

Mayville State University

BIOL 312- Vertebrate Zoology (Online)

Dr. Joseph Mehus

Spring 2024

3 Semester Hours

Contact Information:

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Hours of Availability:

Available via email; arranged Teams meetings as requested. MWF 11am-Noon

Instruction Mode:

Online asynchronous

Time Zone:

All times listed in this course/syllabus/course content is in Central Standard Time (CST). All due dates in this course are 5PM CST.

Course Description

Three hours lecture per week. Survey of the biology, classification, and ecology of vertebrates, concentrating on the major phyla. Emphasis will include structural and physiological aspects of vertebrates. Multimedia activities will be integrated. Pre-requisite: BIOL 151. Fall, odd years; on campus and online.

Pre-/Co-requisites:

Recommended BIOL 312L – Vertebrate Zoology Lab

Purpose of the Course

Successful students will have a better understanding of invertebrate organisms, where they live, how they survive, and what their major roles are within the world including ecological, biological and anthropological importance.

Course Objectives

Through numerous instructional strategies and learning experiences, the following outcomes are expected to be met by the learner after completing this course (as aligned to Composite Science Education Program Approval Standards through North Dakota's [Education Standards and Practices Board](#)):

- Understand the classification/taxonomy of vertebrates
- Learner will be able to discuss the physiology of animal systems including
 - Integumentary
 - Nervous
 - Endocrine
 - Circulatory
 - Respiratory
 - Digestive/excretory
- Learner will be able to distinguish between organisms in the following groups:
 - Hemichordate/Invertebrate Chordates
 - Fish
 - Amphibians
 - Reptiles
 - Birds
 - Mammals
- Learner will be able to recognize morphological characteristics used to describe/identify the preceding groups
- Learner will understand characteristics of life history and ecology of animal groups
- Learner will present information in accordance with established rubric

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
- 13047.3 Inquiry The program requires study of the processes of science common to all scientific fields.

Program Student Learning Outcomes (SLOs) Addressed in This Course

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 checked="" type="checkbox"/> introduces SLO # 1 <input type="checkbox"/> reinforces SLO # <input type="checkbox"/> masters SLO # For Major / Minor: <div style="border: 1px solid black; padding: 2px; display: inline-block;">Biology</div>	<input checked="" type="checkbox"/> introduces SLO #2 <input type="checkbox"/> reinforces SLO # <input type="checkbox"/> masters SLO # For Major / Minor: <div style="border: 1px solid black; padding: 2px; display: inline-block;">Biology</div>	<input checked="" type="checkbox"/> introduces SLO # 3 <input type="checkbox"/> reinforces SLO # <input checked="" type="checkbox"/> masters SLO # For Major / Minor: <div style="border: 1px solid black; padding: 2px; display: inline-block;">Biology</div>	<input checked="" type="checkbox"/> introduces SLO # 4 <input type="checkbox"/> reinforces SLO # <input type="checkbox"/> masters SLO # For Major / Minor: <div style="border: 1px solid black; padding: 2px; display: inline-block;">Biology</div>
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Students will be asked to produce a Yuja student video describing a current topic of discussion in biology that allows them to express and work through ethical dilemmas, social and/or cultural issues that may potentially impact local, regional, or national economies. The assessment activity will encompass the SLO's associated with the current biology program curriculum map. This topic will vary each semester at the discretion of the instructor. This video will be between 5-7 minutes and express their viewpoints on topics that are supported by current biology research.

As part of Mayville State's effort to demonstrate continuous improvement in achieving Essential Studies Learning Outcomes, this course will assess

ELO # 1 2 3 4

as part of the Essential Studies and Capstone Courses. As part of Mayville State University's Essential Studies curriculum, this course seeks to prepare students for twenty-first century challenges by gaining: 1) Knowledge of human cultures; 2) Intellectual and practical skills; 3) Personal and social responsibility; 4) Integrative and applied learning. Students will be asked to produce a Yuja student video describing a current controversial topic in biology that allows them to express and work through ethical dilemmas. This topic will vary each semester at the discretion of the instructor. This video will be between 5-7 minutes and express their viewpoints on topics that are supported by current biology research. Purely opinion responses, while potentially impactful, will earn points unless supported by current research in the biological field.

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

Zoology, 12th Ed. Stephen Miller; John Harley.

Printer

Computer that meets the university technology requirements

MS Office

Fully functional Webcam that also records audio

Technology MUST be able to run the Yuja program successfully for watching and making videos

24/7 high speed internet access

Instructional Strategies

Video Lectures and Review/Vocabulary

Video lectures and/or reviews will be posted in Blackboard/Yuja. Reviews for each chapter will be provided in Blackboard. Reviews should be put into your own words. Copy and paste from the internet/directly from the textbook/or from another student is plagiarism. You need to read about these topics(textbook), watch the lecture videos, and form explanations in your own way of speaking to truly understand the concepts. Once the due date for the reviews has passed, no submissions will be accepted for credit. Number of points for each review will vary depending upon content. If you desire to work ahead in the course this is acceptable and is encouraged as to prevent missing deadlines. If you complete a section and new content does not open for you, please let me know and I will give you early access.

Quizzes

Quizzes will be given for each chapter in Blackboard. These quizzes will be from the chapter and/or lecture video for the chapter. After the due date for the quiz no submissions will be accepted for credit. Quizzes will each be worth 10 points.

Activities

Activities will vary in content delivery method. These activities help promote a deeper thinking level on the content topic and help students organize their thoughts. The activities cannot cover every topic in the chapter, so it is important that students read and take notes on the chapter contents to help in other areas.

Exams

There will be a total of 5 exams for the course. There will be 4-unit exams and 1 cumulative final exam during the semester. To respect universal design in educational efforts, exams will not be timed. Because of the length and depth of these exams, they will be open book and no proctor will be needed. You will be expected to complete these exams individually and if it is discovered that students have provided information to one another, posted the questions (or any course content) online, or in some other manner of distributing content (social media, text/cell phone) a zero will immediately be given for the exam. Academic honesty is crucial for learning. No exam submissions will be accepted after the due date. Each exam is worth 100 points.

Animations and Video Clips

Postings of a variety of animations and video clips may be provided for different content areas. These are for your viewing pleasure and may help you in fully achieving the topic-specific learning outcomes.

Learning Experiences

- Read all chapters before attempting assignments/quizzes
- Watch video/animations provided by instructor
- Items that earn points (quizzes/outlines/exams/etc.) will be given via the detailed schedule at the end of this syllabus. All submissions will require the use of Microsoft office (which is available for free for all MSU students) and students may convert submissions to PDF form. Apple programs are not supported in the LMS (Blackboard), for instance, Pages.

Instructional Technologies Utilized in this Course

- Blackboard Ally
- Blackboard Learn
- Teams
- Microsoft Office (Word, Powerpoint) and the ability to convert these to PDFs
- Yuja
- YouTube
- Various videos/animations provided by publisher
- Zoom

Expectations/Protocols

As a student of BIOL 312, I expect that you:

- Fully review/read the course syllabus and go to it if you have questions before asking the instructor.
- Fully complete the assignments/quizzes/outlines for each chapter...this includes reading the chapters and watching video postings, watching lecture videos, and completing exams all by the due dates.

- Check your university email as well as check for announcements within the course shell every single day.

As the instructor of BIOL 312, you should expect of me that I:

- Clearly provide you with a syllabus and course schedule that displays the deadlines for each section of content.
- Create an online classroom environment that supports your understanding of content.
- Fairly grade assignments and exams

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. The instructor is not responsible for emails not received (by instructor themselves or by students) if outside email is used.
- 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 accordingly.

Method of Evaluation/Grading

Your grade will be TENTATIVELY determined on total points earned out of the total points possible in the course.

1) Grades will be based on exams, quizzes, and class activities. Quizzes/study guides/supplementary materials/lecture power points/video lectures will be offered through Blackboard. Quizzes administered on Blackboard will close at 5:00pm CST on the due dates given in class. Class activities may include class discussions (in Blackboard or in the classroom), where participation/attendance will be required. Some activities may be announced in advance and supporting material will be made available.

2) In 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, NOT a week from when the student returns to contact the instructor. 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. 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 (5)	500 points
Vocabulary Reviews	164 points

Class Activities	121 points
Quizzes	130 points
<u>Presentations (2)</u>	<u>50 points</u>
Total	965 points

Grades (%):	90-100	A
	80-89	B
	70-79	C
	60-69	D
	< 60	F

Lecture and lab for BIOL 312 are NOT combined. They are two unique courses. These limits are hereby preset and by continuing in the course, you recognize these limits and will abide by these limits. 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

The U.S. Department of Education requires instructors of online courses to provide an activity which will validate student enrollment in this course. The only way to verify that a student has been in this course is if he or she takes an action in the LMS (Blackboard), such as completing an assignment or taking a quiz. Logging into Blackboard is **NOT** considered attendance. The enrollment verification for this course is the syllabus quiz that you **MUST** earn 100% to open the first of the course content. If it is not completed your enrollment in this course will be at risk and you may be removed from the course.

Proctor Notification

There is no proctor needed for this course. Yuja recording required for exams.

Late Arrivals

Students who enroll after the first date of enrollment and who miss assignments understand that these are ultimately “missed points” and that those missed points could negatively impact their grade. By continuing in the course, this is understood and accepted by the late enrolling student.

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

Teacher Education Program

The following InTASC Principles are reflected in the readings and activities related to this course:

2. The teacher uses understanding of individual differences and diverse cultures and communities to ensure inclusive learning environments that enable each learner to meet high standards.
3. The teacher works with others to create environments that support individual and collaborative learning, and that encourage positive social interaction, active engagement in learning, and self-motivation.
4. The teacher understands the central concepts, tools of inquiry, and structures of the discipline(s) he or she teaches and creates learning experiences that make the discipline accessible and meaningful for learners to assure mastery of the content.
5. The teacher understands how to connect concepts and use differing perspectives to engage learners in critical thinking, creativity, and collaborative problem solving related to authentic local and global issues.
8. The teacher understands and uses a variety of instructional strategies to encourage learners to develop a deep understanding of content areas and their connections, and to build skills to apply knowledge in meaningful ways.

Additional Information: This classroom is a place where you will be treated with mutual respect, and the course instructor welcomes 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.

Course Timeline/Schedule

PRINT THIS COURSE SCHEDULE. The course will follow this outline. Times for drop boxes to close for reviews and assignments is 5:00pm (CST) on the dates listed below. Late work is not accepted. Do not email late work to the instructor and ask for special exceptions. Students can work ahead by completing work early, which is encouraged to eliminate the possibility of late work. It is best practice to complete works one day early to eliminate "emergency situations." New items will open upon completion of previous work before due dates. If something does not open early, please contact the instructor via email to resolve the issue. Exams need to be completed before 5pm (CST) on the dates listed below. Late exams will not be allowed. Exceptions are ONLY granted if the student sends a request (INCLUDING documentation in the original request) for a university excused absence prior to not completing a review/quiz/activity/exam. Being too busy, moving, traveling, or picking up a shift at work is not a university excused absence.

Topic	Due Date	Assignment Checklist
Getting to know the system	1/18/24	Enrollment Verifications

Chordata: Urochordata & Cephalochordata	1/24/2024	<ul style="list-style-type: none"> <input type="radio"/> Review <input type="radio"/> Quiz <input type="radio"/> Activity
The Fishes: Vertebrate Success in Water	1/31/2024	<ul style="list-style-type: none"> <input type="radio"/> Review <input type="radio"/> Quiz <input type="radio"/> Activity
The Amphibians: The First Terrestrial Vertebrates	2/07/2024	<ul style="list-style-type: none"> <input type="radio"/> Review <input type="radio"/> Quiz <input type="radio"/> Activity
Exam 1	2/09/24	<ul style="list-style-type: none"> <input type="radio"/> Exam
Nonavian Reptiles: Diapsid Amniotes	2/14/2024	<ul style="list-style-type: none"> <input type="radio"/> Review <input type="radio"/> Quiz <input type="radio"/> Activity
Birds: The Avian Reptiles	2/21/2024	<ul style="list-style-type: none"> <input type="radio"/> Review <input type="radio"/> Quiz <input type="radio"/> Activity
Mammals: Synapsid Amniotes	2/28/2024	<ul style="list-style-type: none"> <input type="radio"/> Review <input type="radio"/> Quiz <input type="radio"/> Activity
Exam 2	3/1/24	<ul style="list-style-type: none"> <input type="radio"/> Exam
Protection, Support and Movement	3/13/2024	<ul style="list-style-type: none"> <input type="radio"/> Review <input type="radio"/> Quiz <input type="radio"/> Activity
Communication I: Nervous and Sensory Systems	3/20/2024	<ul style="list-style-type: none"> <input type="radio"/> Review <input type="radio"/> Quiz <input type="radio"/> Activity
Communication II: The Endocrine System and Chemical Messengers	3/27/2024	<ul style="list-style-type: none"> <input type="radio"/> Review <input type="radio"/> Quiz <input type="radio"/> Activity
Exam 3	3/29/2024	<ul style="list-style-type: none"> <input type="radio"/> Exam
Transport and Exchange in Animals	4/3/2024	<ul style="list-style-type: none"> <input type="radio"/> Review

		<ul style="list-style-type: none"> <input type="radio"/> Quiz <input type="radio"/> Activity <input type="radio"/> Vignette Topic Selected
Nutrition and Digestion	4/10/2024	<ul style="list-style-type: none"> <input type="radio"/> Review <input type="radio"/> Quiz <input type="radio"/> Activity
Temperature and Body Fluid Regulation	4/17/2024	<ul style="list-style-type: none"> <input type="radio"/> Review <input type="radio"/> Quiz <input type="radio"/> Activity <input type="radio"/> Vignette Papers Submitted
Reproduction and Development	4/24/2024	<ul style="list-style-type: none"> <input type="radio"/> Review <input type="radio"/> Quiz <input type="radio"/> Activity <input type="radio"/> Vignette Dropbox Opens
Exam 4	5/1/2-24	<ul style="list-style-type: none"> <input type="radio"/> Exam
Vignette: Comparative Anatomy of Organ System Across Animal Groups	5/3/2024	<ul style="list-style-type: none"> <input type="radio"/> Vignette Due
Exam 5	5/6/2024	<ul style="list-style-type: none"> <input type="radio"/> Exam