academic Grievance Concerns and Instructor English Proficiency
- ✓ Starfish - Student Success System
- ✓ Students with Documented Disabilities
- ✓ Academic Honesty
- ✓ Emergency Notification
- ✓ Continuity of Academic Instruction for a Pandemic or Emergency
- ✓ Family Educational Rights and Privacy Act of 1974 (FERPA)
- ✓ Diversity Statement

Additional Information

This classroom is a place where you will be treated with mutual respect, and the course instructor welcome individuals of all ages, backgrounds, beliefs, ethnicities, genders, gender identities, gender expressions, national origins, religious affiliations, sexual orientations, ability – and other visible or nonvisible differences. All members of this class are expected to contribute to a respectful, welcoming and inclusive environment for every other member of the class. MSU is committed to providing a safe learning environment, free of harassment and discrimination as articulated in our [university policies](#) located on our website. MSU's policies require me as a faculty member to share information about incidents of gender-based discrimination and harassment with MSU's Title IX coordinator, regardless of whether the incidents are stated to me in person or shared by students as part of their coursework.

Starfish Statement

This class will participate in Starfish Early Alert and Connect, which promotes student success through coordination and communication among students, instructors, advisors, and campus support service departments. If I observe that you are experiencing difficulties in the course (attendance concerns, low test scores or participation, in danger of failing, etc.), I may send an email to your mayvillestate.edu email account through the Starfish system. My message will tell you about my concerns and the next steps to take to resolve the issue. Your advisor, the Director of Student Success, and/or I will work with you to create success strategies to address any difficulties you are having. In addition, if I observe that you are doing well in my course, you may also receive “kudos” from me acknowledging your efforts.

Starfish may involve taking advantage of various campus support services, such as academic tutoring or advising. If I recommend that you use campus support services, I, your advisor, or the Director of Student Success will redirect you to that support office so they will be better prepared to assist you. Starfish provides essential notices by email, so please check your mayvillestate.edu account frequently and respond quickly if you receive an email from Starfish.

Please see the [Starfish webpage](https://mayvillestate.edu/academics/starfish/) for additional details: <https://mayvillestate.edu/academics/starfish/>.

Course Timeline/Schedule

All Lab Reports, Lab Quizzes and Lab Practical's must be completed by the scheduled due dates as listed below. Activities will be turned off as of 5pm CST on those due dates and no credit will be available for those activities after the due dates. If an emergency occurs, which affects your participation in this course, contact me immediately. Be prepared to provide proof (documentation). Being busy is not an emergency. For the purposes of this course an "emergency situation" is an unexpected, unpreventable and significant occurrence which is university excused, which realistically prevents you from completing required coursework by its due date. You are expected to be aware of due dates and manage the required coursework within your personal schedule and obligations. For example, not submitting any coursework for 3 weeks and then not being able to submit it during week 4 because of an emergency that week is not acceptable.

NOTE: This is a **tentative** schedule. It may change based on instructor's schedule.

Lectures	Date/Week of:
Introduction, Syllabus & Chapter 1: The Nature of Ecology	8/26/2024
Chapter 2: Climate	9/2/2024
Chapters 3 & 4: The Aquatic and Terrestrial Environments	9/9/2024
Exam 1 (Chapters 1 - 4)	9/16/2024
Chapter 5: Adaptation and Natural Selection	9/23/2024
Chapters 8 & 9: Properties of Populations, Population Growth	9/30/2024
Chapter 10: Life History	10/7/2024
Exam 2 (Chapters 5, 8, 9 & 10)	10/14/2024
Chapter 11: Intraspecific Population Regulation	10/21/2024
Chapter 12: Species Interactions, Population Dynamics, and Natural Selection	10/28/2024
Chapter 13: Interspecific Competition	11/4/2024
Chapter 14: Predation	11/11/2024
Exam 3 (Chapters 11 - 14)	11/18/2024
Chapter 15: Parasitism and Mutualism	11/25/2024
Chapter 16: Community Structure	12/2/2024
Chapters 18 & 19: Community Dynamics, Landscape Dynamics	12/9/2024
Exam 4 – FINAL EXAM	12/16/2024

Appendix

Coronavirus (COVID-19) Information for On-Campus Courses

The health and safety of our students, staff, and faculty is our top priority. Mayville State University is committed to resuming face-to-face instruction on campus beginning with the fall semester of 2020. Please refer to the *Fall 2020 COVID-19 Classroom Guidelines for On-Campus Courses* document for additional information regarding classroom expectations and modifications necessary to minimize exposure risk and promote health and safety for students and faculty within on-campus classes.

In the event that a rebound in COVID-19 local infections necessitates a change in course format, plans for remote options for this course include asynchronous or synchronous classroom instruction via Zoom and Yuja.