



AVS 402: Capstone in Animal Science II

Instructor

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Other Instructors

If you are completing your project with an AVS faculty member, you can enroll in the section of the course with that instructor. The syllabus and poster presentation are the same for all course sections/instructors, and the instructor will grade based on your performance. If you have a mentor/faculty mentor who does not have a section listed, you will take the course with Sue Ishaq.

Time and Location

Set a time/place to meet weekly with your research mentor to discuss your project, perform research.

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Description of course and prerequisites

Students participate in hands-on learning experiences based on their academic interest, career goals, faculty mentor, and available resources. Students may opt to conduct hands-on research experiences stemming from either the proposal written in AVS 401 Capstone in Animal Science I, conduct a different research project, develop a business plan, or conduct a non-research project based on their interest in AVS (could be an internship experience). In this course, students create a poster presentation to summarize their work, what they learned, and how they solved problems or improved processes along the way. AVS 401 and AVS 402 collectively serve as the Capstone experience for Animal and Veterinary Sciences students.

Credit hours: 1

Prerequisites: AVS 401, and ENG 315 or ENG 317; or instructor's permission to take ENG concurrently

Course materials and digital services used.

- Textbook: There is no required textbook for this class.
- Lectures: All lectures are provided at the beginning of the semester as pdfs with annotated speaker notes included as comments in the document. These will be updated as needed with corrections. All lectures are recorded, and audio-only and video files added to Brightspace after class.
- Readings: Reading material will be provided as electronic journal articles or readings.
- Assignments: All assignments can be submitted through Brightspace. The poster assignment has an optional document template, as well as a detailed rubric.
- Brightspace Online Learning Software. [Log into Brightspace](#). Read the [tutorial](#). Download the [Pulse app](#).
 - Brightspace is the online learning management system used at the University of Maine. In our course Brightspace site, you will be able to access course materials, assignment descriptions, this syllabus, and the course schedule. You will submit your work through Brightspace and will be able to access your grades and feedback as well. You can download a "Brightspace Pulse" app for most mobile devices from your regular app store. Be aware: Some functions in Brightspace work better when accessed through a laptop/desktop than through a mobile device. Support for the website and mobile apps includes video tours, IT Help Desk, and other resources. If you continue to have problems with Brightspace, please let me know as soon as possible.
 - If you wish to retain a personal copy of course materials, please do so before the end of the semester. **You will not have access to a course's Brightspace site after you complete the course.** You can store copies of material you wish to retain on Google Drive, your hard drive, or other media of your choosing. Other materials posted by your faculty may be found at the library.

I am happy to provide accommodation in the way course materials are formatted or provided to make them easier to access and understand. Please let me know if you have suggestions to improve the course materials.

Course goals

The student will conduct a research/problem solving project, which can be performed under the supervision of a faculty member, as a group, or independently. In AVS 402, students will create a poster that will explain the project objectives and the context behind the proposal, the methods, and results/outcomes. Students completing the general education area of Capstone experience will be able to:

1. Synthesize knowledge, skills, and dispositions gained throughout the student's major of study.
2. Demonstrate competence within the discipline through professional conduct and, as appropriate, critical reasoning, analytical ability, and creativity.
3. Demonstrate effective communication skills.

Student learning outcomes and objectives to meet them:

At the conclusion of this course, students will have the skills to perform the following numbered tasks. Course objectives specific to each learning outcome are provided as lettered explanations.

- a. How to find and assess the quality of scientific information. In assembling background information about their topic, students will learn how to perform a search of scientific databases, how to read scientific literature, and how to assess information for validity and generalizability.
- b. How to create a research/project poster presentation. Students will learn how to explain their process and controls to ensure the project is rigorously designed, how to present information in a logical and

scientific manner. Students will learn how to build a citation database and use it to create relevant in-line citations and a reference list.

- c. How to conduct research or manage a project. Through their participation in research/project activities under the guidance of the instructor or another faculty mentor, students will learn broadly about scientific research, including ethical standards and institutional approval, identifying research questions and hypotheses to test, designing robust experiments which incorporate experimental controls to test the hypotheses, data collection and curation, data analysis and evaluation, statistical validity, and interpretation of results.

Choosing a research project or experience.

Students will be presented with a list of possible projects that can be carried out in the short time that we have available, or you can suggest your own project area and title. Projects suggested by students will require the instructor or another research mentor to approve the project scope.

Working with animals or humans

Research projects that involve sampling or data collection from vertebrate animals will need [Institutional Animal Care and Use Committee \(IACUC\)](#) approval and you will need to complete the required IACUC training on the Humane Care and Use of Animals, which is available on their website. The IACUC protocol review form should be completed by the student with the assistance of a faculty mentor and submitted to IACUC as early as possible in the semester. If your training is more than four years old, you must complete the new training ASAP. Instructions are available on the IACUC website under "Required Training."

Research projects that involve human subjects or data collection from humans will need IRB approval (Institutional Review Board for the Protection of Human Subjects). Senior research projects conducted within the framework of the senior capstone experience are considered research and must be reviewed and approved by the IRB. For questions, contact the [IRB Office](#).

Expectations of students and university policies

Attendance and Participation

This course is now held as an independent study, but you are expected to communicate with your research mentor on a weekly basis through the semester, and to actively reach out to them to set up times to learn and discuss research. **Course Schedule Disclaimer (Disruption Clause):** In the event of an extended disruption of normal classroom activities (due to COVID-19 or other long-term disruptions), the format for this course may be modified to enable its completion within its programmed time frame. In that event, you will be provided with an addendum to the syllabus that will supersede this version.

Late Assignments

I will accept assignments for a certain period of time after the due date,. You will not receive a grade reduction for late assignments, but you waive the right to receive feedback. Assignments will not be accepted after the last day of finals. If you cannot complete all assignments within the semester, please contact me about taking an Incomplete instead of a letter grade and setting up deadlines to complete the work after the semester in order to receive a letter grade.

Campus Policies

"The University of Maine System is an equal opportunity institution committed to nondiscrimination." Follow the links for more information.

[Course Schedule Disclaimer*](#)

[Observance of Religious Holidays/Events*](#)

[Sexual Discrimination Reporting \(Long\)*](#)
[Sexual Discrimination Reporting \(Short\)*](#)
[UMaine Land Acknowledgement](#)

[Academic Honesty Statement*](#) I use Turnitin software to assess if you understand the material

by your ability to explain in your own words. Any assignments with a high score may be revised and resubmitted for grading. Students MAY NOT use AI to write their assignments, but you may use grammar/spellchecking software.

Students Accessibility Services (SAS) Statement

I do my best to make course materials accessible with or without a referral from SAS. Please let me know if there are changes that I can make to the materials. All lecture PowerPoints and assignment instructions are provided in advance, and recordings provided after lectures. I can provide audio instructions for all assignments. [Students Accessibility Services Statement*](#) If you have a disability for which you may be requesting an accommodation, please contact Student Accessibility Services, 121 East Annex, um.sas@maine.edu, 581.2319, as early as possible in the term. Students may begin the accommodation process by [submitting an accommodation request form online and uploading documentation](#).

Assignments and Assessment: Detailed instructions and rubrics on Brightspace.

60 points	<p><i>Participation in research, or other project</i> - This course is 1 credit, so you should spend ~3 hours/week working on this project.</p> <p>Assignment (5 points x 12 weeks = 60 pts): EACH WEEK you must write a Discussion blog post about what you did that week.</p>
40 points	<p><i>Project report or poster</i> –You will create <u>either a research report or poster</u> which describes your project, using the suggested templates for reports or poster, or you may use formatting requested by Honor's, CUGR, or other funding venues which require you to use a specific format. Information on how to create reports or posters is provided as recorded lectures, and detailed rubrics are available on the assignment portal. Generally, your report/poster will include: 1) title, authors, departmental affiliations, and 5 – 6 keywords; 2) background on previously published, relevant research; 3) a methods section detailing the approach, information dissemination and outreach; 4) results (including photos, figures, graphs, tables); 5) conclusions; 6) bibliography/references list with consistent formatting.</p> <p>You do not need to present your poster to the class, just submit the image to Brightspace.</p>

Grading (out of 100 points): A = 93–100; A– = 90–92; B+ = 87–89; B = 83–86; B– = 80–82; C+ = 77–79; C = 73–76; C– = 70–72; D+ = 67–69; D = 63–66; D– = 60–62; F = 0–59. The completion of both AVS 401 and 402 with grades of C minus or higher is required for graduation. Grade fractions (ex. 92.5) are rounded up if >.5.

Recorded lectures and suggested timeline.

Week	Title, Description, Assignments for each module Link to all lectures https://video.maine.edu/playlist/dedicated/1_jvi8f5k8/
Resources available anytime on Brightspace, recommend watching in week 1	
Week 1	Prerecorded: "Intro to the class", syllabus and course expectations, finding course materials. What the posters look like. ➤ Suggested Reading: if needed, revisit AVS401_finding_a_project_for_402
Week 1	Pre-recorded Lecture 1: "Writing your report/poster when your project changes or fails" Did your project change? Fail? Not happen at all? No worries. This lecture focuses on how to refocus your project or report, or how to talk about null results. ➤ Reading: "How to Write About Negative (Or Null) Results in Academic Research" , Aug 2, 2021. ➤ Suggested Reading: if needed, revisit lectures from AVS 401 provided again in this course
Week 2	Pre-recorded Lecture 2: "Scientific presentations" Overview of how to give a dynamic presentation, and advice on creating research posters. ➤ Reading: Erren_Bourne_10_rules_poster_presentation ➤ Reading: Bourne_10_rules_oral_presentation ➤ Reading: How to create a research poster: https://guides.nyu.edu/posters
Week 2	Pre-recorded Lecture 3: "The art of scientific figures" How to make graphs, tables, and figures that make sense, an overview of how to present statistics. ➤ Reading: Rougier_2014_10_rules_scientific_figures ➤ Reading: "I'm a lip-reading scientist, here's how I can discuss science with you" , Denis Meuthen, Jan 28, 2022. ➤ Tutorials on graphs in Excel ➤ Tutorial on graphs, stats for Excel or Google Slides ➤ Tutorial graph, ANOVA for animal diet study in Excel
Week 3	Pre-recorded Lecture 4: "Scientific writing: going from a proposal to a paper" Overview of formatting, content, and the scientific writing process. This includes learning to condense information, stacking citations, writing in third person, etc. Even though you do not need to write a scientific report for AVS 402, many of you will need to write one for CUGR or other fellowships, and this information is generally useful to all students in the class. ➤ Readings: ○ "Credit Where Credit Is Due: Respecting Authorship and Intellectual Property" ○ Watling_2017_tuning_your_writing ➤ Suggested reading (choose 1) ○ 10 Advantages and Disadvantages of Case Studies ○ Anatomy of an Article ○ Khan_2003_how_to_write_a_systematic_review ○ Ecartot_2015_writing_scientific_article
Week 1 - 12	No class – work on your project with your mentor. This course is 1 credit, so you should spend ~3 hours/week working on this project. Assignment (5 points x 12 weeks = 60 pts): EACH WEEK you must write a Discussion blog post about what you did that week.
Week 13-15	Posters due (40 pts): Final Draft of Project Poster to be submitted to your research mentor. Students who plan to present at the UMaine Student Research Symposium in April may contact me and I will grade you there.

UMaine resources related to research, statistics, writing, and careers:

- Career Center, <https://umaine.edu/career/>; help with resumes, applications for vet/grad/med school, interviews, and job negotiations.
- CUGR research fellowships, <https://cugr.umaine.edu/fellowship-opportunities/>,
- Fogler Library
 - OneSearch, <https://library.umaine.edu/>; find scientific literature.
 - Research Data Management: <https://libguides.library.umaine.edu/datamanagement>
 - Creating a research poster: <https://libguides.library.umaine.edu/confposters>
 - Creating a research presentation: <https://libguides.library.umaine.edu/confposters/presentations>
 - Presentation Practice Room, <https://library.umaine.edu/use/presentation-practice-room/>
- Statistics Consultation, <https://umaine.edu/tasc/stats/> (may have a cost associated with this service, talk to your research mentor before setting up a consultation)
- Writing Center, <https://umaine.edu/wcenter/>; tutoring, editing, skills development

There is always someone on campus to help you

My door is always open, and I am always willing to help students, however, as a university employee I am also required to keep the community safe by disclosing information on crimes. This means I am a “mandatory reporter”. If you disclose something to me, including in assignments, I am obligated to provide this information to the campus Title IX office. The Title IX Office will contact you discretely, and offer you support services, guidance, and help you choose if you want to take action.

For confidential resources on campus:

- Counseling Center: (207) 581-1392
- Cutler Health Center: (207) 581-4000.
- Rape Response Services: 1-800- 871-7741
- Partners for Peace: 1-800-863-9909.

For support services on campus which may have to report the incident to others who can help:

- (Emergency and non-emergency) [Title IX Student Services](#), (207) 581-1406,
- (emergency and non-emergency) University of Maine Police: (207) 581-4040 or 911.
- (non-emergency) Office of Community Standards: (207) 581-1409.

Support services off campus:

- [Mabel Wadsworth Center](#), Bangor: reproductive health care, abortion, addiction help, etc.

Free food and clothing

- [Black Bear Exchange's Food Pantry](#), Orono campus
- Old Town Crossroads Ministry
- [Library laptop and media loan](#)

University Rainbow Resource Center

[The Rainbow Resource Center](#) located in Memorial Union, Room 224, empowers and increases the visibility of Lesbian, Gay, Bisexual, Transgender, and Queer (LGBTQ) people by promoting equality and inclusiveness. We strive to maintain an open, safe, and supportive environment for students, staff, faculty and alumni and provide educational opportunities, information, and advocacy services.

Pregnancy, lactation, and parenting

I am happy to provide accommodation for students based on pregnancy, lactation, and parental needs, as well as work with the Office of Equal Opportunities (E.O.). The state of Maine and UMaine policies allow students to breastfeed in any space, including in class. If a lactation space is required, please contact E.O. for arrangements. The [Pregnant on Campus Initiative](#) provides pregnancy and parenting resources in Orono.

University Veterans Education and Transition Services (VETS)

[University of Maine's VETS Center](#) serves student veterans as they apply to, attend and advance beyond UMaine. The Veterans Center connects student veterans with the resources they need to successfully transition from combat to classroom to career. This includes help navigating the admissions process, applying for financial aid and U.S. Department of Veterans Affairs education benefits, academic assistance and preparing to re-enter the workforce. The VETS Center is located in Room 143 of the Memorial Union.

University Counseling Services

If you are experiencing a mental health emergency: Dial 911. You can also call campus Police Services at (207) 581-4040. For urgent help, check here for your options: <https://umaine.edu/counseling/need-urgent-help/>. Over the course of our time at the University, we may face a variety of concerns – depressed mood, anxiety, stress, family concerns, body image, substance use, sexuality and many others – that may interfere with their ability to focus on their studies. [Counseling Services](#) provides mental health and social support for all currently enrolled students. Staff follow strict legal and ethical guidelines concerning the confidentiality of counseling. Counseling services is in Cutler Health Center, Room 125, by phone at (207) 581-1392.

Acknowledgement

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