

Mayville State University

Survey of Botany, BIOL 236

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

Fall, 2025

3 Semester Hours

Instructor Name: Dr. Michael Kjelland

Contact Information: 701.788.4733, michael.kjelland@mayvillestate.edu;

Location: Office SB 136

Hours of Availability: 10 am - 11 am W, or by appointment

Instruction Mode: On-campus face-to-face

Time Zone: All times indicated throughout this syllabus reflect Central Time Zone (CT).

Meeting Times and Location: 9:00 am – 9:50 am, M,W,F in MaSU Sc. Bldg. 142

Course Dates: August 26 - December 19, 2025 (tentatively)

How to address your instructor: Dr. Kjelland/Professor Kjelland. (Pronounced Chelland)

Final Exam Time and Location: Dec. 17, 8:00-10:00 am, Sc. Bldg. 142

Teams or Zoom Link: Will be sent in an email to the student/s when necessary

Course Description

Survey of Botany will provide a general overview of structure, physiology, life cycles, and ecology of non-seed and seed plants. Field activities are included mainly with the co-requisite lab course.

Pre-/Co-requisites: Pre-requisite: BIOL 151. Co-requisite: BIOL 236L.

Purpose of the Course

Among the purposes of Survey of Botany is meeting the expectations of a MSU and North Dakota University System 'laboratory science' requirement. Specifically, the purposes of BIOL 236 include expanding the student's knowledge of biology principles begun in the General Biology sequence and developing the laboratory skills to successfully function in a biology laboratory.

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](#)):

Course objectives include developing an understanding of the diversity of plant cells and tissues especially the structures, functions, and physiology of plant root, stems, leaves, flowers, fruits, and seeds; the processes of photosynthesis and cell respiration including the basic chemical aspects of plant metabolism including carbohydrates, lipids, and proteins; gymnosperm and angiosperm life cycles and adaptive traits; and the impacts of photosynthetic organisms on ecosystems.

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 Biology Program adopted the following student learning outcomes in Fall 2010. Student learning outcomes are statements of what students should think, know, feel or do when they have completed a program. They are the basis for determining the extent to which program learning goals are being met. They are measurable or identifiable, action-oriented and realistic.

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.

<u>SLO #1:</u>	Students will acquire a content knowledge base in the traditional biology core commensurate with career goals
<u>SLO #2:</u>	Students will communicate scientific information both orally and in writing
<u>SLO #3:</u>	Students will apply quantitative or qualitative theories of science to a broad variety of biological problems (including experiential component)
<u>SLO #4:</u>	Students will construct and critically analyze scientific arguments

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 #1,2 <input type="checkbox"/> masters SLO # For Major / Minor: <div style="border: 1px solid black; padding: 2px; display: inline-block;">Biology Major</div>	<input type="checkbox"/> introduces SLO # <input checked="" type="checkbox"/> reinforces SLO #1,2,3,4 <input type="checkbox"/> masters SLO # For Major / Minor: <div style="border: 1px solid black; padding: 2px; display: inline-block;">Biology Minor</div>	<input type="checkbox"/> introduces SLO # <input checked="" type="checkbox"/> reinforces SLO #1,2,3,4 <input type="checkbox"/> masters SLO # For Major / Minor: <div style="border: 1px solid black; padding: 2px; display: inline-block;">Biology Education Minor</div>	<input type="checkbox"/> introduces SLO # <input checked="" type="checkbox"/> reinforces SLO #1,2, <input type="checkbox"/> masters SLO # For Major / Minor: <div style="border: 1px solid black; padding: 2px; display: inline-block;">Science Composite Educa</div>
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Course Improvements Based on Most Recent Assessment Findings

Program Assessment Finding (SLO 2) – students are capable of written communication of scientific information. This finding is generally supported across divisional findings so this course will no longer include this SLO as part of scheduled formal assessment.

Program Assessment Finding (SLO 4) – students are able to analyze scientific arguments at a basic level. The journal assignments have been adjusted to include higher level analysis expectations and to include a logical extension/critical thinking, e.g. “what next?” aspect.

Required Materials

[MSU Technology Requirements](#)

Required Texts: Levetin and McMahon, *Plants & Society*, 8th ed., 2020, McGraw-Hill

Computer: You will occasionally need to bring your computer to class or lab. You will need access to a computer outside of class.

Use of Artificial Intelligence in this Course

AI may be incorporated at times when directed by the course instructor.

Instructional Strategies

Multiple strategies will be utilized during the semester including direct instruction, modeling, cooperative learning, problem-based learning, and inquiry.

INTASC Principles	
1	The teacher understands the central concepts, tools of inquiry, and structures of the discipline(s) he/she teaches and can create learning experiences that make these aspects of subject matter meaningful for the students.
2	The teacher understands how children learn and develop, and can provide learning opportunities that support their intellectual, social, and personal development.
3	The teacher understands how students differ in their approaches to learning and creates instructional opportunities that are adapted to the diverse learner.
4	The teacher understands and uses a variety of instructional strategies to encourage students' development of critical thinking, problem solving, and performance skills.
5	The teacher uses an understanding of individual and group motivation and behavior to create a learning environment that encourages positive social interaction, active engagement in learning, and self-motivation.
6	The teacher uses knowledge of effective verbal, nonverbal, and media communication techniques to foster active inquiry, collaboration, and supportive interaction in the classroom.
7	The teacher plans instruction based upon knowledge of subject matter, students, the community, and curriculum goals.
8	The teacher understands and uses formal and informal assessment strategies to evaluate and ensure the continuous intellectual, social, and physical development of the learner.
9	The teacher is a reflective practitioner who continually evaluates the effects of his/her choices and actions on others (students, parents, and other professionals in the learning community) and who actively seeks out opportunities to grow professionally.
10	The teacher fosters relationships with school colleagues, parents, and agencies in the larger community to support students' learning and well-being.

Learning Experiences

There will be assignments which will be given and explained in class and also be listed on the class Blackboard® site. These assignments will consist partially of problems from the text and other questions and problems from the literature dealing with the material under discussion. (INTASC 1, 2, 3, 4, 5, 7)

There will be quizzes given throughout the semester to further ensure that everyone is keeping up with the reading assignments. The quizzes will be based directly on the text readings. The quizzes may be oral, written, or posted on Blackboard® and you will have time in class to complete them. (INTASC 1, 3, 7, 8)

There will be several tests throughout the course. The exams could include multiple choice questions, matching questions, identification questions, and short answer/essay type questions.

There will be a Final Exam. The Final will be comprehensive and cover material from the whole course. The format of the Final Exam will be like the other exams. (INTASC 3, 7, 8)

At least two journal article responses will be required. I will provide you with an article assignment to read. You will have to respond to the article and complete the related assignment, if any. In your response you are expected to include relevance to the course material. You are also expected to provide references as appropriate. (INTASC 1, 4, 6, 7)

Regular attendance/participation is expected. If illness or extreme circumstances prevent you from attending, contact me by calling or sending e-mail prior to your absence.

Instructional Technologies Utilized in this Course

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

Expectations/Protocols

Activity Assignments: Activity assignments are required assignments that are in place to help students retain and absorb content information. Each student needs to complete their own activities by themselves, no group/partner work is accepted. Each activity will vary in terms of what needs to be done to complete the assignment. Some activities focus on vocabulary, others may focus on concept maps or even structure/function identification. Each assignment will have varying numbers of points based upon depth of the activity. For these activities, students may use their book or (when addressed) online resources. Students should strive to complete all of these activities before the due dates or

complete in the classroom if given as an in class activity. After the due dates, the activities will disappear from Blackboard and access will be terminated. NO late work is accepted.

Exams: Exams will be announced in the classroom (usually 3-5 days in advance). If you are not in attendance when an exam is announced, it is the student's responsibility (not the instructor) to get that information and know when the exam is going to be administered. Exams will be on paper for the on-campus section.

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.
- Faculty response time can be up to 72 hours during the work week if a specific question is asked (most emails are answered within 24 hours during the week). 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.

Method of Evaluation/Grading

Under normal conditions, I will return graded quizzes and exams at the next class period assuming everyone in the class has completed the assessment.

Quizzes = ~15 %	90 - 100%	A
Tests = ~40 %	80 - 89.9%	B
Daily Assignments = ~15 %	70 - 79.9%	C
Final Exam = ~15 %	60 - 69.9%	D
Journal Responses = ~15%		

There will be NO make-up quizzes or tests given unless I have been contacted prior to the day of the test with a valid University approved excuse.

Important Student Information:

A listing of important University policies related to courses and coursework, [Important Student Information](#), is posted on the class Blackboard® site.

- ✓ Academic Grievance Concerns and Instructor English Proficiency
- ✓ Star Fish 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

The above schedule and procedures in this course are subject to change with prior notice given to students in the event of extenuating circumstances.

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.

Important Student Information

Navigate to Blackboard > MaSU tab > Student Resources tab to 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 at <http://www.mayvillestate.edu/about-msu/consumer-information/title-ix/>. 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 for additional details: <https://mayvillestate.edu/academics/starfish/>.

Course Timeline/Schedule

TIMES FOR ALL DUE DATES ARE 5PM CST ON THE LAST DAY SPECIFIED FOR A TOPIC/UNIT. Do NOT wait until the last minute to access/submit your materials. If you wait until the last minute and run into submission issues, you will be given credit for what is or is not submitted, even if there are technology issues. It is best to try finish the assignment/quiz/exam at least 1 day before the due dates to ensure you do not have any issues. With regard to late submissions, they are not accepted. Make-up exams, 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 (grandparent, 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.

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

Lectures	Date/Week of:
Introduction, Syllabus	8/25/2025
Chapter 1	9/1/2025
Chapter 2	9/8/2025
Chapter 3	9/15/2025
Chapter 4	9/22/2025
Exam 1 (Chapters 1-4)	9/29/2025
Chapter 5	10/6/2025
Chapter 6	10/13/2025
Chapter 7	10/20/2025
Chapter 8	10/27/2025
Chapter 8 (continued)	11/3/2025
Exam 2 (Chapters 5-8)	11/10/2025
Chapter 9	11/17/2025
Chapter 10	11/24/2025
Chapter 11	12/1/2025
Chapters 12 & 13	12/8/2025
*Semi Cumulative Final Exam	12/15/2025

*This exam may contain information from previous chapters (not questions from previous exams).

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.