CALS Curriculum Committee Meeting
August 29, 2025
McCarty Hall D Rm. 1044/1045
1:00 p.m.

Via Zoom: https://ufl.zoom.us/j/355458614
Meeting ID : 355458614

Members: K. Braggs, D. Coenen, T. Easterly, B. Gankofskie, C. Haxton, E. Hellgren, P. Inglett, T. Johns, M. Jones, B. Kassas, G. MacDonald, T. Martin, A. Mathews, H. McAuslane, G. Nunez, J. Scheffler (Chair), B. Schutzman, M. Smith, A. Watson, J. Weeks, A. Wysocki

Agenda and Index for Materials

Approve Minutes from the April 25, 2025 meeting

Dr. Mathews: Welcome new committee members. Explanation of expectations.

Dr. Mathews: Update from UCC

Graduate New Course Proposals

1. MCB 5XXX – Clinical Mycology (req. #21764)

2. MCB 5XXX – Clinical Parasitology (req. #21765)

Undergraduate New Course Proposals

3. ANS 2XXX – Reproduction: A User's Manual (req. #20365)

4. EVS 4XXX – Supervised Teaching Experience in Environmental Science (req. #21719)

5. WIS 2XXX – Computational Problem Solving in Wildlife Ecology Using R (req. #21495)

6. WIS 3XXX – Zoo Conservation and Management (req. #21775)

Undergraduate Course Change Proposal

7. AEC 3033C – Research and Business Writing in Agricultural and Life Sciences (req. #21539)

CALS Curriculum Committee Meeting
Minutes from April 25, 2025
Submitted by James Fant

Members Present: D. Coenen, T. Easterly, B. Gankofskie, V. Hull, P. Inglett, T. Johns, R. Koenig, J. Larkin, T. Martin, A. Mathews, H. McAuslane, G. Nunez, T. Rashed, J. Scheffler, B. Schutzman, A. Watson, J. Weeks

Visitors: Monika Oli

Call to Order: The College of Agricultural and Life Sciences Curriculum Committee met via Zoom on April 25, 2025. Dr. Scheffler called the meeting to order at 1:01 p.m.

Previous agenda items and supporting material can be found on the CALS College Committees homepage under document archives: https://cals.ufl.edu/faculty-staff/committees/

Approval of Minutes: A motion was made by Dr. Inglett to approve the minutes from the March 28, 2025 meeting of the CALS CC. The motion was approved.

All items approved by the committee will be forwarded to either the Graduate Curriculum Committee (GCC), Graduate Council (GC) or the University Curriculum Committee (UCC) once any changes requested are made and the submission is complete.

Links: Grades – https://catalog.ufl.edu/UGRD/academic-regulations/grades-grading-policies/
For Graduate Grades – https://catalog.ufl.edu/graduate/regulations/#text
Syllabus Statements – https://cals.ufl.edu/content/pdf/Faculty_Staff/CALS-Syllabus-Policy_1.23.25%20v2.pdf
Absences & Make-Ups – https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx
Writing Learning Objectives - https://cals.ufl.edu/content/PDF/Faculty_Staff/cals-course-objectives.pdf.

Dr. Mathews – Update from UCC:
1. FRN4XXXL Advanced Fire Ecology & Management – Approved
2. MCB 4XXX Biotechnology Aptitude and Competency Experience Capstone – CA
3. AEB 2XXX and MCB2XXX Microbes without Borders – Recycled.
4. Course description taskforce continues work and will circulate proposal when ready.
5. Syllabus policy updates – a proposal to require a link to Canvas shell page containing all academic and campus resources was approved, but a summary of which resources will be encompassed in this change was not provided and was now requested.

Undergraduate New Course Proposal

1. DIE 2002 – Personalized Nutrition (req. #20367)

A motion was made by Dr. Gankofskie to approve this item with edits required. The motion was approved. **Please be sure to make all requested changes to both the UCC form and syllabus if necessary.** The course description on the UCC form and in the syllabus must match. The number of credits for the course must be included in the syllabus. The course description should not lead with a question.

Additional comments from Teams:

Course description different on form/syllabus (Anne).
• Missing number of credits on syllabus-AW • Missing instructor phone numbers -AW • Recommend using description on form since it is 50 words (max for description) and then creating another section on syllabus titled, "Additional Course Information" or similar. - AW • Grade Breakdown and Grading Scale: ○ Suggest clarifying syllabus on whether partial credit will be awarded. -AW ○ Suggest adding whether final grades will be rounded up or truncated. Alternatively, could edit values to 100th decimal place (i.e., 90.00-93.99%) to make clearer –AW • Attendance Policy ○ Link does not work correctly. Recommend replacing the title of this section to "Attendance and Make-up Work" to be consistent with CALS Syllabus Policy Boilerplate – AW • Students Requirement Accommodations ○ Recommend updating this section to new CALS Syllabus Policy boilerplate and also link does not work correctly. Recommend replacing the title of this section to "Accommodations for Students with Disabilities" –AW • Missing Software Use statement. See CALS Syllabus Policy for boilerplate. -AW • Under Potential Trigger Warning, 4th line, remove article "a" before word nutrition. Last line, replace if with "whether" -JW • Under Supermarket field trip, add the word "you" before select you food on 2nd line. -JW • Under Dietary Recommendations, 1st line use "make" instead of made. 2nd line remove "why" just "explain rationale for the recommendations" - JW

Curriculum

2. B.S. in Microbiology and Cell Science/Pharm.D. Combination Degree Program CALS (req. #21474)

A motion was made by Dr. Martin to approve this item as submitted. The motion was approved.

Additional comments from Teams:

Note – a similar submission was sent to CLAS for CLAS

Microbiology/Pharm.D combination
MOU – In response to “Students can only earn their B.S. in Microbiology and Cell Science if admitted to the UF Pharm.D. program and after successfully completing year 1 of the Pharm.D”. But they can earn their B.S in MCS if they aren’t admitted to the PharmD program, too (or would they not be reading the Pharmacy catalog copy if they weren’t in the 3+4 program). Do they mean “Students will earn their B.S. in Microbiology and Cell Science if they are admitteed… and successfully complete year 1 of the Pharm.D. program”? Remove the only? HJM

Discussion

3. What information should be kept on the CALS CC public facing website to be ADA compliant? This item was tabled so members could give this more consideration.

4. CALS CC membership

Dr. Mathews reminded members that some of their terms on the committee are ending. She will contact the departments of those members to see if they wish to continue on the committee or be replaced.

The meeting was adjourned at **1:54** p.m.

Cover Sheet: Request 21764

MCB5XXX - Clinical Mycology

Info

Process	Course|New|Grad
Status	Pending at CALS - College of Agricultural and Life Sciences
Submitter	Leandro Dias Teixeira leandroteixeira@ufl.edu
Created	8/6/2025 2:04:57 PM
Updated	8/26/2025 12:38:42 PM
Description of request	since some students have already taken some of our undergraduate level courses, we are designing 1-credit clinical courses to fill the gaps in their knowledge. These 1-credits courses will be used in the Clinical Laboratory Microbiologist graduate certificate. This request is for the creation of a 1-credit course to teach clinical mycology to graduate students interested in pursuing clinical microbiology career.

Actions

Step	Status	Group	User	Comment	Updated
Department	Approved	CALS - Microbiology and Cell Science 60100000	Eric Triplett		8/13/2025
CALS CC Checklist.docx					8/6/2025
College	Pending	CALS - College of Agricultural and Life Sciences			8/13/2025
No document changes					
Graduate Curriculum Committee					
No document changes					
University Curriculum Committee Notified					
No document changes					
Statewide Course Numbering System					
No document changes					
Graduate School Notified					
No document changes					
Office of the Registrar					
No document changes					
College Notified					
No document changes					

Course|New for request 21764

Info

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Submitter: Leandro Dias Teixeira leandroteixeira@ufl.edu
Created: 8/6/2025 1:49:51 PM
Form version: 1

Responses

Recommended Prefix MCB
Course Level 5

Course Number XXX
Lab Code None
Course Title Clinical Mycology
Transcript Title Clinical Mycology
Delivery Method AD - All Distance Learning (100% of course content taught outside of classroom)
Effective Term Earliest Available
Effective Year Earliest Available
Rotating Topic No
Repeatable Credit? No

Amount of Credit 1

S/U Only? No
Contact Type Regularly Scheduled
Course Type Lecture
Weekly Contact Hours Online asynchronous, 2 contact hours per week
Course Description The study of human pathogenic fungi, focusing on their identification, virulence factors, host interactions, and clinical significance. It reviews traditional and current lab techniques for pathogen isolation, identification, and susceptibility testing, along with integrating lab results with clinical observations to improve patient care.
Prerequisites MCB3020 or MCB3023.
Co-requisites N/A
Rationale for Placement in the Curriculum Degree level: Graduate
Program: Clinical Laboratory Microbiology graduate certificate
Syllabus Content Requirements All Items Included

CALS Curriculum Committee
Submission Checklist

Updated Sept 2024

NOTE: This checklist must be included with all course and certificate submissions.

The checklist below is intended to facilitate course and certificate submissions to the University of Florida Academic Approval Tracking System (https://approval.ufl.edu/). The checklist consists of the most common items that can cause a submission to require changes or be recycled. Contrary to information provided on the UF approval site, the CALS Curriculum Committee requires a syllabus be submitted with each new course or course modification request. Please note that submitters are encouraged to attend the CALS CC meeting at which their item is being reviewed. This allows the submitter to answer any potential questions that may arise that could cause the item to not be approved. Also, be aware that when completing the UCC form the section Description of Request is asking for a brief statement about what you are doing. This is **not** the place for a course description. A statement such as "Proposal of a new undergraduate course" is all that is needed. Please do not submit documents in pdf format. All documents should be submitted in Word to facilitate editing on our end if necessary.

CHECKLIST: PLEASE INITIAL OR MARK N/A FOR EACH STATEMENT TO INDICATE YOUR COMPLIANCE.

LDT It is required when making a submission that you consult your department's representative to the CALS CC. A list of current members can be found on the committee site located at: https://cals.ufl.edu/faculty-staff/committees/.

LDT You MUST comply with the CALS Syllabus Policy, including items 1 through 8 and all standard syllabus statements. This document can be viewed at the committee site(https://cals.ufl.edu/facultystaff/committees/) by clicking on the Curriculum Committee – Information & Documents heading and scrolling down to Forms, Checklists, and Other documents. The other items included here are all very helpful when making a curriculum submission. Some will be mentioned in other checklist items below.

LDT Submission of a course modification requires both the current version of the course syllabus and the proposed version.

NA_ Joint course submissions must include 1) both graduate and undergraduate syllabuses and 2) a separate document outlining the substantial (more than one) differences in assignments between the two courses. These assignments must account for at least a 15% difference in graded material between the two levels. If this is a new course submission both courses must be submitted for approval simultaneously.

LDT The course description on the UCC form and in the syllabus must match and should be no longer than 500 characters. Any other information you wish to include needs to be under a different heading such as background or additional course information.

LDT The course learning objectives must be consistent with Bloom's taxonomy. Please see the following link at the CALS Curriculum site. (https://cals.ufl.edu/content/PDF/Faculty_Staff/cals-courseobjectives.pdf). Do not use the words demonstrate or understand when listing learning objectives.

LDT The course schedule should be concise and include the appropriate number of weeks in the semester.

LDT All graduate course submissions must include a reading list if a textbook is not required. The reading list should include at least some current readings (within the last 5 years). All readings do not need to be current.

NA_ Outside consultations are required if there is a possibility of the proposed course covering a significant amount of material taught in another department or college on campus. There must be a consult form completed by the chair of the department from who you are seeking the consult. Instructors may provide additional consults. The form can be found at: https://approval.ufl.edu/policies/external-consultations/.

NA__ Prerequisite courses are required for 3000 and 4000 level courses. This line of the approval form cannot be "none" or left blank. Junior or senior standing is an acceptable option. A phrase such as "a course in basic biology" is not acceptable. (Graduate courses should not have specific courses listed as prerequisites. If needed a statement of skills required prior to taking the course can be provided under other course information.)

LDT _ Decimal points must be included in the grading scale if grade cut-offs are based on percentages. While this is not a university policy it is a CALS standard practice to avoid any confusion when final grades for the course are determined.

LDT _ The attendance and make-up policy in a syllabus cannot contradict the university's policy. Do not include any additional wording to this policy. A statement and link regarding this are included in the CALS Syllabus Statements. For the approval process the college suggests a less is more view when it comes to this policy.

LDT _ The most recent version of the CALS Syllabus Statements boiler plate must be included in all syllabuses. This document is included in the CALS Syllabus Policy and can be copied and pasted to the syllabus. Do not use the boilerplate statements from an old syllabus as they are likely to be out of date.

Certificates

If proposing a new undergraduate or graduate level certificate that includes any courses outside of the submitters department a statement regarding any possible impact on those courses needs to be included. An email from the instructor is acceptable. Also, any courses required for the certificate must have permanent prefixes and course numbers. The submission must include intended catalog copy. (Contact Dr. Anne Mathews (anne.mathews@ufl.edu) for further instruction)

Clinical Mycology MCB5XXX

Contact information

Instructor: Dr. Leandro Teixeira (leandroteixeira@ufl.edu) 352-392-8350.

Office: Microbiology and cell science department, Room 1047.

Office hours: 11:00am – 12:00pm (Monday).

Course time and location

This is an asynchronous that course will be taught 100% online and all lectures will be recorded and available through Canvas. This is a 1-credit course that is offered in the Spring and the Fall semester.

Welcome!

Welcome to Clinical Mycology! I am excited to embark on this journey with you as we explore the fascinating world of fungi and their roles in human health and disease. This 100% online course is designed to provide you with a comprehensive understanding of this critical area in microbiology. As we engage with the material, I encourage you to participate actively, ask questions, and collaborate with your peers. Together, we will develop the knowledge and skills necessary for effective clinical practice in the field of diagnostic microbiology.

Course description

The study of human pathogenic fungi, focusing on their identification, virulence factors, host interactions, and clinical significance. This course reviews traditional and current lab techniques for pathogen isolation, identification, and susceptibility testing, along with integrating lab results with clinical observations to improve patient care.

Required Book

Bailey & Scott Diagnostic Microbiology, 15th edition, Tille, Patricia, Elsevier (Mosby) Inc. ISBN: 9780323681056.

Pre-requisite

Applicants must hold a bachelor's degree in microbiology, Biology, or a closely related life science discipline.

Course objectives

By the end of this course, students will be able to:

1. **Classify and Identify**: Summarize the classification and taxonomy of clinically significant fungi.
2. **Describe Morphology**: Describe the morphological characteristics of various pathogenic microorganisms and their relevance to clinical diagnostics.
3. **Discuss Pathogenesis**: Explain the mechanisms of pathogenesis for fungi, including their interactions with the host immune system.
4. **Assess Clinical Significance**: Analyze the clinical significance of fungal infections, including their epidemiology and impact on public health.
5. **Apply Laboratory Techniques**: Demonstrate knowledge of laboratory techniques for the identification, isolation, and susceptibility testing of pathogenic microorganisms.
6. **Integrate Clinical Findings**: Correlate clinical findings with laboratory results to facilitate accurate diagnosis and treatment of infectious diseases.
7. **Explore Current Trends**: Evaluate current trends and advancements in clinical mycology research and their implications for practice.
8. **Communicate Effectively**: Develop the ability to effectively communicate complex concepts related to mycology to both healthcare professionals and the public.

These objectives will guide your learning throughout the course and prepare you for practical applications in clinical settings.

Getting started

All course correspondence as well as assignments, exams and discussions will be available via eLearning Canvas Website https://elearning.ufl.edu/ . You may also contact the UF help desk at 352-392-HELP, option 2.

Please Remember to check the Announcements and Mail each day in Canvas. “I did not know about the assignment, deadline…” is NOT an accepted excuse. Your instructor will have his/her own Canvas webpage where section specific information will be posted.

All assignments, projects and reports are expected to be submitted electronically through Canvas. Each assignment is processed through Turnitin.com and as such is checked for plagiarism. Students are encouraged to use Draft Coach to check their work for plagiarism before submitting their assignments.

Use of generative AI tools (e.g., ChatGPT, Bard, Copilot) is prohibited for all course assignments and assessments unless explicitly authorized by the instructor. Submissions will be monitored for AI-generated content using detection tools, and violations will be treated as academic misconduct.

Have a Question? Please email us to schedule an online meeting. We are here to help!

Expectations of the students

As a student in the Clinical Microbiology course, you are expected to engage actively and take responsibility for your learning. Here are key expectations to help you succeed:

1. **Engagement and Participation**

- Participate in discussions to enhance your understanding of the material.
- Contribute thoughtfully to class discussions, sharing insights and asking questions to clarify concepts.

2. **Preparation and Study**

- Complete assigned readings from *Bailey & Scott’s Diagnostic Microbiology, 15th Edition* and other provided materials before each class.

- Review lecture notes regularly and prepare for quizzes and assessments to reinforce your knowledge.

3. **Critical Thinking and Application**

- Approach case studies and problem-solving exercises with a critical mindset, applying theoretical concepts to real-world scenarios.
- Engage in collaborative learning with peers to deepen your understanding and enhance your problem-solving skills.

4. **Professionalism and Ethics**

- Maintain a professional demeanor in all interactions, respecting the diverse perspectives of your classmates and instructors.
- Adhere to ethical standards in discussions about patient care and the implications of microbiological practices.

5. **Time Management and Commitment**

- Allocate adequate time each week for study and review, balancing course requirements with other commitments.
- Stay committed to your personal and professional growth throughout the course, seeking help when needed.

By embracing these expectations, you will foster a positive learning environment and enhance your understanding of medical microbiology, preparing you for future endeavors in healthcare or research.

Evaluation of learning

Learning will be evaluated based on the following criteria:

- Engagement and participation - 20% (100 points)

After watching the class of the week, students must participate in discussion groups via canvas. Active participation is essential for fostering a collaborative learning environment and enhancing understanding of clinical bacteriology concepts. Students are encouraged to contribute thoughtfully to discussions, ask questions, and engage with their peers to deepen their comprehension of course material. Evaluation will be based on the quality and relevance of contributions, as well as the ability to build on

others' ideas and respond to feedback. Regular attendance and active involvement will ensure that students not only enhance their own learning but also enrich the experience for their classmates. The deadline for each discussion section is 11:59pm on the Sunday before the subsequent week's lecture. There will be 13 discussion sections, 3.5 to 4 points each depending on the topic. The rubric for grading your participation in the discussion sections can be found on the course canvas.

- Quizzes – 25% (125 points)

After watching the lectures of a chapter, students will have to answer an open book quiz. Quizzes can include videos to be watched or required readings before class. All quizzes are cumulative. There are 14 quizzes, 8 to 9 points each quiz.

- Public health project - 25% (125 points)

At the end of the semester, students will record a presentation regarding Public Health issues caused by fungi, in which the students should demonstrate the impact of the microbe in human health, the proper diagnosis methods to identify the pathogen causing the disease, as well as possible treatment. The presentations will be individual and should be presented in PowerPoint format. All students must participate in the presentation as these presentations will be peer reviewed.

- Final Exam - 30% (150 points)

Students must take the final exam in the last week of classes, with a total of 150 points. The exam will cover all chapters taught in this course, ensuring that students not only retain knowledge from recent lectures but also integrate and apply concepts from earlier topics. Students will be evaluated on their ability to demonstrate critical thinking, problem-solving skills, and mastery of the subject matter. It is essential for students to review and synthesize their understanding consistently, as success on the exam will reflect both their ongoing engagement with the course material and their preparedness to apply their knowledge in clinical contexts. Exams will be proctored with Honorlock and students will have 120 minutes to finish the exam. Books and notes are not allowed during the exam.

Cheating (usage of unauthorized support material/notes) will automatically be reported to the Dean of Students Office (DSO) for consideration of disciplinary action.

Items graded	***Points***	***%***
Participation	100	20
Quizzes	125	25
Public Health Project	125	25
Exams	150	30
Total	**500**	**100**

We don't curve and the grading scale will not be adjusted based on class performance. You will have 2 weeks to challenge your grade and request a change of grade by contacting the course's instructor.

Final grades will be based on the following performance standard:

>92.0%	A	72.0 – 76.99%	C
90.0 - 91.99%	A-	70.0 – 71.99%	C-
87.0 - 89.99%	B+	67.0 – 69.99%	D+
82.0 - 86.99%	B	62.0 – 66.99%	D
80.0 - 81.99%	B-	60.0 – 61.99%	D-
77.0 - 79.99%	C+	<60.0%	E

Course schedule and reading list

Week	Topic	Assessment	Readings
Week 1	Introduction to Mycology: laboratory safety, specimen management, fungal taxonomy, microscopy & culture basics	Week 1 quiz.	Chapter 58
Week 2	Direct microscopic examination techniques: wet mounts, tape, tease mounts, slide cultures	Group discussion 1. Week 2 quiz.	Chapter 58

Week 3	Specimen processing & culture methods: media, incubation, safety protocols in mycology lab	Group discussion 2. Week 3 quiz.	Chapter 58
Week 4	Hyaline molds & zygomycetes: morphology, clinical manifestations, identification	Group discussion 3. Week 4 quiz.	Chapter 59
Week 5	Dermatophytes: skin, nail and hair infections; lab diagnosis and identification	Group discussion 4. Week 5 quiz.	Chapter 59
Week 6	Opportunistic/systemic hyaline molds (e.g., Aspergillus spp., Fusarium, Scedosporium)	Group discussion 5. Week 6 quiz.	Chapter 59
Week 7	Dematiaceous (pigmented) molds: phaeohyphomycosis and chromoblastomycosis	Group discussion 6. Week 7 quiz.	Chapter 60
Week 8	**Mid-course review & integration**: comparison of hyaline vs dematiaceous molds, case studies	Group discussion 7. Week 8 quiz.	Chapters 59,60
Week 9	Opportunistic atypical fungus: *Pneumocystis jirovecii* and related organisms	Group discussion 8. Week 9 quiz.	Chapter 61
Week 10	Yeasts: *Candida*, *Cryptococcus*, *Malassezia*—morphology, identification, clinical relevance	Group discussion 9. Week 10 quiz.	Chapters 62
Week 11	Other yeasts and yeast-like fungi: emerging pathogens and uncommon isolates	Group discussion 10. Week 11 quiz.	Chapters 62
Week 12	Antifungal susceptibility testing: in vitro methods, interpretation, limitations	Group discussion 11. Week 12 quiz.	Chapters 63

Week 13	Therapy and prevention strategies: antifungal agents, resistance mechanisms, prophylaxis	Group discussion 12. Week 13 quiz.	Chapters 63
Week 14	Urinary Tract Infections (UTI) Final exam review	Group discussion 13. Week 14 quiz.	Chapters 72
Week 15	Public Health Project Presentations & Final Exam	Public Health Project Presentations	N/A
	Adopted textbook: *Bailey & Scott Diagnostic Microbiology,* 15th edition, Tille, Patricia, Elsevier (Mosby) Inc. ISBN: 9780323681056.		

Academic Policies and Resources

Academic policies for this course are consistent with university policies. See https://syllabus.ufl.edu/syllabus-policy/uf-syllabus-policy-links/

Cover Sheet: Request 21765

2

MCB5XXX-Clinical Parasitology

Info

Process	Course|New|Grad
Status	Pending at CALS - College of Agricultural and Life Sciences
Submitter	Leandro Dias Teixeira leandroteixeira@ufl.edu
Created	8/6/2025 2:16:59 PM
Updated	8/26/2025 12:39:28 PM
Description of request	since some students have already taken some of our undergraduate level courses, we are designing 1-credit clinical courses to fill the gaps in their knowledge. These 1-credits courses will be used in the Clinical Laboratory Microbiologist graduate certificate. This request is for the creation of a 1-credit course to teach clinical parasitology to graduate students interested in pursuing clinical microbiology career.

Actions

Step	Status	Group	User	Comment	Updated
Department	Approved	CALS - Microbiology and Cell Science 60100000	Eric Triplett		8/13/2025
CALS CC Checklist.docx					8/6/2025
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Submitter: Leandro Dias Teixeira leandroteixeira@ufl.edu
Created: 8/6/2025 2:12:02 PM
Form version: 1

Responses

Recommended Prefix MCB
Course Level 5

Course Number XXX
Lab Code None
Course Title Clinical Parasitology
Transcript Title Clinical Parasitology
Delivery Method AD - All Distance Learning (100% of course content taught outside of classroom)
Effective Term Earliest Available
Effective Year Earliest Available
Rotating Topic No
Repeatable Credit? No

Amount of Credit 1

S/U Only? No
Contact Type Regularly Scheduled
Course Type Lecture
Weekly Contact Hours online asynchronous, 2 contact hours per week
Course Description The study of human pathogenic parasites, focusing on their identification, virulence factors, host interactions, and clinical significance. It reviews traditional and current lab techniques for pathogen isolation, identification, and susceptibility testing, along with integrating lab results with clinical observations to improve patient care.
Prerequisites MCB3020 or MCB3023
Co-requisites N/A
Rationale for Placement in the Curriculum Degree level: Graduate
Program: Clinical Laboratory Microbiologist graduate certificate

Syllabus Content Requirements All Items Included

CALS Curriculum Committee
Submission Checklist

Updated Sept 2024

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LDT All graduate course submissions must include a reading list if a textbook is not required. The reading list should include at least some current readings (within the last 5 years). All readings do not need to be current.

NA_ Outside consultations are required if there is a possibility of the proposed course covering a significant amount of material taught in another department or college on campus. There must be a consult form completed by the chair of the department from who you are seeking the consult. Instructors may provide additional consults. The form can be found at: https://approval.ufl.edu/policies/external-consultations/.

NA__ Prerequisite courses are required for 3000 and 4000 level courses. This line of the approval form cannot be "none" or left blank. Junior or senior standing is an acceptable option. A phrase such as "a course in basic biology" is not acceptable. (Graduate courses should not have specific courses listed as prerequisites. If needed a statement of skills required prior to taking the course can be provided under other course information.)

LDT _ Decimal points must be included in the grading scale if grade cut-offs are based on percentages. While this is not a university policy it is a CALS standard practice to avoid any confusion when final grades for the course are determined.

LDT _ The attendance and make-up policy in a syllabus cannot contradict the university's policy. Do not include any additional wording to this policy. A statement and link regarding this are included in the CALS Syllabus Statements. For the approval process the college suggests a less is more view when it comes to this policy.

LDT _ The most recent version of the CALS Syllabus Statements boiler plate must be included in all syllabuses. This document is included in the CALS Syllabus Policy and can be copied and pasted to the syllabus. Do not use the boilerplate statements from an old syllabus as they are likely to be out of date.

Certificates

If proposing a new undergraduate or graduate level certificate that includes any courses outside of the submitters department a statement regarding any possible impact on those courses needs to be included. An email from the instructor is acceptable. Also, any courses required for the certificate must have permanent prefixes and course numbers. The submission must include intended catalog copy. (Contact Dr. Anne Mathews (anne.mathews@ufl.edu) for further instruction)

Clinical Parasitology MCB5XXX

Contact information

Instructor: Dr. Monika Oli (moli@ufl.edu) 352-392-8434.

Office: Microbiology and Cell Science Department, Room 1047.

Office hours: 11:00am – 12:00pm (Monday).

Course time and location

This course is an asynchronous course that will be taught 100% online and all lectures will be recorded and available through Canvas. This is a 1-credit course that is offered in the Spring and the Fall semester.

Welcome!

Welcome to Clinical Parasitology! I am excited to embark on this journey with you as we explore the fascinating world of fungi and their roles in human health and disease. This 100% online course is designed to provide you with a comprehensive understanding of this critical area in microbiology. As we engage with the material, I encourage you to participate actively, ask questions, and collaborate with your peers. Together, we will develop the knowledge and skills necessary for effective clinical practice in the field of diagnostic microbiology.

Course description

The study of human pathogenic parasites, focusing on their identification, virulence factors, host interactions, and clinical significance. This course reviews traditional and current lab techniques for pathogen isolation, identification, and susceptibility testing, along with integrating lab results with clinical observations to improve patient care.

Required Book

Bailey & Scott Diagnostic Microbiology, 15th edition, Tille, Patricia, Elsevier (Mosby) Inc. ISBN: 9780323681056.

Pre-requisite

Applicants must hold a bachelor's degree in microbiology, Biology, or a closely related life science discipline.

Course objectives

By the end of this course, students will be able to:

1. **Classify and Identify**: Summarize the classification and taxonomy of clinically significant parasites.
2. **Describe Morphology**: Describe the morphological characteristics of various pathogenic microorganisms and their relevance to clinical diagnostics.
3. **Discuss Pathogenesis**: Explain the mechanisms of pathogenesis for parasites, including their interactions with the host immune system.
4. **Assess Clinical Significance**: Analyze the clinical significance of parasitical infections, including their epidemiology and impact on public health.
5. **Apply Laboratory Techniques**: Demonstrate knowledge of laboratory techniques for the identification, isolation, and susceptibility testing of pathogenic microorganisms.
6. **Integrate Clinical Findings**: Correlate clinical findings with laboratory results to facilitate accurate diagnosis and treatment of infectious diseases.
7. **Explore Current Trends**: Evaluate current trends and advancements in clinical parasitology research and their implications for practice.
8. **Communicate Effectively**: Develop the ability to effectively communicate complex concepts related to parasitology to both healthcare professionals and the public.

These objectives will guide your learning throughout the course and prepare you for practical applications in clinical settings.

Getting started

All course correspondence as well as assignments, exams and discussions will be available via eLearning Canvas Website https://elearning.ufl.edu/ . You may also contact the UF help desk at 352-392-HELP, option 2.

Please Remember to check the Announcements and Mail each day in Canvas. “I did not know about the assignment, deadline…” is NOT an accepted excuse. Your instructor will have his/her own Canvas webpage where section specific information will be posted.

All assignments, projects and reports are expected to be submitted electronically through Canvas. Each assignment is processed through Turnitin.com and as such is checked for plagiarism. Students are encouraged to use Draft Coach to check their work for plagiarism before submitting their assignments.

Use of generative AI tools (e.g., ChatGPT, Bard, Copilot) is prohibited for all course assignments and assessments unless explicitly authorized by the instructor. Submissions will be monitored for AI-generated content using detection tools, and violations will be treated as academic misconduct.

Have a Question? Please email us to schedule an online meeting. We are here to help!

Expectations of the students

As a student in the Clinical Microbiology course, you are expected to engage actively and take responsibility for your learning. Here are key expectations to help you succeed:

1. **Engagement and Participation**

- Participate in discussions to enhance your understanding of the material.
- Contribute thoughtfully to class discussions, sharing insights and asking questions to clarify concepts.

2. **Preparation and Study**

- Complete assigned readings from *Bailey & Scott’s Diagnostic Microbiology, 15th Edition* and other provided materials before each class.

- Review lecture notes regularly and prepare for quizzes and assessments to reinforce your knowledge.

3. **Critical Thinking and Application**

- Approach case studies and problem-solving exercises with a critical mindset, applying theoretical concepts to real-world scenarios.
- Engage in collaborative learning with peers to deepen your understanding and enhance your problem-solving skills.

4. **Professionalism and Ethics**

- Maintain a professional demeanor in all interactions, respecting the diverse perspectives of your classmates and instructors.
- Adhere to ethical standards in discussions about patient care and the implications of microbiological practices.

5. **Time Management and Commitment**

- Allocate adequate time each week for study and review, balancing course requirements with other commitments.
- Stay committed to your personal and professional growth throughout the course, seeking help when needed.

By embracing these expectations, you will foster a positive learning environment and enhance your understanding of medical microbiology, preparing you for future endeavors in healthcare or research.

Evaluation of learning

Learning will be evaluated based on the following criteria:

- Engagement and participation - 20% (100 points)

After watching the class of the week, students must participate in discussion groups via canvas. Active participation is essential for fostering a collaborative learning environment and enhancing understanding of clinical parasitology concepts. Students are encouraged to contribute thoughtfully to discussions, ask questions, and engage with their peers to deepen their comprehension of course material. Evaluation will be based on the quality and relevance of contributions, as well as the ability to build on

others' ideas and respond to feedback. Regular attendance and active involvement will ensure that students not only enhance their own learning but also enrich the experience for their classmates. The deadline for each discussion section is 11:59pm on the Sunday before the subsequent week's lecture. There will be 13 discussion sections, 3.5 to 4 points each depending on the topic. The rubric for grading your participation in the discussion sections can be found on the course canvas.

- Quizzes – 25% (125 points)

After watching the lectures of a chapter, students will have to answer an open book quiz. Quizzes can include videos to be watched or required readings before class. All quizzes are cumulative. There are 14 quizzes, 8 to 9 points each quiz.

- Public health project - 25% (125 points)

At the end of the semester, students will record a presentation regarding to Public Health issues caused by parasites, in which the students should demonstrate the impact of the microbe in human health, the proper diagnosis methods to identify the pathogen causing the disease, as well as possible treatment. The presentations will be individual and should be presented in PowerPoint format. All students must participate in the presentation as these presentations will be peer reviewed.

- Final Exam - 30% (150 points)

Students must take the final exam in the last week of classes, with a total of 150 points. The exam will cover all chapters taught in this course, ensuring that students not only retain knowledge from recent lectures but also integrate and apply concepts from earlier topics. Students will be evaluated on their ability to demonstrate critical thinking, problem-solving skills, and mastery of the subject matter. It is essential for students to review and synthesize their understanding consistently, as success on the exam will reflect both their ongoing engagement with the course material and their preparedness to apply their knowledge in clinical contexts. Exams will be proctored with Honorlock and students will have 120 minutes to finish the exam. Books and notes are not allowed during the exam.

Cheating (usage of unauthorized support material/notes) will automatically be reported to the Dean of Students Office (DSO) for consideration of disciplinary action.

Items graded	***Points***	***%***
Participation	100	20
Quizzes	125	25
Public Health Project	125	25
Exams	150	30
Total	**500**	**100**

We don’t curve and the grading scale will not be adjusted based on class performance. You will have 2 weeks to challenge your grade and request a change of grade by contacting the course’s instructor.

Final grades will be based on the following performance standard:

>92.0%	A	>72.0%	C
>90.0%	A-	>70.0%	C-
>87.0%	B+	>67.0%	D+
>82.0%	B	>62.0%	D
>80.0%	B-	>60.0%	D-
>77.0%	C+	<60.0%	E

Course schedule and reading list

Week	Topic	Assessment	Readings
Week 1	Introduction to Parasitology – lab safety, specimen collection, taxonomy, microscopy & general diagnostic methods	Week 1 quiz.	Chapter 46

Week 2	Protozoan diagnostics: amoebae (*Entamoeba* spp., *Acanthamoeba*) – morphology, clinical infections, lab ID	Group discussion 1. Week 2 quiz.	Chapter 47
Week 3	Flagellates: *Giardia*, *Trichomonas*, *Dientamoeba* – life cycles, clinical presentation, identification	Group discussion 2. Week 3 quiz.	Chapter 48
Week 4	Hemoflagellates: *Trypanosoma*, *Leishmania* – epidemiology, smear, culture, molecular methods	Group discussion 3. Week 4 quiz.	Chapter 49
Week 5	Ciliates: *Balantidium coli* and emerging protozoan pathogens	Group discussion 4. Week 5 quiz.	Chapter 50
Week 6	Apicomplexans I: *Cryptosporidium*, *Cyclospora*, *Isospora* – waterborne and foodborne diseases	Group discussion 5. Week 6 quiz.	Chapter 51
Week 7	Apicomplexans II: *Plasmodium* spp. (malaria) – species identification, staining, rapid diagnostics	Group discussion 6. Week 7 quiz.	Chapter 52
Week 8	Apicomplexans III: *Toxoplasma gondii*, *Babesia* – serology, molecular methods, clinical relevance	Group discussion 7. Week 8 quiz.	Chapters 53
Week 9	Tissue protozoa: *Leishmania* (cutaneous vs visceral), *Others* – histopathological and clinical correlation	Group discussion 8. Week 9 quiz.	Chapter 49-53
Week 10	Trematodes (flukes): *Schistosoma*, *Fasciola*, *Paragonimus* – egg	Group discussion 9.	Chapters 54

	morphology, specimen types, epidemiology	Week 10 quiz.	
Week 11	Cestodes (tapeworms): *Taenia*, *Echinococcus*, *Diphyllobothrium* – life cycle, clinical, lab identification	Group discussion 10. Week 11 quiz.	Chapters 55
Week 12	Nematodes I: intestinal roundworms – *Ascaris*, *Trichuris*, *Enterobius*, *Strongyloides*	Group discussion 11. Week 12 quiz.	Chapters 56
Week 13	Nematodes II: tissue/dog and cat nematodes – *Wuchereria*, *Loa*, *Onchocerca*; *Toxocara*	Group discussion 12. Week 13 quiz.	Chapters 57
Week 14	Case-based scenario review: mixed parasitic infections, diagnostic pitfalls, clinical decision-making	Group discussion 13. Week 14 quiz.	Chapters 47-57
Week 15	Public Health Project Presentations & Final Exam	Public Health Project Presentations	N/A
	Adopted textbook: *Bailey & Scott Diagnostic Microbiology,* 15th edition, Tille, Patricia, Elsevier (Mosby) Inc. ISBN: 9780323681056.		

Academic Policies and Resources

Academic policies for this course are consistent with university policies. See https://syllabus.ufl.edu/syllabus-policy/uf-syllabus-policy-links/

Generic weekly schedule

Week	Topic
Week 1	**Introduction to clinical Parasitology.** ✓ Introduction to Parasitology – lab safety, specimen collection, taxonomy, microscopy & general diagnostic methods. ✓ Textbook: Chapters 46. ✓ Week 1 quiz.
Week 2	**Protozoan diagnostics: amoebae (*Entamoeba* spp., *Acanthamoeba*) – morphology, clinical infections, lab ID** ✓ Textbook: Chapter 47. ✓ Group discussion 1. ✓ Week 2 quiz.
Week 3	**Flagellates: *Giardia*, *Trichomonas*, *Dientamoeba* – life cycles, clinical presentation, identification** ✓ Textbook: Chapter 48. ✓ Group discussion 2. ✓ Week 3 quiz.
Week 4	**Hemoflagellates: *Trypanosoma*, *Leishmania* – epidemiology, smear, culture, molecular methods** ✓ Textbook: Chapter 49. ✓ Group discussion 3. ✓ Week 4 quiz.
Week 5	**Ciliates: *Balantidium coli* and emerging protozoan pathogens** ✓ Textbook: Chapter 50. ✓ Group discussion 4.

	✓ Week 5 quiz.
Week 6	**Apicomplexans I: *Cryptosporidium*, *Cyclospora*, *Isospora* – waterborne and foodborne diseases** ✓ Textbook: Chapter 51. ✓ Group discussion 5. ✓ Week 6 quiz.
Week 7	**Apicomplexans II: *Plasmodium* spp. (malaria) – species identification, staining, rapid diagnostics** ✓ Textbook: Chapter 52. ✓ Group discussion 6. ✓ Week 7 quiz.
Week 8	**Apicomplexans III: *Toxoplasma gondii*, *Babesia* – serology, molecular methods, clinical relevance** ✓ Textbook: Chapter 53. ✓ Group discussion 7. ✓ Week 8 quiz.
Week 9	**Tissue protozoa: Leishmania (cutaneous vs visceral), Others – histopathological and clinical correlation** ✓ Textbook: Chapter 49-53. ✓ Group discussion 8. ✓ Week 9 quiz.
Week 10	**Trematodes (flukes): *Schistosoma*, *Fasciola*, *Paragonimus* – egg morphology, specimen types, epidemiology** ✓ Textbook: Chapter 54. ✓ Group discussion 9.

	✓ Week 10 quiz.
Week 11	**Cestodes (tapeworms): *Taenia*, *Echinococcus*, *Diphyllobothrium* – life cycle, clinical, lab identification** ✓ Textbook: Chapter 55. ✓ Group discussion 10. ✓ Week 11 quiz.
Week 12	**Nematodes I: intestinal roundworms – *Ascaris*, *Trichuris*, *Enterobius*, *Strongyloides*** ✓ Textbook: Chapter 56. ✓ Group discussion 11. ✓ Week 12 quiz.
Week 13	**Nematodes II: tissue/dog and cat nematodes – *Wuchereria*, *Loa*, *Onchocerca*; *Toxocara*** ✓ Textbook: Chapter 57. ✓ Group discussion 12. ✓ Week 13 quiz.
Week 14	**Case-based scenario review: mixed parasitic infections, diagnostic pitfalls, clinical decision-making** ✓ Textbook: Chapter 47-57. ✓ Group discussion 13. ✓ Week 14 quiz.

Week 15	Public health project presentations. Review for final exam.
Week 16	**FINAL EXAM**

Cover Sheet: Request 20365

ANS 2XXX: Reproduction: A User's Manual (Q2 Perm.)

Info

Process	Course|New/Close/Modify|Ugrad|Gen Ed|Quest|Perm
Status	Pending at CALS - College of Agricultural and Life Sciences
Submitter	Madison Henry madison.henry@ufl.edu
Created	8/28/2024 9:32:46 AM
Updated	6/23/2025 4:13:20 PM
Description of request	Quest 2, Biological Sciences

Actions

Step	Status	Group	User	Comment	Updated
General Education Program Coordinator	Approved	PV - Quest Director	Kendall Kroger		8/28/2024
ANS 2XXX Reproduction A User's Manuel_Callaham.pdf					8/28/2024
Department	Approved	CALS - Animal Sciences 60090000	Jason Scheffler		5/15/2025
No document changes					
College	Pending	CALS - College of Agricultural and Life Sciences			5/15/2025
No document changes					
Quest Director					
No document changes					
University Curriculum Committee					
No document changes					
General Education Committee					
No document changes					
Statewide Course Numbering System					
No document changes					
Office of the Registrar					
No document changes					
Student Academic Support System					
No document changes					
Catalog Notified					
No document changes					
College Notified					
No document changes					

Step	Status	Group	User	Comment	Updated
General Education Program Coordinator Notified					
No document changes					

Course|Gen_Ed|New-Close-Modify|Quest-Perm for request 20365

Info

Request: ANS 2XXX: Reproduction: A User's Manual (Q2 Perm.)
Description of request: Quest 2, Biological Sciences
Submitter: Madison Henry madison.henry@ufl.edu
Created: 8/28/2024 9:21:15 AM
Form version: 1

Responses

Recommended Prefix ANS
Course Level 2
Course Number XXX
Category of Instruction Introductory
Lab Code None
Course Title Reproduction: A User's Manuel
Transcript Title Reproduction: A User's Manuel
Degree Type Baccalaureate
Delivery Method(s) On-Campus
Effective Term Earliest Available
Effective Year Earliest Available
Rotating Topic No
Repeatable Credit No
Amount of Credit 3 credits
S/U Only? No
Contact Type Regularly Scheduled
Weekly Contact Hours 3
Course Description Students will gain knowledge in reproductive physiology and endocrinology to further enhance their understanding of basic reproductive functions and understanding of their own reproductive viewpoints. This course will present topics in anatomy, physiology, and biotechnology that relates to livestock breeding management, assisted reproductive techniques, and the human condition.
Prerequisites Quest 1 course with a "C" or better.
Co-requisites N/A
Rationale and Placement in Curriculum Quest 2 Course
Course Objectives Information is present on attached syllabus.
Course Textbook(s) and/or Other Assigned Reading Information is present on attached syllabus.
Weekly Schedule of Topics Information is present on attached syllabus.
Grading Scheme Information is present on attached syllabus.
Instructor(s) Justin Callaham
Permanent Quest and General Education Approval Yes
Previous Temporary Approval N/A
Which level of Quest will this course be offered under? Quest 2

Approved Colleges - Quest 2 College of Agricultural and Life Sciences (CALS)

Quest 2 Objectives Yes
Quest 2 Student Learning Outcomes Yes

Requested GE Classification for Quest 2 B - Biological Sciences
Requested Writing Requirement Classification None

Course Updates: Temporary vs Permanent requests N/A
Attendance & Make-up Yes

Accommodations Yes
UF Grading Policies for assigning Grade Points Yes
Course Evaluation Policy Yes

IDS 2935: Reproduction: A User's Manual
Quest 2

I. General Information

Class Meetings

- Fall 2024
- Tuesday 3rd Period (9:35 – 10:25 am); Thursday 3rd & 4th Period (9:35 – 11:30 am)
- ANS 155, Field Trips to the Horse Teaching Unit and ICBR

Instructor

- Justin Callaham
- Animal Sciences, BLDG 459, 211E
- Office Hours: W, F 8:30 – 10:30 AM | Before and after class | By Appointment
- callaham@ufl.edu, 352-294-6754

Course Description

Reproductive biology is at the core of existence on earth, and nothing spurs the imagination more than quiet contemplation of a new life and sciences ability to alter the course of biological development. We can plan the sex of our children, store gametes for indefinite periods, test for the presence of certain genes during embryo selection, isolate stem cells that generate new transplant tissues, cure diseases by altering genes, bring species back from the brink of extinction, and develop highly efficient food animal systems. These scientific advancements allow us to alter mammalian development in ways unthinkable 20 years ago resulting in vigorous scientific and ethical debates.

Discussions will explore the questions – How such things work? Should we permit such things? Do we want to support such efforts? How far are we willing to let the research take us? What policy and ethical guardrails should guide future developments in reproductive science? And, how does a foundational knowledge of applied reproduction influence one's own analysis of modern hot button issues?

Students will gain knowledge in reproductive physiology and endocrinology that will be applied in experiential learning activities throughout this course to further enhance their understanding of basic reproductive functions and understanding of their own reproductive viewpoints. This course will present topics in anatomy, physiology, and biotechnology that relates to livestock breeding management, assisted reproductive techniques, and the human condition.

Quest and General Education Credit

- Quest 2
- Biological Sciences

This course accomplishes the Quest and General Education objectives of the subject areas listed below. A minimum grade of C is required for Quest and General Education credit. Courses intended to satisfy Quest and General Education requirements cannot be taken S-U.

Course Goals

1. Present enough science to help students better understand comparative reproductive anatomy and the underlying mechanisms that regulate (fe)male reproductive physiology.
2. Examine applied livestock breeding systems and assisted reproductive technologies to help students make an informed analysis of modern issues.
3. Examine modern reproductive techniques using guided experiential learning activities that help students build bench top skills and reinforce what science dictates.
4. Evaluate concepts in reproductive physiology and biotechnology that influences modern policies and social constructs (i.e. sustainable food systems, species preservation/overpopulation, genetic modification, and effects of reproductive advancements on society).
5. Cultivate positive group work environments capable of research collaboration and communication using clear, concise communications.
6. Help students better understand their own reproductive functions and viewpoints by evaluating popular issues in modern society.

Required Textbook and Other Readings

Required Textbook and Resources

1. Gilbert, Scott F., et al. *Bioethics and the new embryology: springboards for debate*. W. H. Freeman, 2005. (You do not need to buy this textbook. It will be provided to you.)
2. Packback (Requires a paid subscription ($29). See Packback section for instructions.)
3. Journal of Animal Sciences Literature Citation Guidelines (Website link)
4. Materials and Supplies Fees: n/a

Packback Deep Dives

Packback Deep Dives will be used to assess independent research skills and improve academic communication through long-form writing assignments. While completing the summative writing prompts on Deep Dives, you will interact with a Research Assistant that will help you gather your notes and cite your sources, and Digital Writing Assistant for in-the-moment feedback and guidance on your writing.

How to Register on Packback

Note: Only access Packback through **Canvas** in order to ensure your grades sync properly.

1. Click "Packback" within **Canvas** to access the community.
2. Follow the instructions on your screen to finish your registration.
3. **In order for your grade to be visible in Canvas**, make sure to only access Packback via **Canvas**.
4. Packback requires a $29 paid subscription.

Learning Accessibility

Your success in this class is important to me. We all come from diverse backgrounds and experiences that influence how we learn. Students at all levels learn in very different ways, and together we will develop strategies to meet both your needs and the requirements of the course. This course seeks ways to provide a working and collaborative workspace where you may advocate for your success. Individuals with disabilities of any kind (including learning disabilities, ADHD, depression, health conditions) who require instructional, curricular, or test accommodations are responsible for making such needs known to the instructor as early as possible. Every possible effort will be made to accommodate students in a timely and confidential manner. Individuals who request accommodations must be registered with the Disability Resource Center (https://disability.ufl.edu/).

Sometimes life gets in the way. Students are encouraged to approach Justin Callaham with any other life circumstances that may affect their participation in the course. These may be personal, health-related, family-related issues, or other concerns. The sooner your instructor knows about these, the earlier we can discuss possible adjustments or alternative arrangements as needed for homework, exams, or class.

I believe in advancing your educational success and professional development through mentorship. I strive to provide an environment that is equitable and conducive to achievement and learning for all students. It is important to me that every student learns to adapt in ways that promotes well-adapted professional advancement. I ask that we all be respectful of diverse opinions and of all class members. Your honesty and engagement are important, so please make every effort to engage with me throughout the term.

II. Graded Work

Grading Scale

For information on how UF assigns grade points, visit: https://catalog.ufl.edu/UGRD/academic-regulations/grades-grading-policies/

A	94 – 100%		B	84 – 86%		C	74 – 76%		D	64 – 66%
A-	90 – 93%		B-	80 – 83%		C-	70 – 73%		D-	60 – 63%
B+	87 – 89%		C+	77 – 79%		D+	67 – 69%		E	<60%

Late Assignments

Please refer to Canvas for due dates. **Due dates are set to help you stay on pace and allow for timely feedback that will help you complete subsequent assignments.** The expectation is that you submit work or are prepared for class by the assigned deadlines. The course goals and related assignments are designed to scaffold and build on one another to enhance your learning. However, **life happens**, and I am more than happy to work with you. Please communicate with me if you won't be able to get something done in time as a courtesy and as a signal of your professional dispositions.

This does not permit a free pass to chronically miss dates and deadlines. This policy is meant to provide flexibility (when possible) in helping you navigate and prioritize important institutional demands. This is not an indicator that all instructors observe dates and deadlines the same way so be informed by each instructor's class policies concerning deadlines.

II. Graded Work Continued

Assignment Types and Weighting

	Assignment Type	Description	Total Points	% of Grade
1.	Self-Reflections	These assignments are **essay, medium stakes** assignments. Self reflection assignments provide students the opportunity to analyze and review course content in relation to their own experiences over time.	100/each	15%
2.	Experiential Activities	These assignments are **hands on, low stakes activities**. Experiential learning involves a laboratory activity coupled with a reading and take home message worksheet to help students summarize important concepts.	50/each	20%
3.	Exams	There are **2 high stakes exams** in this course. A **mid-term and final exam** are given in a laboratory practical format that includes short answer, multiple choice, and mastery diagraming.	200/each	30%
4.	Capstone Proposal, Collaborative Project, and Panel Presentation	This is a **high stakes collaborative writing assignment** with 4-6 group members that identify a reproductive issue of social, economic, and/or ethical importance to our society. This assignment is designed to guide students through a **collaborative research writing process and literature review** on a topic of interest.	Proposal 100 points Collaborative Project 200 points Panel Presentation 100 points	30%
5.	Participation	A **low stakes** assignment to encourage daily attendance. Grades will not be curved in the course. This assignment serves as an easy +/- booster at the end of term. The amount of information in this course is diverse and expansive. Daily attendance will determine your success in the course.	100	5%
6.	Level Up Bonus Quizzes	These are **no stakes** interactive lecturer questions and quizzes. These assignments do not calculate into the student's course grade. Bonus points from these activities may be used to help level out scoring on other graded assignments **except exams**.	N/A	N/A

Capstone Project Overview

The capstone project involves collaborative self-reflection and debate, requiring you to create an informed positional hypothesis on a socially significant reproductive topic. This hypothesis will analyze topics that influence societal viewpoints like policymaking, cultural norms, ethics, socioeconomic status, conservation efforts, and food security. Students will examine the interplay between personal beliefs and the larger societal and institutional structures that shape perceptions and regulations of reproductive technologies.
Participants will read and reflect both individually and collaboratively on a chosen topic. Groups of at least three will write and present a literature-reviewed paper and present a short presentation addressing the project prompt. This collaborative project spans the entire term, resulting in a final printed report and panel presentation.

Project Prompt

You are a member of a university policy committee advising the non-partisan Reproductive Ethics and Biotechnology Legislation (REBL) committee for the country 'Gator Nation'. Your task is to research, evaluate, and present factual findings to the REBL committee. You must provide a collaboratively written report and a PowerPoint presentation to guide the country's policymaking efforts in an approved topic of choice.

Final Document Submission

Due Date: Thursday, November 14, 2024 by End of Class

Capstone Project Writing Components

1. Group Composition:
    - Each group should consist of 3-5 members.
    - Project management will be done using Microsoft Teams.
2. Word Contribution:
    - Each member must contribute 1,500-2,000 words over the term.
3. Research and Writing:
    - Explore the use of AI platforms that help guide your research and writing.
4. Peer Evaluations:
    - Participate in 3 Project Participation Peer Evaluations.
5. Ensure collaboration and participation from all group members.
6. Adhere to deadlines and maintain clear communication within the group.
7. Maintain academic integrity while using AI platforms.
8. Engage in peer evaluations to provide and receive constructive feedback.

Final Project Document Requirements

1. Title Page:
    a. Include group members listed.
2. Table of Contents
3. Group Member Biography:
    a. Include a picture for each member
    b. Use Chat GPT or CoPilot to write a short biographical sketch from personal resume data.
4. Project Proposal:
    a. Group topic and positional hypothesis.
    b. List of key questions to address.
    c. Dates and deadlines.
    d. Description of group member responsibilities and topics.
    e. Copy of Self-reflection #1 for each group member.
    f. Weekly summaries of individual accomplishments.
    g. Group meeting minutes (minimum of 4).
    h. Collaborative note-taking space.
5. Capstone Self-Reflections:
    a. 700-word literature-reviewed self-reflection per member using MLA format.
    b. Each reflection in its own document section.
6. Final Findings and Recommendations (300-600 words):
    a. Summary of the group's final debate on the topic.
    b. Challenges faced in reaching a consensus.
    c. Collective and compromised final recommendation for the REBL committee.
    d. Positives and negatives of the final recommendation.
    e. Notable sticking points during the formulation of the final recommendation.
7. PowerPoint Slides:
    a. Insert copies of your presentation slides into the final document.

PowerPoint Project Summary and Instructions

1. Group Presentation:
    a. Duration: 15-20 minutes
    b. Purpose: Summarize findings of your Capstone Project Document

2. Visual Aids:
    a. Use demographic graphics to support points (e.g., common contraceptives, gender responsibility in contraception, societal roles).
    b. Source data from Statista.com.
    c. Include pictures of products to explain functionality.
3. Slides to Include:
    a. Significance of Topic:
        i. Impact on society
        ii. Socioeconomic factors
        iii. Affected demographics
        iv. Advantages and disadvantages
    b. Technical Aspects:
        i. Explanation of how it works
        ii. Methods and Procedures:
            1. Types of procedures (e.g., chemical vs. physical, lab-grown vs. in vivo)
        iii. Factors Affecting Success:
            1. Influential factors
    c. Ethical and Moral Arguments:
        i. Arguments for and against
    d. Group's Recommendation:
        i. Collective recommendation to the REBL panel
        ii. Present perspectives of both advantage and disadvantage viewpoints
    e. Tips:
        i. Ensure each slide is clear and concise.
        ii. Maintain a balance between text and visuals.
        iii. Practice timing to ensure the presentation fits within the 20 – 30 minute timeframe.
        iv. Engage with your audience by explaining the significance of the data and visuals you present.

III. Annotated Weekly Schedule

Schedule and topics are subject to change.

Module 1							
Week #	**Date**	**Topic(s)**	**Readings**	**Activities**	**Assignments**		**Learning Objectives**
					What's Due	**Due Date**	
1	H 8/22	Course Introduction and Expectations History of Reproduction	• Syllabus • Gilbert, G, et al. 2005. Bioethics and the New Embryology. Sinauer Associates, Sunderland, MA. **Read: Chapter 2: Philosophical, Theological, and Scientific Arguments (Pages 32-45)**		• Self-Reflection #1	9/3 9:35 am	• Recognize important course requirements and deadlines. • Examine and assess initial perspectives of basic reproductive functions and self-reflections of one's own viewpoints.
2	T 8/27	Finish History of Reproduction Introduction to the Capstone Project Start Fertilization if time permits		• Ice Breaker Activity • Establish working groups.	Assign Early Embryology Take Home Message	9/10 11:59 pm	• Summarize the influence of historical ideologies on modern reproductive perspectives and practices.
Module 2							
Week #	**Date**	**Topic(s)**	**Readings**	**Activities**	**Assignments**		**Learning Objectives**
					What's Due	**Due Date**	
	H 8/29	Fertilization	Gilbert, G, et al. 2005. Bioethics and the New Embryology. Sinauer Associates, Sunderland, MA. **Chapter 3: Fertilization and Assisted Reproduction**	• Wet Lab: In Vitro Fertilization of Sea Urchins	• Set Up a Shared Document Space in Google Drive		• Describe the 4 major events that must occur for fertilization to occur. • List the 8 critical events of fertilization. • Explain 3 reasons sperm fail to fertilize an egg. • Explain the significance of haploid vs diploid gametes. • Define the acronym IVF. • Explain common factors that result in (fe)male infertility. • Discuss how IVF can aid mammals and humans to address fertilization failures. • Define the role of ART in species preservation. • Identify the early stages of embryological development.

Module 3							
Week #	**Date**	**Topic(s)**	**Readings**	**Activities**	**Assignments**		**Learning Objectives**
					What's Due	**Due Date**	
3	T 9/3	Female Reproductive Anatomy & Physiology	Handout: Summary of Female Reproductive Anatomy and Physiology. (Provided in Canvas)	• Project Proposal Group Organization Day	• Due Early Embryology Take Home Message • Assign Female Take Home Message WS		• Recognize important female reproductive tissues. • Describe the roles of female reproductive organs in fertilization and embryogenesis.
	H 9/5	Female Reproductive Anatomy & Physiology			• Project Proposal Dates and Deadlines Due	9/10	• Identify specific female structures and the influences of chemical hormones on reproductive tissues and cyclicity. • Explain the roles of ovarian structures and their roles in the process of ovulation.
4	T 9/10	Applied Female Reproductive Anatomy		Dissect female reproductive tracts.			• Identify female reproductive organs using dissection of preserved tissues. • Generalize female reproductive differences among different species. • Summarize important endocrine structures of the female reproductive tract.
	H 9/12	Hot Topics: Contraception	Gorvett, Zaria. "The Weird Reasons There Still Isn't a Male Contraceptive Pill." *BBC Future*, 18 May 2023, www.bbc.com/future/article/20230216-the-weird-reasons-male-birth-control-pills-are-scorned . Read article.	Group Adverts Activity	• Take Home Message Worksheet	9/12 9:35 am	• Identify the various types of birth control available to humans. • Describe the 3 basic ways contraceptives work? • Explain how birth control can be used to aid animal breeding management for timed artificial insemination programs (TAI's) and population control. • Examine the availability of birth control on socioeconomic status. • Distinguish the differences between female and male birth controls

Module 4							
Week #	**Date**	**Topic(s)**	**Readings**	**Activities**	**Assignments**		**Learning Objectives**
					What's Due	**Due Date**	
5	T 9/12	Male Reproductive Anatomy & Physiology	Handout: Summary of Male Reproductive Anatomy and Physiology		• Assign Male Take Home Message		• Recognize important male reproductive tissues. • Identify specific male structures and the influences of chemical hormones on reproductive tissues.
	H 9/17	Male Reproductive Anatomy & Physiology					• Explain why spermatogenesis creates challenges in male contraception. • Summarize important endocrine structures of the male reproductive tract.
		Applied Male Anatomy & Physiology		• Perform a vasectomy. • Identify male anatomy using cadaver tissues.			• Explain all major components of the male reproductive system. • Generalize male reproductive differences among different species.

Module 5							
Week #	**Date**	**Topic(s)**	**Readings**	**Activities**	**Assignments**		**Learning Objectives**
					What's Due	**Due Date**	
6	T 9/24	Introduction to the Endocrine System	Handout: Hypothalamic & Pituitary Anatomy in Reproduction		• Male Take Home Message WS Due • Assign Brain Take Home Message	9/24 9:35 am	• Identify the major brain structures associated with reproductive endocrinology. • List the important reproductive hormones that control cyclicity.
	H 9/26	Deep Dive into Mammalian Cyclicity		Dissect Cow Skulls and Sheep Brains			• Illustrate the roles of brain hormones on reproductive cyclicity and control. • Compare the 2 cyclic patterns that separate mammals and humans. • Identify what is meant by positive and negative feedback in endocrinology. • Examine the influence of reproductive hormones on +/- feedback. • Identify methods in which cyclic patterns can be manipulated for timed artificial insemination (TAI).

Module 6							
Week #	**Date**	**Topic(s)**	**Readings**	**Activities**	**Assignments**		**Learning Objectives**
					What's Due	**Due Date**	
7	T 10/1	Sexual Behavior and Estrus Detection	Miller, Geoffrey, Joshua M Tybur, and Brent D Jordan. "Ovulatory Cycle Effects on Tip Earnings by Lap Dancers: Economic Evidence for Human Estrus?" *Evolution and human behavior* 28.6 (2007): 375–381. Web.	Assign Horse Breeding Mgmt Take Home Message	• Brain Take Home Message Due	10/1 9/35 AM	• Explain the fundamental purpose of sexual behavior. • Define the terms estrous, estrus, and diestrus. • Illustrate the use of the estrous cycle in timed artificial insemination programs. • Interpret physical signs of estrous behaviors in natural mating. • Explain why aggression is an integral part of male mating behavior. • Describe the different types of consent.
	H 10/3	Horse Unit Visit #1		• Demonstrate stallion collections. • Introduce semen analysis techniques.			• Identify estrus behaviors in live animals. • Explain timed artificial insemination programs. • Illustrate the breeding process of artificial insemination. • Introduction to Ultrasonography for Breeding Decisions

Module 7							
Week #	**Date**	**Topic(s)**	**Readings**	**Activities**	**Assignments**		**Learning Objectives**
					What's Due	**Due Date**	
8	T 10/8	Reproductive Biotechnologies: Its Role in Our Society	Gilbert, G, et al. 2005. Bioethics and the New Embryology. Sinauer Associates, Sunderland, MA. **Chapter 4: Assisted Reproductive Technologies: Safety and Ethical Issues**	Prepare for your mid-term exam.			• Identify the available reproductive technologies available in animals and humans. • Explain the benefits of reproductive biotechnology on the world around us.
	H 10/10	Mid-Term Exam – Material from First Half of Semester					
9	T 10/15	• Principles of Ultrasonography		• Discuss the building of practice ultrasound molds.			• Explain the theoretical principles of how ultrasound technology works. • Define the scientific terminology used in ultrasonography. • Build practice ultrasound gel models that can be used to learn ultrasound techniques in the lab.
	H 10/17	• Horse Unit Visit #2		Wet Lab: Image analysis using ultrasound technology.	• Assign Augmented Reality – Semen Densimeter Tutorial		• Discuss mare breeding management on the farm. • Investigate the applications of ultrasound technology in reproductive management. • Is she pregnant? • Demonstrate and practice the use of ultrasound to detect novel objects in homemade practice gelatins.
10	T 10/22	• Principles of Semen Analysis in Reproduction			Due Augmented Reality – Semen Densimeter Tutorial Due Horse Breeding Mgmt Take Home Message	10/22 9:35 am	• Objectives intentionally left blank.
	H 10/24	• Gamete Cryopreservation		Wet Lab: • Groups will participate in freezing sperm cells. • Practice using a semen densimeter to determine sperm cell concentration			• Outline and demonstrate the steps required to cryogenically preserve sperm cells. • Practice using technology of sperm cell cryopreservation in livestock. • Outline the mathematical steps in determining breeding doses of animals. • Practice using mathematical functions to determine sperm concentrations and breeding doses.

Module 8							
Week #	**Date**	**Topic(s)**	**Readings**	**Activities**	**Assignments**		**Learning Objectives**
					What's Due	**Due Date**	
11	T 10/29	Collaborative Project Workday					
	H 10/31	Contraception	Gorvett, Zaria. "The Weird Reasons There Still Isn't a Male Contraceptive Pill." *BBC Future*, 18 May 2023, www.bbc.com/future/article/20230216-the-weird-reasons-male-birth-control-pills-are-scorned . Read article.	• Group Adverts Activity	Assign Placentation Take Home Message	9/12 9:35 am	• Identify the various types of birth control available to humans. • Describe the 3 basic ways contraceptives work? • Explain how birth control can be used to aid animal breeding management for timed artificial insemination programs (TAI's) and population control. • Examine the availability of birth control on socioeconomic status. • Distinguish the differences between female and male birth controls
Module 9							
Week #	**Date**	**Topic(s)**	**Readings**	**Activities**	**Assignments**		**Learning Objectives**
					What's Due	**Due Date**	
12	T 11/5	Early Embryological Development		How do pregnancy tests work?			• List the primary stages of early embryological development. • Describe the embryonic structures used to classify and grade embryos. • Describe the 2 cell types that differentiate into embryo proper and placenta. • Illustrate the cell division process in early embryonic development that results in highly specialized cell types.
	H 11/7	Placentation and fetal development.		• Dissection of Pregnant Cow Tracts			• Define the term placenta and placentation. • Describe the 4 scientific characteristics used to classify placental function between species. • List the 4 placental functions required for maternal-fetal connections. • Dissect and examine bovine fetal membranes.

Module 10							
Week #	**Date**	**Topic(s)**	**Readings**	**Activities**	**Assignments**		**Learning Objectives**
					What's Due	**Due Date**	
13	T 11/12	Visit the ICBR	Jones, Richard E. and Kristin H. Lopez. 2014. Human Reproductive Biology. 4th ed. Elsevier, San Diego, CA. Chapter 14: Induced Abortion	Tour the high-tech biotechnology center at UF – Flow cytometry, fluorescent and scanning microscopy, proteomics.	DUE Early Embryology Take Home Message	11/12 9:35AM	• Observe the operation of the biotechnologies discussed in class. • Examine fluorescently stained sperm cells prepared in cryopreservation wet lab. • Discover potential employment pathways in the biotechnology sector.
	H 11/14	To Be Announced			Collaborative Capstone Projects Due by end of class 11/14.		
14	T 11/19	Group Presentations					• Present capstone project to the mock panel.

Presentations							
Week #	**Date**	**Topic(s)**	**Readings**	**Activities**	**Assignments**		**Learning Objectives**
					What's Due	**Due Date**	
15	H 11/21	Group Presentations				11/21 9:35 AM	
	11/25-11/29	**Thanksgiving Holiday**					
	T 12/3	Class Wrap Up		• Discuss Final Exam	• Self Reflection 2		
	H 12/5	**NO CLASS – READING DAYS**					
17	F 12/13	**FINAL EXAM DATE – FRIDAY, 12/13 | 10:00 AM – 12:00 PM**					

Writing Assignment Rubric Criteria

It is my intention to help you develop a clear, concise writing style that reflects professional research or business communication. All writing assignments will follow the MLA (8th edition) style with proper paraphrasing and citation. You will be coached through the writing assignments to help you become a more effective writer. I will evaluate and provide feedback on all writing assignments with respect to grammar, punctuation, clarity, and citations at your request.

Writing assignments will be graded using some or all of the following grading requirements.

	Multiplier	*4 points Accomplished*	*3 points Effective*	*2 points Adequate*	*1 points Inadequate*	*0 points Do Not Meet Expectation*
Concise Writing Style Where Used: Self Reflections, Capstone Project	Yes	Accomplished Includes all Effective writing elements + Writing flows smoothly from 1 idea to another and integrates all necessary components to create a compelling work that is logical, clear, cohesive, and focused. The writer has taken pains to assist the reader in following the logic of the ideas expressed.	Effective Sentences are structured and words are chosen to communicate ideas clearly and integrates all necessary components to create a logical, clear, and cohesive flow of ideas. Sequencing of ideas within paragraphs and transitions between paragraphs make the writer's points easy to follow.	Adequate Needs to improve sequencing of ideas within paragraphs and transitions between paragraphs to make writing easier to follow. The paper may include all necessary components, but they are not fully developed or presented logically, diminishing clarity and cohesion of some ideas.	Inadequate Lack of transitions and/or sequencing of ideas make reading and understanding difficult. Ideas are not presented separately, lack a logical flow, are sometimes ambiguous or non-specific.	No submission
Critical Thinking and Insight Where Used: Self Reflections, Capstone Project	Yes	Conclusions are insightful or provide a unique viewpoint. Evidence provides rationale for the conclusion and is comprehensive-covers diverse viewpoints, and includes a powerful evaluation of context, perspectives of self and sources, and limitations.	Conclusions are logical and address all important ideas. Evidence provides rationale for the conclusion, covers multiple viewpoints, and includes an adequate evaluation of context, perspectives of self and sources, and limitations.	Near Target. Conclusions are logical and address the most important ideas. Lacks incorporation of a key perspective or adequate evaluation thereof.	Conclusions may be logical but not necessarily focused on primary ideas. Lacks incorporation of some key perspectives or adequate evaluation thereof.	*No submission*

Writing Mechanics Where Used: Self Reflections, Capstone Project	Yes	Paper is free of grammatical and punctuation errors. Writing is free or has limited use of run on sentences. All sentences are well constructed and easily followed. The choice and placement of words seems accurate, natural, and not forced.	There are 1 - 4 grammatical, punctuation, and spelling errors. Writing demonstrates regular use of run on sentences that appear to influence the understanding of the paper but do not distract the reader from understanding the overall purpose of the paper. The choice and placement of words is inaccurate at times and/or seems overdone.	There are 5-10 grammatical, spelling, and/or run on sentence errors noted throughout the paper. Mechanical errors distract the reader and interferes with the understanding of the papers purpose. The author uses words that communicate clearly but the writing lacks variety. The writer uses contractions in the writing that are not appropriate for research writing.	There are more than 10 grammatical, spelling, and/or run on sentence errors noted throughout the paper. Sentences sound awkward, are distractingly repetitive, or are difficult to understand. The writer uses a limited vocabulary, jargon, clichés, or contractions that are not appropriate for research writing.	*No submission*
Thesis Statement Where Used: Capstone Project	Yes	Formulates a clear and precise point of viewpoint and develops fresh insight that challenges the readers thinking. Thesis is clear to the reader and closely matches the writing topic.	Formulates a clear and precise point of view with an original and clear statement that matches the writing topic. Thesis is vague and may not help the reader understand the point of view.	Formulates an indecisive point of view that is somewhat vague to the reader and is only loosely related to the writing topic.	Fails to formulate and clearly express a point of view. The thesis statement has no relation to the writing topic.	No submission
Paraphrasing and In Paragraph Citations Where Used: Capstone Project	Yes	Paraphrasing from original manuscripts appear original to the author in all instances with correct in paragraph citation.	Limited instances where writing appears to attempt original paraphrasing in the author's own words but shows instances where plagiarism was unintended. All original sources have correct in paragraph citations.	Limited instances where writing appears to attempt original paraphrasing in the author's own words but shows instances where plagiarism was unintended. 2 or more sources have incorrect in paragraph citations.	Numerous instances where paraphrasing shows unoriginal or plagiarized work. Instances where in paragraph citations are missing in the document.	Clear evidence of plagiarism of original manuscripts.

Works Cited Page Where Used: Capstone Project	Yes	All cited articles are listed and formatted correctly.		1-4 cited articles appear incorrectly.		5 or more articles appear incorrectly.
Report Style and Formatting (Word count, title page, headers, page numbers, margins, font, font size, line spacing, project proposal inclusion, etc.) Where Used: Self Reflections, Capstone Project	Yes	Final manuscript has all the required components listed in the assignment directions, follows MLA style, and meets the minimum word count.	Final manuscript has 1 formatting error, follows MLA style, and meets minimum word count.	Final manuscript follows MLA style but has numerous formatting errors or does not meet minimum word count.	Final manuscript does not follow MLA style, has numerous formatting errors. May or may not meet minimum word count.	No submission
Collaborative Group Participation Where Used: Capstone Project	Yes	Met all group deadlines, attended all group meetings, and was highly engaged with project design, research, and writing of the final document. Demonstrates a positive collaborative effort to work with others, responds with original insights, and engages with collaborative leadership.	Missed 1 group deadline or meeting but was highly engaged with the project design, research, and writing of the final collaborative document. Demonstrates a positive collaborative effort to work with others, responds with pertinent insights and contributes to the conversation.	Missed 2 or more group deadlines or meetings. Seems unaware or uninterested in responding to the collaborative nature of the project. May dominate conservation or denigrate others' point of view. Shows a moderate effort to help with project design and research. Contributes little to the writing and submission of the final document.	Missed 2 or more group deadlines or meetings. Offers inadequate responses or new ideas to the collaborative nature of the project. Shows no effort in participating in project design, research, and writing of the final document.	Absent from all group participation functions. No manuscript submission.
Peer Project Participation Evaluation Completed Where Used: Capstone Project	No	Complete				Not submitted

Literature Reviewed Articles Where Used: Capstone Project	Yes		3 peer reviewed research articles were used as part of the final document.	2 peer reviewed research articles were used as part of the final document	1 peer reviewed research article was used in the final document.	
Capstone Project met all self-imposed deadlines Where Used: Capstone Project	No	Met all due dates as listed in the groups project proposal.		Project segments were submitted late on more than 1 occasion.		Project segments were late throughout the project
On Time Points Where Used: Self Reflections, Capstone Project	No	On Time				Late

IV. Student Learning Outcomes

At the end of this course, students will be expected to have achieved the Quest and General Education learning outcomes as follows:

- **Content**: *Students demonstrate competence in terminology, concepts, theories, and methodologies used within the discipline(s).*
    - Identify, describe, and explain the basic concepts, applications, and terminology of reproductive physiology to illustrate how the intrinsic reproductive system is affected by the interrelationship of hormones, cyclicity, and the environment (Quest 2, B). **Assessments:** Homework assignments, level up quizzes, and exams.
    - Discuss and demonstrate important biotechnology techniques; and evaluate how rapid advancements in assisted reproductive technologies affects social constructs and policies in a modern world (Quest 2, B). **Assessments:** Homework assignments, level up quizzes, and exams.
    - Connect experiential learning activities using comparative physiology, biotechnologies, and applied breeding management to reinforce what science tells us about sustainable food animal systems, assisted reproductive techniques, and the human condition (Quest 2, B). **Assessments:** Homework assignments, level up quizzes, and exams.
- **Critical Thinking**: Students carefully and logically analyze information from multiple perspectives and develop reasoned solutions to problems within the discipline(s).
    - Critically evaluate and examine the methods used to improve husbandry methods in animals, how exogenous hormones influence cyclicity and mating success, and how timed artificial insemination programs improve reproductive efficiency in sub fertile populations. **Assessments:** Homework assignments, level up quizzes, exams, self-reflections, and final paper.
    - Critically analyze pressing reproductive issues and viewpoints facing modern society and draw reasonable conclusions on how social constructs challenge what the science tells us about the impacts reproduction has on the world around us (Quest 2, B). **Assessments:** Homework assignments, level up quizzes, exams, self-reflections, and final paper.
    - Hypothesize and evaluate solutions to important reproductive scenarios important to our society and draw conclusions on the ethics and social implications of the technologies required to support such theories (Quest 2, B)
      Assessments: Self-reflections, presentation, final paper.
- **Communication**: Students communicate knowledge, ideas, and reason clearly and effectively in oral and written forms appropriate to the discipline(s).
    - Develop a clear, concise collaborative literature reviewed research article on a debatable topic of reproductive significance. Students will analyze the scientific, socioeconomic, social, and ethical arguments to help guide a mock scientific ethics and policy panel at *the* Swampy University on practices in animal agriculture and public health **(Quest 2, B)**.
      Assessments: Project Proposal and Final Paper

- Present a collaborative presentation to a mock research panel for further classroom discussion and self-reflection **(Quest 2, S).**
  Assessments: Presentation and Debate

- **Connection**: *Students connect course content with meaningful critical reflection on their intellectual, personal, and professional development at UF and beyond.*
  - Identify what modern reproductive issues, ethics, and policies are important to you. Then, reflect on what science tells you about these issues to make an informed analysis of your views that may or may not be consistent with modern social constructs. **(Quest 2)**. **Assessments:** Self Reflections, Presentation and Debate

V. Quest Learning Experiences

1. Details of Experiential Learning Component

- **Visit to UF Horse Teaching Unit.** The Horse Teaching Unit provides animal science students experiential learning experiences in reproduction, nutrition, animal behavior, and farm management. As an active equine enterprise and educational facility, the unit integrates the scientific curriculum with a practical skills environment. We will visit the horse unit once during the semester to discuss and demonstrate applied breeding management and some ART techniques. Our time at the unit will allow students to observe stallion semen collection, mare artificial insemination, embryo transfer techniques, and application of ultrasound in live animals.

- **Visit to Interdisciplinary Center for Biomedical Research.** The ICBR is a collaborative support unit that hosts 7 interdisciplinary biotechnology cores that are designed to enhance researchers' ability to access state of the art equipment. During the field trip, students will visit 3 cores that relate to our course discussions to see biotechnology in action. Students will have the opportunity to interact with center scientists to help them understand what career opportunities exist in the biotechnology field.

- **Wet lab experiential learning.** This course integrates various hands-on learning wet lab activities to help students connect the science to actual application. This will help reinforce scientific knowledge and better help students to understand their own points of view on reproductive technologies. Exercises include tissue dissections, IVF fertilization, ultrasound techniques, semen cryopreservation, and computer assisted semen analysis techniques.

2. Details of Self-Reflection Component

- You will be completing 2 self-reflections this semester. As mentioned in the course description, we will be exploring the science as well as the bioethics of modern reproductive technologies. We will discuss relevant scientific knowledge that allows you to better explore and understand your own viewpoints and any potential bioethics that may go with it. The first self-reflection is meant to get you thinking about your current thoughts related to reproduction and the second will ask you to reevaluate those thoughts after studying the subject matter.

VI. Required Policies

Attendance Policy

Requirements for class attendance and make-up exams, assignments, and other work in this course are consistent with university policies that can be found at:

https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx

The amount of information presented in this course is diverse and expansive. If you regularly attend class, turn in assignments, and interact with me and your classmates, you will do well in this course.

There are no makeup opportunities for the hands-on experiential learning activities in this course. You will be provided the Take Home Message materials as an alternative assignment to ensure you get the required information.

Working with Livestock

Working with livestock will require students to adhere to handling practices provided by the instructor either in written or verbal format. Animals are capable of injuring people, especially when they are in the flight or fight mode inspired by a stressful situation. The instructors will work to provide students with the ability to manage livestock with minimal stress, thus lowering the risk of injury to people and animals.

Biosafety and Security

The biosafety and biosecurity of animals and students is a top priority for laboratory activities. Disease transmission can have severe negative consequences on animal and human health that can also be fiscally taxing. The use of cell phones or cameras at animal facilities is not permitted without receiving written permission. Instructors and TA's may dismiss students from class for violation of biosecurity procedures.

Students Requiring Accommodation

Students with disabilities who experience learning barriers and would like to request academic accommodations should connect with the disability Resource Center by visiting https://disability.ufl.edu/students/get-started/. It is important for students to share their accommodation letter with their instructor and discuss their access needs, as early as possible in the semester.

UF Evaluations Process

Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals. Guidance on how to give feedback in a professional and respectful manner is available at https://gatorevals.aa.ufl.edu/students/. Students will be notified when the evaluation period opens, and can complete evaluations through the email they receive from GatorEvals, in their Canvas course menu under GatorEvals, or via https://ufl.bluera.com/ufl/. Summaries of course evaluation results are available to students at https://gatorevals.aa.ufl.edu/public-results/.

University Honesty Policy

UF students are bound by The Honor Pledge which states, “We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code. On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: “On my honor, I have neither given nor received unauthorized aid in doing this assignment.” The Honor Code (https://www.dso.ufl.edu/sccr/process/student-conduct-honor-code/) specifies a number of behaviors that are in violation of this code and the possible sanctions. Furthermore, you are obligated to report any condition that facilitates academic misconduct to appropriate personnel. If you have any questions or concerns, please consult with the instructor or TAs in this class.

Counseling and Wellness Center

Contact information for the Counseling and Wellness Center: http://www.counseling.ufl.edu , 392-1575; and the University Police Department: 392-1111 or 9-1-1 for emergencies.

The Writing Studio

The writing studio is committed to helping University of Florida students meet their academic and professional goals by becoming better writers. Visit the writing studio online at http://writing.ufl.edu/writing-studio/ or in 2215 Turlington Hall for one-on-one consultations and workshops.

In-Class Recordings

Students are allowed to record video or audio of class lectures. However, the purposes for which these recordings may be used are strictly controlled. The only allowable purposes are (1) for personal educational use, (2) in connection with a complaint to the university, or (3) as evidence in, or in preparation for, a criminal or civil proceeding. All other purposes are prohibited. Specifically, students may not publish recorded lectures without the written consent of the instructor.

A “class lecture” is an educational presentation intended to inform or teach enrolled students about a particular subject, including any instructor-led discussions that form part of the presentation, and delivered by any instructor hired or appointed by the University, or by a guest instructor, as part of a University of Florida course. A class lecture does not include lab sessions, student presentations, clinical presentations such as patient history, academic exercises involving solely student participation, assessments (quizzes, tests, exams), field trips, private conversations between students in the class or between a student and the faculty or lecturer during a class session.

Publication without permission of the instructor is prohibited. To “publish” means to share, transmit, circulate, distribute, or provide access to a recording, regardless of format or medium, to another person (or persons), including but not limited to another student within the same class section. Additionally, a recording, or transcript of a recording, is considered published if it is posted on or uploaded to, in whole or in part, any media platform, including but not limited to social media, book, magazine, newspaper, leaflet, or third-party note/tutoring services. A student who publishes a recording without written consent may be subject to a civil cause of action instituted by a person injured by the publication and/or discipline under UF Regulation 4.040 Student Honor Code and Student Conduct Code.

Software Use and Privacy Policies

All faculty, staff and students of the university are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against university policies and rules, disciplinary action will be taken as appropriate.

Software Privacy Policies:

1. Canvas (Instructure) - https://sonicfoundry.com/privacy-policy/
2. Packback - https://www.packback.co/site/privacy/
3. PlayPosit - https://api.playposit.com/privacy/
4. Mediasite - https://sonicfoundry.com/privacy-policy/
5. Zoom - https://zoom.us/privacy
6. Honorlock - https://honorlock.com/student-privacy-statement/
7. You Tube - https://policies.google.com/privacy
8. Meta (Facebook/Instagram) - https://privacycenter.instagram.com/policy/

Books, Journals, and Press for Research and Discussion Topics

1. Barras, Colin. "Do animals know that sex leads to babies?" New Scientist, Oct 20, 2023. Do animals know that sex leads to babies? | New Scientist
2. Belluck, Pam. "The Father of the Abortion Pill." *The New York Times*, 17 Jan. 2023, www.nytimes.com/2023/01/17/health/abortion-pill-inventor.html.
3. Capoot, Ashley. "Reproductive startup launches test to identify an embryo's genetic defects before an IVF pregnancy begins." CNBC, Dec 5, 2023. Startup Orchid launches test to identify genetic defects in IVF embryos (cnbc.com)
4. Chasan, Aliza. "21 species removed from endangered list due to extinction, U. S. wildlife officials say." CBS News, Oct 18, 2023. 21 species removed from endangered list due to extinction, U.S. wildlife officials say - CBS News
5. Dunham, Will. "Scientists solve the genetic puzzle of sex-related Y chromosome. Reuters, Aug 23, 2023. Scientists solve the genetic puzzle of sex-related Y chromosome | Reuters
6. Farah, Troy. "Meet MGen, a new STI going around that no one is talking about." Salon, Jan 9, 2023. Meet MGen, a new STI going around that no one is talking about | Salon.com
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IDS 2935: Reproduction: A User's Manual
Quest 2

I. General Information

Class Meetings

- Fall 2025
- Tuesday 3rd Period (9:35 – 10:25 am); Thursday 3rd & 4th Period (9:35 – 11:30 am)
- ANS 155, Field Trips to various locations

Instructor

Justin Callaham

Animal Sciences, BLDG 459, 211E

Office Hours: W, F 9:00 – 10:30 AM
Before and after class | By Appointment

callaham@ufl.edu • 352-294-6754

Course Description

Reproductive biology lies at the heart of life on Earth, and it plays a pivotal role in some of today's most groundbreaking and debated scientific advancements. From sex selection and gamete cryopreservation to food security and species conservation, this course explores how reproductive technologies are reshaping our world.

We will examine how reproductive systems function, how we can manipulate them, and what that means for the future of food, health, and humanity. Topics include reproductive anatomy and physiology, endocrinology, biotechnology, and ethical considerations surrounding assisted reproductive techniques in both animals and humans.

This is not your average science class. You'll crack open sheep brains to study hormones, evaluate sperm cells under a microscope, apply ultrasonography to improve breeding strategies, and train rams in breeding behavior. You'll dissect reproductive tracts, perform mock vasectomies, and analyze cervical mucus — all while engaging in critical discussions about the societal and ethical implications of reproductive science.

A major component of the course is the Mock Reproductive Ethics and Biotechnology Legislative Committee project. In this semester-long team assignment, students will explore how to write effective legislative policy briefs that communicate complex scientific ideas to governing bodies. Using Delphi surveys and Dedoose analytical software, students will form focus groups to explore reproductive issues that

At A Glance

impact or influence their lives. This experiential learning project emphasizes science communication, policy development, and ethical reasoning—skills essential for future leaders in agriculture, science, and public health.

Expect to get hands-on, think deeply, and maybe get a little uncomfortable—in the best way. This course challenges you to not only understand the science, but to question it:

- How far should the science take us?
- What policies should govern reproductive technologies?
- How does our understanding of reproduction shape our views on controversial issues?

By the end of the course, you'll have a solid foundation in reproductive biology and a sharper lens through which to evaluate the scientific, ethical, and personal dimensions of reproduction in the modern world.

Quest and General Education Credit

- Quest 2
- Biological Sciences

This course accomplishes the Quest and General Education objectives of the subject areas listed below. A minimum grade of C is required for Quest and General Education credit. Courses intended to satisfy Quest and General Education requirements cannot be taken S-U.

Course Goals

1. Present enough science to help students better understand comparative reproductive physiology and the underlying mechanisms that regulate (fe)male reproductive physiology.
2. Examine applied livestock breeding systems and Assisted Reproductive Technologies to help students make an informed analysis of modern issues.
3. Examine modern reproductive techniques using guided experiential learning activities that help students build bench top skills and reinforce what science dictates.
4. Evaluate concepts in reproductive physiology and biotechnology that influence modern policies and social constructs.
5. Develop the ability to design and facilitate focus groups using tools such as Delphi surveys and analytical software to explore reproductive issues and translate scientific findings into clear, persuasive policy briefs.
6. Cultivate positive group environments capable of research collaboration and communication using clear, concise communications.
7. Help students better understand their own reproductive functions and viewpoints by evaluating popular issues in modern society.

Message from the Instructor

If you have never taken a physiology class before, don't worry—you're not alone, and you're absolutely in the right place. I have designed this course to focus less on abstract theory and more on how things work and why they matter in the real world.

Our semester schedule might look like a heavy lift—and in some ways, it is. But think of it as a roadmap, not a rigid itinerary. The real value of this course will come from our open-ended discussions, where we'll explore science through dialogue, curiosity, and shared discovery.

In a world where social media often oversimplifies or distorts science for entertainment, I want to help you build the tools to think critically, communicate clearly, and imagine what's truly possible. I will be with you every step of the way, and together, we will shape this course into something meaningful, flexible, and uniquely ours.

Learning Accessibility

Your success in this class is important to me. We all come from diverse backgrounds and experiences that influence how we learn. Students at all levels learn in very different ways, and together we will develop strategies to meet both your needs and the requirements of the course. This course seeks ways to provide a working and collaborative workspace where you may advocate for your success. Individuals with disabilities of any kind (including learning disabilities, ADHD, depression, health conditions) who require instructional, curricular, or test accommodation are responsible for making such needs known to the instructor as early as possible. Every possible effort will be made to accommodate students in a timely and confidential manner. Individuals who request accommodations must be registered with the Disability Resource Center (https://disability.ufl.edu/).

Sometimes life gets in the way. Students are encouraged to approach Mr. Callaham with any other life circumstances that may affect their participation in the course. These may be personal, health-related, family-related issues, or other concerns. The sooner your instructor knows about these, the earlier we can discuss possible adjustments or alternative arrangements as needed for homework, exams, or class.

I believe in advancing your educational success and professional development through mentorship. I strive to provide an environment that is equitable and conducive to achievement and learning for all students. It is important to me that every student learns to adapt in ways that promote well-adapted professional advancement. I ask that we all be respectful of diverse opinions and of all class members. Your honesty and engagement are important, so please make every effort to engage with me throughout the term.

II. Graded Work

Grading Scale

For information on how UF assigns grade points, visit: https://catalog.ufl.edu/UGRD/academic-regulations/grades-grading-policies/

A	94 – 100%		B	84 – 86%		C	74 – 76%		D	64 – 66%
A-	90 – 93%		B-	80 – 83%		C-	70 – 73%		D-	60 – 63%
B+	87 – 89%		C+	77 – 79%		D+	67 – 69%		E	<60%

Grading Policy

This course is designed to **support your growth as a writer, thinker, and communicator** of science. The grading system **encourages revision, risk-taking, and thoughtful engagement** with complex topics.

Written Assignments

***Grading Scale*:** Each written assignment will be evaluated using a rubric and assigned a grade of **Satisfactory (S)** or **Unsatisfactory (U)**.

***Final Grade Calculation*:** Your final percentage for written assignments will be calculated as: **(Number of Satisfactory submissions ÷ Total number of assignments) × 100**

***Resubmissions*:**

- Writing Assignments submitted **on time** may be **resubmitted one time** for re-evaluation before a final grade is recorded.
- This policy is designed to encourage revision and deeper learning.

***Point Range*:**

- On-time submissions will be scored on a **50–100 point scale**, with **50 points as the minimum** for on-time work.
- **Late or missing assignments** will receive a **zero**.

***Purpose*:** This system is designed to promote progressive writing development and support students in taking academic risks while exploring unfamiliar topics and writing styles.

Exams

***Grading Scale*:** Exams and Capstone Project will be graded on a **0 – 200 point scale**.

***Resubmissions*:** No resubmissions or retakes are allowed for exams.

Late Assignments

Please refer to Canvas for due dates. **Due dates are set to help you stay on pace and allow for timely feedback that will help you complete subsequent assignments.** The expectation is that you submit work or are prepared for class by the assigned deadlines. The course goals and related assignments are designed to scaffold and build on one another to enhance your learning. However, **life happens**, and I am more than happy to work with you. Please communicate with me if you won't be able to get something done in time as a courtesy and as a signal of your professional disposition.

This does not permit a free pass to chronically miss dates and deadlines. This policy is meant to provide flexibility (when possible) in helping you navigate and prioritize important institutional demands. This is not an indicator that all instructors observe dates and deadlines the same way so be informed by each instructor's class policies concerning deadlines.

Responsible Use of AI Technologies

In this course, I encourage the responsible use of AI, including generative AI, as a tool to assist in your assignments. AI can be a valuable resource to enhance your learning and writing experience. However, it is essential that you use AI responsibly and ethically, ensuring that you remain actively engaged in the learning process.

Guidelines for the Appropriate Use of AI

- Supplement, Don't Replace. AI should complement your efforts, not substitute for them. For example, when writing, you should make every effort to write original text first and use AI to help proofread your original text for grammar, spelling, and conciseness. Your final work should reflect your own efforts and understanding.
- Understand the Output. When using AI-generated content, take the time to understand it. Don't blindly accept AI-generated content without critical evaluation. AI content is not a replacement for studying. But it can be a valuable tool when exploring complex topics.
- Maintain Academic Integrity. Plagiarism is unacceptable. If you use AI-generated content, clearly distinguish between it and your original work, and provide proper citations.

Consequences of Unethical Use

Failure to use AI responsibly, including plagiarism or misuse of AI-generated content, will be considered a violation of academic integrity and will result in appropriate disciplinary action. Additionally, I would like to draw your attention to the fact that different classes at the University of Florida could implement different AI policies, and it is the student's responsibility to conform to expectations for each course.

III. Assignment Types and Weighting

	Assignment Type	Description	Total Points	% of Grade
1.	Self-Reflections	These are **medium stakes essays (100-200 words).** Self-reflections provide students the opportunity to analyze and review course content in relation to their own experiences over time.	50/each	10%
2.	Experiential Activities	These assignments are **hands on, low stakes activities**. Experiential learning involves a hands-on activity coupled with a reading and Take Home Message worksheet to help students summarize important concepts.	50/each	20%
3.	Exams	There are **2 high stakes exams** in this course. A **mid-term and final exam** are given in a laboratory practical format that includes short answer, multiple choice, matching, and mastery diagraming.	200/each	30%
4.	Capstone Project	This is a **high stakes collaborative writing assignment** with 3 – 5 group members that work together to prepare a policy brief portfolio on reproductively important social, economic, and/or ethical issues in our modern society. This assignment is designed to guide students through a **collaborative writing process that helps students understand how to communicate science to policy makers.**	Team Contract 100 points Final Policy Brief 200 points Panel Presentation 100 points	30%
5.	Participation	A **low stakes** assignment to encourage daily participation. Grades will not be curved in the course. This assignment serves as an easy +/- booster at the end of term. The amount of information in this course is diverse and expansive. Daily attendance and participation in discussions and activities determines your success in the course.	50/each	10%

IV. Capstone Project

The capstone project involves collaborative self-reflection and debate, requiring you to create an informed positional hypothesis on a socially significant reproductive topic. This hypothesis will analyze topics that influence societal viewpoints like policymaking, cultural norms, ethics, socioeconomic status, conservation efforts, food security, and public health. Students will examine the interplay between personal beliefs and the larger societal and institutional structures that shape perceptions and regulations of reproductive technologies.

The project is a semester-long collaborative exploration. This project challenges you to critically examine the intersection of science, ethics, policy, and society in ways that help communicate, inform, and influence decision-makers. This collaborative project spans the entire term, resulting in a final printed policy brief and panel presentation. **Think of this project like a Netflix series – we're watching it together and episode by episode, not all in one night!**

Project Goals

- Develop an informed, evidence-based position on a reproductive topic with societal impact.
- Explore how personal beliefs intersect with cultural norms, policy, ethics, and public health.
- Learn how to communicate complex scientific ideas to non-scientific audiences, including policymakers.

Project Prompt

You are a member of a university policy advisory committee that communicates complex science to the non-partisan Reproductive Ethics and Biotechnology Legislation (REBL) committee for the country 'Gator Nation'. Your task is to research, evaluate, and present factual findings to the REBL committee. You must provide a collaboratively written policy brief and a PowerPoint presentation to guide the country's policymaking efforts in an approved topic of choice.

Project Components

1. **Topic Selection & Team Formation**
    - Students will form teams of at least three based on shared interests.
    - Each team will select a reproductive issue that intersects with areas such as ethics, policy, conservation, food security, public health, etc.
    - Utilize Microsoft Copilot Agent to help team formulate ideas into legislative questions.
    - Utilize Microsoft Teams to create a collaborative workspace between team and instructor.
2. **Team Contract**
    - Clearly define each member's role (e.g., project manager, lead writer, data analyst, presentation coordinator).
    - Outline specific responsibilities for each role.
    - Include expectations for communication, meeting attendance, and task completion.
    - Include a plan for checking in regularly (e.g. weekly meetings or progress reports).

- Break down key tasks and assign internal deadlines for drafts, survey development, data analysis, and writing.
- Describe how your team will handle missed deadlines, unequal participation, or disagreements.
- Contracts will be signed and submitted to the instructor and may be revisited mid-semester for revisions.

3. **Focus Group Development**
   - Teams will design and implement a **Delphi survey** to gather diverse perspectives.
   - Using **Dedoose software**, students will analyze both qualitative and quantitative data to identify trends and insights.
4. **Research, Reflection, & Project Proposal**
   - Teams will conduct a literature review and analyze peer-reviewed research.
   - Students will reflect individually and collaboratively on how their topic is shaped by societal and institutional forces.
5. **Policy Brief Creation**
   - Each team member will contribute 1 literature reviewed section of the policy brief (minimum 750 words)
   - Based on their findings, teams will write a **policy brief** aimed at legislative aides and lawmakers.
   - Briefs must include:
     - Statistical analysis from Delphi survey results
     - Peer-reviewed research
     - Popular press connections to current societal trends
     - Clear, concise, and grammatically correct writing with proper citations
6. **Presentation & Panel**
   - Presentation time 15 – 20 minutes.
   - Each team will present their findings and recommendations to a mock panel: the **Reproductive Ethics and Biotechnology Legislative (REBL) Committee.** (your classmates).
   - Presentations should be professional, persuasive, and grounded in evidence.
   - Engage audience by explaining the significance of the data and visuals presented.
   - Explain a clear, concise policy argument to the REBL panel.
   - Significance of Topic:
     - Impact on society
     - Socioeconomic factors
     - Affected demographics
     - Advantages and disadvantages
   - Technical Aspects:
     - Explanation of how it works
     - Methods and Procedures: Types of procedures (e.g., chemical vs. physical, lab-grown vs. in vivo)
     - Factors Affecting Success or other influential factors.

Student Responsibilities

- Participate in your team's Delphi survey and those of other teams.
- Contribute to all phases of the project: team contract, research, writing, analysis, and presentation.
- Demonstrate critical thinking, collaboration, and effective science communication.
- Participate in Peer Review Feedback Fruits

Evaluation Criteria

- Quality and clarity of the Delphi survey
- Effective use of Dedoose for data analysis
- Depth and relevance of peer-reviewed research
- Integration of popular press to contextualize societal trends
- Participation and collaboration in group work
- Quality of writing: clarity, grammar, citations
- Effectiveness and professionalism of the final presentation

Key Milestone Target Dates

- August 28 – Team Formation
- September 9 – Topic Selection and Project Self Reflection
- September 30 – Delphi Survey Design and Ready to go to classmates.
- October 16 – Delphi Survey class responses.
- October 30 – Literature Reviews and data analysis complete.
- November 9 – Final Policy Paper Due
- November 18 & 20 – Presentation and Panel Discussions

V. Annotated Weekly Schedule

Schedule and topics are subject to change.

Week #	Date	Topic(s)	Readings	Activities	Assignments		Learning Objectives
					What's Due	Due Date	
1	H 8/21	Course Introduction and Expectations History of Reproduction	Syllabus Gilbert, G, et al. 2005. Bioethics and the New Embryology. Sinauer Associates, Sunderland, MA. **Read: Chapter 2: Philosophical, Theological, and Scientific Arguments (Pages 32-45)**	Ice Breaker Activity	Self-Reflection #1 Biography Short and Work Habit Inventory	8/26 11:59 pm	• Recognize important course requirements and deadlines. • Examine and assess initial perspectives of basic reproductive functions and self-reflections of one's own viewpoints. Summarize the influence of historical ideologies on modern reproductive perspectives and practices.
2	T 8/26	Existential Issues in the World of Reproduction		Legislate with Licorice, Debate with Dots: The Great Candy Sort Begins Topic Dating and Pacts of Progress	Candy Coding Worksheet	8/26 by end of class	• Establish working teams. • Discuss requirements of the capstone project. • Examine Policymaker Communication Strategies.
	H 8/28	Fertilization 15-minute Brief: Communicating in Policy Making	Gilbert, G, et al. 2005. Bioethics and the New Embryology. Sinauer Associates, Sunderland, MA. **Chapter 3: Fertilization and Assisted Reproduction**	Wet Lab: In Vitro Fertilization of Sea Urchins Pacts of Progress	Take Home Message: Cracking the Code of Spiky Beginnings: What Sea Urchins Taught Me About Life Pacts of Progress	9/2 11:59 pm 8/28 By End of Class	• Describe the 4 major events that must occur for fertilization to occur. • List the 8 critical events of fertilization. • Explain 3 reasons sperm fail to fertilize an egg. • Explain the significance of haploid vs diploid gametes. • Define the acronym IVF. • Explain common factors that result in (fe)male infertility. • Discuss how IVF can aid mammals and humans to address fertilization failures. • Define the role of ART in species preservation. • Identify the early stages of embryological development.
3	T 9/2	Female Reproductive Anatomy & Physiology	Handout: Summary of Female Reproductive Anatomy and Physiology. (See Canvas)	Finalize Focus Group Topics	Focus Group Topic Proposals	9/2 By end of class	• Recognize important female reproductive tissues. • Describe the roles of female reproductive organs in fertilization and embryogenesis.

	H 9/4	Female Reproductive Anatomy & Physiology 15-minute Brief Describing the Problem		Deep Dive: Let's discover the female reproductive system from the inside out! From Sample to Swim Off: Testing His Moves in the Mucous Maze. Bots, Bills, and Brainstorms	Take Home Message Copilot summary upload in Canvas	9/9 By end of class 9/4 By end of class	• Identify specific female structures and the influences of chemical hormones on reproductive tissues and cyclicity. • Explain the roles of ovarian structures and their roles in the process of ovulation. • Identify female reproductive organs using dissection of preserved tissues. • Generalize female reproductive differences among different species. • Summarize important endocrine structures of the female reproductive tract.
4	T 9/9	Male Reproductive Anatomy & Physiology	Handout: Summary of Male Reproductive Anatomy and Physiology Gorvett, Zaria. "The Weird Reasons There Still Isn't a Male Contraceptive Pill." *BBC Future*, 18 May 2023, www.bbc.com/future/article/20230216-the-weird-reasons-male-birth-control-pills-are-scorned .	Where the Vas gets the pass – no more swimmers in the pool! Mock vasectomies.			• Describe the anatomical structures involved in a vasectomy and explain how the procedure interrupts the pathway of sperm. • Demonstrate the steps of a vasectomy procedure using anatomical models or simulation tools, with attention to surgical technique, sterilization, and safety. • Evaluate the advantages and limitations of vasectomy as a long-term method of male contraception, including effectiveness, reversibility, cost, and recovery. • Compare vasectomy to other male and female contraceptive options in terms of invasiveness, permanence, and impact on fertility and hormone levels.
	H 9/11	Male Reproductive Anatomy & Physiology Ewe Better Believe It: Guiding Nervous Rams to Collection Confidence 15-minute Brief: Introduction to Communicating in Policy Making	Breeding Soundness Examination Handout	Not Just a Pretty Pair: Evaluating the Goods Before the Game.			• Recognize important male reproductive tissues. • Identify specific male structures and the influences of chemical hormones on reproductive tissues. Explain why spermatogenesis creates challenges in male contraception. • Summarize important endocrine structures of the male reproductive tract. Explain all major components of the male reproductive system. • Generalize male reproductive differences among species.

5	T 9/16	**Guest Speaker** Dr. Ricky Telg Communicating Science with Policymakers	Handout: Recommended Practices for Science Communication with Policymakers IDRC-CRDI: How to write a policy brief! https://idrc-crdi.ca/en/funding/resources-idrc-grantees/how-write-policy-brief	Flush out final topic ideas.	Communication Points and Message boxes	9/18 By end of class	• **Identify the key components of an effective policy brief** and explain how these elements contribute to clear, evidence-based communication with policymakers. • **Translate complex scientific findings into accessible, plain-language summaries** that maintain accuracy while engaging a non-specialist policy audience. • **Develop a concise, focused policy brief** that clearly connects research evidence to actionable policy recommendations on a specific issue.
	H 9/18	Male Reproductive Anatomy and Physiology 15-minute Brief: Evaluation: Analyze and Advise		Pumped and Primed: It's All About the Contractions Constructing Delphi Surveys	Take Home Message	9/25 By class time	• Evaluate the steps involved in the ejaculatory reflex. • Discuss how interruption of the ejaculatory process leads to infertility. • Dissect tissues to connect the science.
6	T 9/23	From Fleece to Frisky: A Peek into Reproductive Control Central	Handout: Basics of Brain Anatomy	Dissect preserved sheep brains.	Interactive Learning Assignment on the Brain	9/23 By class time	• Identify the major brain structures associated with reproductive endocrinology. • List the important reproductive hormones that control cyclicity.
	H 9/25	Deep Dive into Reproductive Cyclicity. 15-minute Brief Legislative History: Know the Record		From Ram to Reservoir. Ram Collection		9/25 By end of class	• Illustrate the roles of brain hormones on reproductive cyclicity and control. • Compare the 2 cyclic patterns that separate mammals and humans. • Identify what is meant by positive and negative feedback in endocrinology. • Examine the influence of reproductive hormones on +/- feedback. • Identify methods in which cyclic patterns can be manipulated for timed artificial insemination (TAI). • Demonstrate the use of ruminant artificial vaginas in ruminants. • Explain what makes the ejaculatory reflex in ruminants unique.
7	T 9/30	**From Tail Raise to Tinder: Exploring Estrus and Attraction Across Species** *Compare cross-species courtship cues and learn how biology backs the chemistry.*	Miller, Geoffrey, Joshua M Tybur, and Brent D Jordan. "Ovulatory Cycle Effects on Tip Earnings by Lap Dancers: Economic Evidence for Human Estrus?" *Evolution and human behavior* 28.6 (2007): 375–381. Web.	Finalize Delphi Surveys. Make surveys live to the class.	Public Facing Delphi Surveys	9/30 By end of class	• Identify estrus behaviors in live animals. • Explain timed artificial insemination programs. • Illustrate the breeding process of artificial insemination. • Evaluate how exogenous aid breeding management of timed artificial insemination.

	H 10/2	**From Tail Raise to Tinder: Exploring Estrus and Attraction Across Species** *Compare cross-species courtship cues and learn how biology backs the chemistry.* (Off- Campus class at the Horse Teaching Unit – Gainesville 1934 SW 63rd Ave Gainesville, FL 32608	Handout: Horse Assisted Reproductive Techniques	First Timers: Stallion Collection Training	Take Home Message	10/7 By end of class	• Explain the fundamental purpose of sexual behavior. • Define the terms estrous, estrus, and diestrus. • Illustrate the use of the estrous cycle in timed artificial insemination programs. • Interpret physical signs of estrous behaviors in natural mating. • Explain why aggression is an integral part of male mating behavior.
8	T 10/7	**Reproductive Biotechnologies**: Its Role in Our Society	Gilbert, G, et al. 2005. Bioethics and the New Embryology. Sinauer Associates, Sunderland, MA. **Chapter 4: Assisted Reproductive Technologies: Safety and Ethical Issues**		Augmented Reality – Semen Densimeter Assignment	10/7 11:59 pm	• Identify the available reproductive technologies available in animals and humans. • Explain the benefits of reproductive biotechnology on the world around us.
	H 10/9	**Mid Term Exam**					
9	T 10/14	Detectives in a Dish: ELISA's Role in Catching Culprits from Cows to COVID		When your hormones spill the tea…and it's hCG!	Self-Reflection: Human Pregnancy Case Study	10/21 11:59 pm	• Explain the versatility of ELISA tests. • Identify the 4 types of ELISA tests. • Explore how the cartridge test that you buy in the store works. • Explain why ELISA tests are highly accurate for field testing. • Evaluate the advantages and disadvantages of ELISA tests.
	H 10/16	**Swimmers Revealed: A Microscopic look at the main event.** *You've seen the stallion's swagger – now meet the sperm behind the strut.* 15-minute Brief: Brief, Opinion, Resolution: Inform Policy Makers	Handout: Semen Evaluation and Preservation Handout	Learn to collect semen from stallions. Evaluate semen in the field.	Take Home Message	10/16 By end of class	• Identify behavioral characteristics need for stallion semen collection. • Demonstrate artificial vagina construction methodology. • Practice collecting stallions to recover ejaculates for analysis and breeding. • Discuss the principles for field evaluation of sperm cells for artificial insemination. • Explore the role technology plays in semen processing and genetic diversification.
10	T 10/21	**Gel Yeah! Learning to See with Sound –** *From squish to scan, master the basics of ultrasound—one gooey blob at a time.*		Wet Lab: Image analysis using ultrasound technology.		10/21 By beginning of class	• Discuss mare breeding management on the farm. • Investigate the applications of ultrasound technology in reproductive management. • Is she pregnant? • Demonstrate and practice the use of ultrasound to detect novel objects in homemade practice gelatins.

	H 10/23	**The Rearview Monitor: Ultrasound Like a Pro in the Mare's Drive to Ovulation.** *Learn to read the screen and feel the scene for precision breeding.*		Palpation and Ultrasonography in animals. Dedoose Setup and Coding Tutorial	Bring your homemade ultrasound gelatin molds. It is important they come to class for use in the class exercise.		• Explain the theoretical principles of how ultrasound technology works. • Define the scientific terminology used in ultrasonography. • Build practice ultrasound gel models that can be used to learn ultrasound techniques in the lab.
11	T 10/28	**Guest Speaker** Jacob Scott Science Mono- and Polydactyly: How livestock bridge the gap to improve human existence.	Gilbert, G, et al. 2005. Bioethics and the New Embryology. Sinauer Associates, Sunderland, MA. **Unit 5: Should We Use Stem Cells to Repair the Body?**		Self-Reflection: Genes and Beyond: Reflecting on the Power of Genetic Insight	10/30 11:59 pm	
	H 10/30	Ice, Ice Baby-Makers Gamete Cryopreservation	Gilbert, G, et al. 2005. Bioethics and the New Embryology. Sinauer Associates, Sunderland, MA. **Chapter 5: The Genetics of Sex Determination** **Chapter 6: Arguments For and Against Sex Selection**	Groups will explore techniques used in freezing sperm and embryos. Review Delphi Survey Data			• Outline and demonstrate the steps required to cryogenically preserve sperm cells and oocytes. • Practice using technology of sperm cell cryopreservation in livestock. Practice using mathematical functions to determine sperm concentrations and breeding doses.
12	T 11/4	Contraception	Gorvett, Zaria. "The Weird Reasons There Still Isn't a Male Contraceptive Pill." *BBC Future*, 18 May 2023, www.bbc.com/future/article/20230216-the-weird-reasons-male-birth-control-pills-are-scorned .	Contraceptive Clue Sleuthing	Self-Reflection: Plot Twists and Progress: A status report.		• Identify the various types of birth control available to humans. • Describe the 3 basic ways contraceptives work? • Explain how birth control can be used to aid animal breeding management for timed artificial insemination programs (TAI's) and population control. • Examine the availability of birth control on socioeconomic status. • Distinguish the differences between female and male birth controls

	H 11/6	**Placenta-Palooza: Dive into the Afterbirth Party!** *Grab your gloves and celebrate the layers of life.* 15-minute Brief: Testimony: Witness in a Public Hearing		Dissect pregnant cow tracts to discover organization of fetal membranes and their role in fetal gestation.	Take Home Message	11/13 Beginning of class	• List the primary stages of early embryological development. • Describe the embryonic structures used to classify and grade embryos. • Describe the 2 cell types that differentiate into embryo proper and placenta. • Illustrate the cell division process in early embryonic development that results in highly specialized cell types. • Define the term placenta and placentation. • Describe the 4 scientific characteristics used to classify placental function between species. • List the 4 placental functions required for maternal-fetal connections. • Dissect and examine bovine fetal membranes to explain their significance in fetal development.
13	T 11/11	Veterans Day Holiday					
	H 11/13	ICBR Visit Prepare for Focus Group Presentations		Tour UF's biotechnology center – Flow cytometry, fluorescent and scanning microscopy, proteomics.	Self-Reflection: Behind the Glass: Reflections from the Frontlines of Biotechnology	11/18 By 11:59 pm	• Observe the operation of the biotechnologies discussed in class. • Examine fluorescently stained sperm cells prepared in cryopreservation wet lab. • Discover potential employment pathways in the biotechnology sector.
14	T 11/18	Group Presentations					
	H 11/20	Group Presentations					
15	11/24 – 11/28	Thanksgiving Holiday					
16	T 12/2	Class Wrap Up					
	H 12/4	**NO CLASS - READING DAYS**					
17	F 12/12	**FINAL EXAM DATE - FRIDAY, 12/12 | 10:00 AM - 12:00 PM**					

VI. Assignment Rubrics

Writing Evaluation

It is my intention to help you develop a clear, concise writing style that reflects professional research or business communication. All writing assignments will follow the MLA (8th edition) style with proper paraphrasing and citation. You will be coached through the writing assignments to help you become a more effective writer. I will evaluate and provide feedback on writing assignments with respect to grammar, punctuation, clarity, and citations at your request.

General Writing assignments are Satisfactory/Unsatisfactory graded experiences. General writing assignments are meant to help you understand the final writing expectations for the capstone project.

	Satisfactory		Unsatisfactory	
	4 – Exemplary	3 – Proficient	2 – Developing	1 – Beginning
Concise Writing Style	Writing flows smoothly, is logical, clear, cohesive, and focused. Reader can easily follow the logic.	Clear and logical structure with good transitions and flow.	Some clarity and cohesion; transitions and sequencing need improvement.	Lacks logical flow; transitions are weak or missing.
Critical Thinking and Insights	Insightful conclusions with comprehensive evidence and evaluation of multiple perspectives.	Logical conclusions with adequate evidence and evaluation.	Logical but lacks depth or misses key perspectives.	Limited insight; conclusions not well-supported.
Writing Mechanics	Free of grammar, punctuation, and spelling errors; excellent sentence structure and word choice.	Minor errors (1–4); mostly clear and well-structured.	Noticeable errors (5–10); affects clarity and flow.	Writing is difficult to understand due to pervasive errors.
Positional Hypothesis Formulation (or Thesis Statement)	Clear, precise, and original thesis that challenges the reader.	Clear and relevant thesis that matches the topic.	Vague or loosely related thesis.	Unclear or unrelated thesis.
Paraphrasing and In Paragraph Citations	All paraphrasing is original with correct citations.	Mostly original paraphrasing; all citations correct.	Some paraphrasing issues; 2+ citation errors.	Plagiarized or unoriginal work; missing citations.
Works Cited Page	All sources cited and formatted correctly.	1–4 formatting errors.	5+ formatting errors.	Major formatting issues or missing entries.
Report Style and Formatting	Meets all formatting requirements and word count.	One formatting error; meets word count.	Multiple formatting errors or short on word count.	Major formatting issues; may not meet word count.

Capstone Project Portfolio Evaluation

The capstone project assignment is a POINTS based graded experience. Students will create a project portfolio that will be evaluated on the following criteria. Criteria will use point multipliers based on feedback from student focus groups.

Criteria	4 – Exemplary	3 – Proficient	2 – Developing	1 – Beginning
Quality and Clarity of the Delphi Survey	Survey is exceptionally well-designed, clearly articulated, and methodologically sound; questions are insightful and aligned with research goals.	Survey is well-structured and mostly clear; questions are relevant and support research objectives.	Survey has some clarity or design issues; questions may be vague or only partially aligned with goals.	Survey lacks clarity or coherence; questions are poorly constructed or misaligned with objectives.
Effective Use of Dedoose for Data Analysis	Demonstrates advanced use of Dedoose; coding is thorough, themes are well-developed, and analysis is insightful.	Uses Dedoose effectively; coding is appropriate, and themes are mostly clear.	Basic use of Dedoose; coding is inconsistent or lacks depth in analysis.	Minimal or ineffective use of Dedoose; analysis is superficial or unclear.
Depth and Relevance of Peer-Reviewed Research	Integrates a wide range of high-quality, peer-reviewed sources that are highly relevant and critically analyzed.	Uses several relevant peer-reviewed sources with adequate analysis.	Limited use of peer-reviewed sources; analysis is basic or lacks depth.	Few or no peer-reviewed sources; analysis is minimal or absent.
Integration of Popular Press to Contextualize Societal Trends	Popular press sources are thoughtfully selected and expertly woven into the narrative to highlight societal relevance.	Sources are relevant and generally well-integrated to support context.	Some sources are relevant, but integration is weak or superficial.	Sources are irrelevant or poorly integrated; lacks societal context.
Final Portfolio	All required sections included, well organized, each section is fully developed.	Most required sections are present; one minor element may be missing. Mostly well organized and well developed.	Several required sections are missing or incomplete. Disorganized or inconsistently labeled. Some sections are hard to find. Underdeveloped, vague	Few required sections are present, substantial components are missing. Poorly organized and difficult to follow. Content lacks depth in most sections.
Effectiveness and Professionalism of the Final Presentation	Presentation is polished, engaging, and professional; visuals and delivery enhance understanding.	Presentation is clear and professional; visuals and delivery are effective.	Presentation is somewhat clear but lacks polish or professionalism.	Presentation is unclear, unprofessional, or poorly delivered.

Team Contribution Rubric

Team Contribution, POINTS based graded experience as part of the Capstone Project. Students will perform peer participation feedback 3 to 4 times over the course of the project. Criteria will use point multipliers based on feedback from student focus groups.

Responsibility	4 – Exemplary	3 – Proficient	2 – Developing	1 – Beginning
Active Participation in Team Meetings	Always attends and actively contributes to all meetings; drives discussion and decision-making.	Regularly attends and contributes meaningfully to meetings.	Attends most meetings but contributes inconsistently.	Rarely attends or contributes to meetings.
Timely Completion of Assigned Tasks	Consistently completes tasks ahead of deadlines with high quality.	Completes tasks on time and meets expectations.	Occasionally misses deadlines or submits incomplete work.	Frequently misses deadlines or fails to complete tasks.
Communication and Responsiveness	Communicates clearly and promptly; proactively shares updates and seeks feedback.	Communicates effectively and responds in a timely manner.	Communication is inconsistent or delayed.	Rarely communicates or responds to team members.
Collaboration and Support of Peers	Actively supports and uplifts team members; fosters a positive, inclusive team environment.	Works well with others and contributes to a collaborative atmosphere.	Occasionally collaborates but may be passive or disengaged.	Rarely collaborates; may hinder team dynamics.
Accountability and Ownership	Takes full responsibility for work; seeks solutions and owns outcomes.	Accepts responsibility and follows through on commitments.	Sometimes avoids responsibility or needs reminders.	Avoids responsibility; often shifts blame or makes excuses.
Constructive Feedback and Conflict Resolution	Provides thoughtful, respectful feedback; helps resolve conflicts constructively.	Offers feedback and handles disagreements professionally.	Feedback is minimal or occasionally unconstructive.	Avoids giving feedback or contributes to conflict.
Contribution to Final Deliverables	Makes significant, high-quality contributions to final project components.	Contributes adequately to final deliverables.	Contributions are limited or require revision by others.	Makes minimal or no contribution to final deliverables.

VII. IV. Student Learning Outcomes

At the end of this course, students will be expected to have achieved the Quest and General Education learning outcomes as follows:

- **Content***: Students demonstrate competence in terminology, concepts, theories, and methodologies used within the discipline(s).*
  - Identify, describe, and explain terminology, concepts, and mechanisms that influence reproductive systems across species (Quest 2, B). **Assessments:** Homework assignments, site visits, and exams.
  - Discuss and demonstrate important biotechnology techniques; and evaluate how rapid advancements in assisted reproductive technologies affects social constructs and policies in a modern world (Quest 2, B). **Assessments:** Homework assignments, site visits, self-reflections, and exams.
  - Connect experiential learning activities using comparative physiology, biotechnologies, applied breeding management, and focus groups to reinforce what science tells us about sustainable food animal systems, assisted reproductive techniques, and the human condition (Quest 2, B). **Assessments:** Homework assignments, site visits, experiential learning, self-reflections.
  - Discuss and evaluate the use of focus groups and writing strategies to help communicate science and critical issues to policymakers. **Assessments:** Self reflections and capstone focus group project
- **Critical Thinking**: Students carefully and logically analyze information from multiple perspectives and develop reasoned solutions to problems within the discipline(s).
  - Critically evaluate and examine the methods used to improve husbandry methods in animals, how exogenous hormones influence cyclicity and assisted reproductive strategies, and how timed artificial insemination programs improve reproductive efficiency in sub fertile populations. **Assessments:** Homework assignments, experiential learning, exams, self reflections.
  - Critically analyze pressing reproductive issues and viewpoints facing modern society and draw reasonable conclusions on how social constructs challenge what the science tells us about the impact's reproduction has on the world around us (Quest 2, B). **Assessments:** Self-reflections, Guest Speakers, Site Visits, and Capstone Focus Group Project
  - Evaluate contemporary reproductive issues through multiple lenses to develop informed, evidence-based perspectives. **Assessments:** Self reflections and capstone focus group project, experiential learning
  - Hypothesize and evaluate solutions to important reproductive scenarios important to our society and draw conclusions on the ethics and social implications of the technologies required to support such theories (Quest 2, B) **Assessments:** Self-reflections, experiential learning, capstone focus group project
  - Use and reflect on AI-assisted dialogue to enhance critical thinking and persuasive communication in science policy, with a focus on helping lay

audiences better understand complex scientific issues.
Assessments: Experiential learning and self-reflections

- **Communication**: Students communicate knowledge, ideas, and reason clearly and effectively in oral and written forms appropriate to the discipline(s).
  - Develop a clear, concise collaborative literature reviewed and data centered public policy paper on a debatable topic of reproductive significance. Students will analyze scientific, socioeconomic, social, and ethical arguments to help guide a mock scientific ethics and policy panel on practices in animal agriculture and public health **(Quest 2, B)**.
    Assessments: Capstone focus group project, experiential learning
  - Present a collaborative presentation to a mock legislative committee for topic debate and self-reflection **(Quest 2, S).**
    Assessments: Presentation
- **Connection***: Students connect course content with meaningful critical reflection on their intellectual, personal, and professional development at UF and beyond.*
  - Students will reflect on how reproductive science and biotechnology influence their personal values, beliefs, and career aspirations. They will analyze how societal constructs, cultural norms, and policy frameworks shape both public discourse and individual perspectives on reproductive issues. Through field trips and guest speakers, students will also explore diverse career pathways in science and agriculture, connecting course content to their intellectual and professional development. **(Quest 2)**. **Assessments:** Self reflections, focus groups, and presentations

VIII. V. Quest Learning Experiences

1. Details of Experiential Learning Component

- **Visit to UF Horse Teaching Unit and Sheep Production Facilities.** These farm units provide animal science students with experiential learning experiences in reproduction, nutrition, animal behavior, and farm management. As an active equine enterprise and educational facility, the unit integrates the scientific curriculum with a practical skills environment. We will visit the horse unit once during the semester to discuss and demonstrate applied breeding management and some ART techniques. Our time at the unit will allow students to observe stallion semen collection, mare artificial insemination, embryo transfer techniques, and the application of ultrasound in live animals.
- **Visit to Interdisciplinary Center for Biomedical Research.** The ICBR is a collaborative support unit that hosts 7 interdisciplinary biotechnology cores that are designed to enhance researchers' ability to access state-of-the-art equipment. During the field trip, students will visit 3 cores that relate to our course discussions to see biotechnology in action. Students will have the opportunity to interact with center scientists to help them understand what career opportunities exist in the biotechnology field.
- **Wet lab experiential learning.** This course integrates various hands-on learning wet lab activities to help students connect science to actual application. This will help reinforce

scientific knowledge and better help students to understand their own points of view on reproductive technologies. Exercises include tissue dissections, IVF fertilization, ultrasound techniques, semen cryopreservation, and computer assisted semen analysis techniques.

2. Details of Self-Reflection Component

- Throughout the semester, students will engage in structured self-reflective writing designed to foster internal debate and challenge personal viewpoints related to reproductive biotechnology and assisted reproductive technologies. These reflections will encourage students to critically examine their beliefs in light of scientific evidence and ethical considerations discussed in class.

  The first reflection will prompt students to articulate their initial thoughts and assumptions about reproduction and biotechnology. The second, more expansive capstone reflection—developed alongside the focus group project—will ask students to reevaluate their perspectives after engaging with course content, peer discussions, and experiential learning. This process is intended to deepen students' understanding of how science intersects with personal values, societal norms, and policy debates.

  Students will complete both short reflective responses and a comprehensive final reflection that challenges their intellectual and personal growth over the term.

IX. VI. Required Policies

Attendance Policy

Requirements for class attendance and make-up exams, assignments, and other work in this course are consistent with university policies that can be found at:

https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx

The amount of information presented in this course is diverse and expansive. If you regularly attend class, turn in assignments, and interact with me and your classmates, you will do well in this course.

There are no makeup opportunities for the hands-on experiential learning activities in this course. You will be provided the Take Home Message materials as an alternative assignment to ensure you get the required information.

Working with Livestock

Working with livestock will require students to adhere to handling practices provided by the instructor either in written or verbal format. Animals are capable of injuring people, especially when they are in the flight or fight mode inspired by a stressful situation. The instructors will work to provide students with the ability to manage livestock with minimal stress, thus lowering the risk of injury to people and animals.

Biosafety and Security

The biosafety and biosecurity of animals and students is a top priority for laboratory activities. Disease transmission can have severe negative consequences on animal and human health that

can also be fiscally taxing. The use of cell phones or cameras at animal facilities is not permitted without receiving written permission. Instructors and TA's may dismiss students from class for violation of biosecurity procedures.

Students Requiring Accommodation

Students with disabilities who experience learning barriers and would like to request academic accommodations should connect with the disability Resource Center by visiting https://disability.ufl.edu/students/get-started/. It is important for students to share their accommodation letter with their instructor and discuss their access needs, as early as possible in the semester.

UF Evaluations Process

Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals. Guidance on how to give feedback in a professional and respectful manner is available at https://gatorevals.aa.ufl.edu/students/. Students will be notified when the evaluation period opens, and can complete evaluations through the email they receive from GatorEvals, in their Canvas course menu under GatorEvals, or via https://ufl.bluera.com/ufl/. Summaries of course evaluation results are available to students at https://gatorevals.aa.ufl.edu/public-results/.

University Honesty Policy

UF students are bound by The Honor Pledge which states, "We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code. On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: "On my honor, I have neither given nor received unauthorized aid in doing this assignment." The Honor Code (https://www.dso.ufl.edu/sccr/process/student-conduct-honor-code/) specifies a number of behaviors that are in violation of this code and the possible sanctions. Furthermore, you are obligated to report any condition that facilitates academic misconduct to appropriate personnel. If you have any questions or concerns, please consult with the instructor or TAs in this class.

Counseling and Wellness Center

Contact information for the Counseling and Wellness Center: http://www.counseling.ufl.edu , 392-1575; and the University Police Department: 392-1111 or 9-1-1 for emergencies.

The Writing Studio

The writing studio is committed to helping University of Florida students meet their academic and professional goals by becoming better writers. Visit the writing studio online at http://writing.ufl.edu/writing-studio/ or in 2215 Turlington Hall for one-on-one consultations and workshops.

In-Class Recordings

Students are allowed to record video or audio of class lectures. However, the purposes for which these recordings may be used are strictly controlled. The only allowable purposes are (1) for personal educational use, (2) in connection with a complaint to the university, or (3) as evidence in, or in preparation for, a criminal or civil proceeding. All other purposes are prohibited.

Specifically, students may not publish recorded lectures without the written consent of the instructor.

A “class lecture” is an educational presentation intended to inform or teach enrolled students about a particular subject, including any instructor-led discussions that form part of the presentation, and delivered by any instructor hired or appointed by the University, or by a guest instructor, as part of a University of Florida course. A class lecture does not include lab sessions, student presentations, clinical presentations such as patient history, academic exercises involving solely student participation, assessments (quizzes, tests, exams), field trips, private conversations between students in the class or between a student and the faculty or lecturer during a class session.

Publication without permission of the instructor is prohibited. To “publish” means to share, transmit, circulate, distribute, or provide access to a recording, regardless of format or medium, to another person (or persons), including but not limited to another student within the same class section. Additionally, a recording, or transcript of a recording, is considered published if it is posted on or uploaded to, in whole or in part, any media platform, including but not limited to social media, book, magazine, newspaper, leaflet, or third-party note/tutoring services. A student who publishes a recording without written consent may be subject to a civil cause of action instituted by a person injured by the publication and/or discipline under UF Regulation 4.040 Student Honor Code and Student Conduct Code.

Software Use and Privacy Policies

All faculty, staff and students of the university are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against university policies and rules, disciplinary action will be taken as appropriate.

Software Privacy Policies:

1. Canvas (Instructure) - https://sonicfoundry.com/privacy-policy/
2. Packback - https://www.packback.co/site/privacy/
3. PlayPosit - https://api.playposit.com/privacy/
4. Mediasite - https://sonicfoundry.com/privacy-policy/
5. Zoom - https://zoom.us/privacy
6. Honorlock - https://honorlock.com/student-privacy-statement/
7. You Tube - https://policies.google.com/privacy

Books, journals, and press to help with topic development.

1. Barras, Colin. "Do animals know that sex leads to babies?" New Scientist, Oct 20, 2023. Do animals know that sex leads to babies? | New Scientist
2. Belluck, Pam. "The Father of the Abortion Pill." *The New York Times*, 17 Jan. 2023, www.nytimes.com/2023/01/17/health/abortion-pill-inventor.html.
3. Capoot, Ashley. "Reproductive startup launches test to identify an embryo's genetic defects before an IVF pregnancy begins." CNBC, Dec 5, 2023. Startup Orchid launches test to identify genetic defects in IVF embryos (cnbc.com)
4. Chasan, Aliza. "21 species removed from endangered list due to extinction, U. S. wildlife officials say." CBS News, Oct 18, 2023. 21 species removed from endangered list due to extinction, U.S. wildlife officials say - CBS News
5. Dunham, Will. "Scientists solve the genetic puzzle of sex-related Y chromosome. Reuters, Aug 23, 2023. Scientists solve the genetic puzzle of sex-related Y chromosome | Reuters
6. Farah, Troy. "Meet MGen, a new STI going around that no one is talking about." Salon, Jan 9, 2023. Meet MGen, a new STI going around that no one is talking about | Salon.com
7. Fairbank, Rachel. "What every type of birth control costs." Life Hacker, Sep 1, 2023. What's the Cheapest Form of Birth Control in 2023? | Lifehacker
8. Funnell, Rachael. "Well-Endowed Bat Becomes First Mammal Known to Reproduce Without Penetration." IFL Science, Nov 20, 2023. Well-Endowed Bat Becomes First Mammal Known To Reproduce Without Penetration | IFLScience
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Cover Sheet: Request 21719

EVS49XX Supervised Teaching Experience in Environmental Science

Info

Process	Course|New|Ugrad/Pro
Status	Pending at CALS - College of Agricultural and Life Sciences
Submitter	Danny Coenen dcoenen@ufl.edu
Created	7/15/2025 12:10:35 PM
Updated	8/26/2025 9:46:53 AM
Description of request	Request to add a course code for an undergraduate teaching experience in environmental science.

Actions

Step	Status	Group	User	Comment	Updated
Department	Approved	CALS - Natural Resources and Environment 60170000	Konda Reddy		7/28/2025
CALS CC Checklist - TeachingEVS.pdf					7/15/2025
College	Pending	CALS - College of Agricultural and Life Sciences			7/28/2025
No document changes					
University Curriculum Committee					
No document changes					
Statewide Course Numbering System					
No document changes					
Office of the Registrar					
No document changes					
Catalog					
No document changes					
Student Academic Support System					
No document changes					
College Notified					
No document changes					

Course|New for request 21719

Info

Request: EVS49XX Supervised Teaching Experience in Environmental Science
Description of request: Request to add a course code for an undergraduate teaching experience in environmental science.
Submitter: Danny Coenen dcoenen@ufl.edu
Created: 7/15/2025 11:56:22 AM
Form version: 1

Responses

Recommended Prefix EVS
Course Level 4

Course Number XXX
Lab Code None
Course Title Supervised Teaching Experience in Environmental Science
Transcript Title Teaching Experience in EnvSci
Delivery Method PC - Primarily Classroom (0-49% of course content taught outside of classroom)
Effective Term Earliest Available
Effective Year Earliest Available
Rotating Topic No
Repeatable Credit? Yes
Multiple Offerings in a Single Semester No
If repeatable, # total repeatable credit allowed 3
Amount of Credit Variable
If variable, # min 0
If variable, # max 3
S/U Only? Yes
Contact Type Supervision of Teaching/Research
Course Type Supervised Teaching (6940)
Weekly Contact Hours 3
Course Description University-level teaching experience in environmental science by serving as an undergraduate teaching assistant. Each teaching experience is unique, tailored to both the student's interest and to the instructor's needs.
Prerequisites (EVS_BA or EVS_BS) & EVS3000 & Undergraduate Coordinator permission & Instructor permission
Co-requisites N/A
Rationale for Placement in the Curriculum This experience is intended for Environmental Science undergraduate students considering a career in environmental education, academia, and others where university-level practice in teaching and class management is beneficial. It supports undergraduates in honing their teaching skills, expanding their pedagogical and content knowledge, and navigating various teaching-related tasks. We have many capable and enthusiastic junior- and senior-level undergraduates who would be assets within our undergraduate courses, and who are eager to gain experience in teaching. We would like to be able to provide a formal mechanism by which qualified upper-division students can work with a faculty mentor to provide assistance within an undergraduate course, while learning principles of pedagogical design and lesson delivery.

Place in the Curriculum: Will count as an Additional Skills and Concepts elective
Syllabus Content Requirements All Items Included

CALS Curriculum Committee
Submission Checklist

Updated Sept 2024

NOTE: This checklist must be included with all course and certificate submissions.

The checklist below is intended to facilitate course and certificate submissions to the University of Florida Academic Approval Tracking System (https://approval.ufl.edu/). The checklist consists of the most common items that can cause a submission to require changes or be recycled. Contrary to information provided on the UF approval site, the CALS Curriculum Committee requires a syllabus be submitted with each new course or course modification request. Please note that submitters are encouraged to attend the CALS CC meeting at which their item is being reviewed. This allows the submitter to answer any potential questions that may arise that could cause the item to not be approved. Also, be aware that when completing the UCC form the section Description of Request is asking for a brief statement about what you are doing. This is **not** the place for a course description. A statement such as "Proposal of a new undergraduate course" is all that is needed. Please do not submit documents in pdf format. All documents should be submitted in Word to facilitate editing on our end if necessary.

CHECKLIST: PLEASE INITIAL OR MARK N/A FOR EACH STATEMENT TO INDICATE YOUR COMPLIANCE.

DC It is required when making a submission that you consult your department's representative to the CALS CC. A list of current members can be found on the committee site located at: https://cals.ufl.edu/faculty-staff/committees/.

DC You MUST comply with the CALS Syllabus Policy, including items 1 through 8 and all standard syllabus statements. This document can be viewed at the committee site(https://cals.ufl.edu/facultystaff/committees/) by clicking on the Curriculum Committee – Information & Documents heading and scrolling down to Forms, Checklists, and Other documents. The other items included here are all very helpful when making a curriculum submission. Some will be mentioned in other checklist items below.

N/A Submission of a course modification requires both the current version of the course syllabus and the proposed version.

N/A Joint course submissions must include 1) both graduate and undergraduate syllabuses and 2) a separate document outlining the substantial (more than one) differences in assignments between the two courses. These assignments must account for at least a 15% difference in graded material between the two levels. If this is a new course submission both courses must be submitted for approval simultaneously.

DC The course description on the UCC form and in the syllabus must match and should be no longer than 500 characters. Any other information you wish to include needs to be under a different heading such as background or additional course information.

DC The course learning objectives must be consistent with Bloom's taxonomy. Please see the following link at the CALS Curriculum site. (https://cals.ufl.edu/content/PDF/Faculty_Staff/cals-courseobjectives.pdf). Do not use the words demonstrate or understand when listing learning objectives.

DC The course schedule should be concise and include the appropriate number of weeks in the semester.

N/A All graduate course submissions must include a reading list if a textbook is not required. The reading list should include at least some current readings (within the last 5 years). All readings do not need to be current.

N/A Outside consultations are required if there is a possibility of the proposed course covering a significant amount of material taught in another department or college on campus. There must be a consult form completed by the chair of the department from who you are seeking the consult. Instructors may provide additional consults. The form can be found at: https://approval.ufl.edu/policies/external-consultations/.

DC Prerequisite courses are required for 3000 and 4000 level courses. This line of the approval form cannot be "none" or left blank. Junior or senior standing is an acceptable option. A phrase such as "a course in basic biology" is not acceptable. (Graduate courses should not have specific courses listed as prerequisites. If needed a statement of skills required prior to taking the course can be provided under other course information.)

DC Decimal points must be included in the grading scale if grade cut-offs are based on percentages. While this is not a university policy it is a CALS standard practice to avoid any confusion when final grades for the course are determined.

DC The attendance and make-up policy in a syllabus cannot contradict the university's policy. Do not include any additional wording to this policy. A statement and link regarding this are included in the CALS Syllabus Statements. For the approval process the college suggests a less is more view when it comes to this policy.

DC The most recent version of the CALS Syllabus Statements boiler plate must be included in all syllabuses. This document is included in the CALS Syllabus Policy and can be copied and pasted to the syllabus. Do not use the boilerplate statements from an old syllabus as they are likely to be out of date.

Certificates

N/A If proposing a new undergraduate or graduate level certificate that includes any courses outside of the submitters department a statement regarding any possible impact on those courses needs to be included. An email from the instructor is acceptable. Also, any courses required for the certificate must have permanent prefixes and course numbers. The submission must include intended catalog copy. (Contact Dr. Anne Mathews (anne.mathews@ufl.edu) for further instruction)

Supervised Teaching Experience in Environmental Science

EVS 49XX Class# [XXXXX] (0-3 credit hours) – [Semester and Year]

Syllabus

Course Coordinator: Dr. Danny Coenen,
Instructional Associate Professor & Undergraduate Coordinator
Email: dcoenen@ufl.edu
Office Location: McCarty D, Room 2047
Drop-in office hours: W 1:00 – 3:00, or by appointment

Faculty Mentor: [Name & title]
Email: [Email]
Office Location: McCarty D, Room 20XX
Course: [Course Code & name of course student is assisting with]
Course Days/Times and Location: TBA

Course Description
University-level teaching experience in environmental science by serving as an undergraduate teaching assistant. Each teaching experience is unique, tailored to both the student's interest and to the instructor's needs.

Credits
Variable (0-3 credits). Appropriate number of credits will be determined in cooperation with SNRE's advising team and the faculty mentor, and will depend on the number of contact hours anticipated.

Prerequisites
(EVS_BA or EVS_BS) and EVS3000 and Undergraduate Coordinator & Instructor permission

Place in Curriculum
This experience is intended for Environmental Science students considering a career in environmental education, academia, and others where university-level practice in teaching and class management is beneficial. It supports undergraduates in honing their teaching skills, expanding their pedagogical and content knowledge, and navigating various teaching-related tasks. Responsibilities vary by class, modality, and faculty mentor, and may include creation and delivery of educational materials including lectures and activities, facilitating discussion groups or study sessions, responding to student questions, and supervised anonymized grading.

Undergraduate teaching assistant spots are very limited and may not be available each semester. Interested students should inform Dr. Coenen via email for consideration. An application and interview process will follow during the semester prior to the teaching experience. Successful candidates are paired with an SNRE faculty member and assist them in teaching a section of an environmental science course, such as EVR2001 Introduction to Environmental Science, EVS1010 First Year Environmental Science, or EVS3000 Environmental Science 1. **Note**: You must have successfully completed the course you will assist in during a prior semester.

Students selecting this experience for more than zero credit hours will earn Additional Skills and Concepts elective credit towards their degree (up to three credit hours total). Students taking the experience for zero credit hours will have it listed on their transcript, but will not be able to meet a degree requirement.

Student Learning Outcomes
By the end of the semester, you will be able to:
1.) Articulate the major tenets of FERPA, the importance of upholding student privacy rights, and the importance of maintaining a safe and respectful campus.
2.) Navigate instructor features in Canvas and perform basic functions such as publishing content, posting announcements, adding comments, moderating discussion boards, and grading.
3.) Integrate guidance from your faculty mentor to effectively facilitate learning in the university classroom environment.
4.) Deliver an engaging learning experience.
5.) Self-appraise teaching performance and identify areas for continued future growth and improvement.

Textbooks and readings
There is no assigned textbook for this class. The faculty mentor will identify and assign readings depending on the unique needs of their class and tasks assigned to the student. For example:

Bain, K. (2004). *What the Best College Teachers Do*. Harvard University Press.

Svinicki, M. & McKeachie, W.J. (2014). *McKeachie's Teaching Tips* (14th ed.). Cengage Learning.

Grading

There are 500 possible points in the course, to be distributed as follows:

Graded Item	Possible Points
Required Trainings (FERPA and Maintaining a Safe and Respectful Campus)	20
Attendance	
– at required class sessions	50
– at weekly meetings with faculty mentor	30
Educational Materials and Course Management Tasks	300
Self-Reflection Assignment	100
Total	**500**

This is an S/U course. Per university policy, a grade of "S" is equivalent to a "C" or higher. So, students with point totals corresponding to a letter grade of "C" or higher (≥365 points/≥73.0%) in this course will receive a grade of "S" (Satisfactory). Thus, **the minimum number of points a student must earn to pass this course with an "S" is 365 points**.

Points Earned	Percentage	Grade to be Assigned to Student
365.0 - 500.0	73.0% - 100.0%	**S**
0.0 - 364.9	0.0% - 72.9%	**U**

To avoid losing points, you must successfully submit all assignments and complete all assigned tasks by their deadline. Missing, corrupt, or incompatible files may result in grade penalties up to a score of zero for the assignment. You are responsible for maintaining duplicate copies of all work submitted for this course until the end of the semester.
In case of a grading dispute, you must notify your faculty mentor by email within one week of the date the grade is posted to Canvas. Please include an explanation of what aspect of your grade you disagree with. End-of-semester requests for grade bumps, assignment do-overs, extra credit, etc. will be denied.
Please do not wait until the end of the semester to discuss problems with this experience. Your wellbeing and success are important to your faculty mentor, SNRE, the College of Agricultural and Life Sciences, and the University of Florida, so please reach out to discuss any concerns as soon as they arise.

***Required Trainings**:* Before you can start working as a teaching assistant, you must complete two required trainings: "FERPA Basics" and "Maintaining a Safe and Respectful Campus". These self-paced online courses take approximately 2 hours and 35 minutes to complete, respectively.
To earn credit for these trainings and to be added to the course Canvas shell, email copies of your certificates of completion to your faculty mentor and Dr. Coenen before the beginning of the first class.

***Attendance**:* As a member of the instructional team, you have enhanced responsibilities to your faculty mentor and your students. You are expected to maintain professional attendance standards, i.e. arriving on time, being prepared, and not missing required class sessions and meetings with your faculty mentor. It is your responsibility to avoid scheduling conflicts to the best extent possible and inform your mentor well ahead of time if an unavoidable conflict arises.

Your attendance score consists of two components:

1.) Required class sessions (50 points). Your faculty mentor should inform you of their expectations for class attendance and/or other events or activities they would like you to be present for (field trips, labs, seminars, etc.) during your first meeting. For asynchronous classes, these may be substituted by review sessions or similar activities. Each unexcused absence incurs a penalty of 10 points.

2.) Weekly meetings with faculty mentor (30 points). By the end of the first week of the semester, coordinate with your faculty mentor to establish a regular weekly meeting time where you will discuss aspects of the course including upcoming content, your assigned tasks, pedagogy, etc. Each unexcused absence incurs a penalty of 10 points.

Absences will be excused per the University's attendance policies. Specifically:
- in case of illness or injury, upon receipt of a doctor's note or equivalent, or by following the procedure outlined here: https://care.dso.ufl.edu/instructor-notifications.
- in case of family emergencies, deaths, or other extenuating circumstances, by following the procedure outlined here: https://care.dso.ufl.edu/instructor-notifications.
- in case of religious holidays, by informing your faculty member prior to the first day of class via email.
- in case of military duty, jury duty, participation in academic conferences, or participation in official university or UAA events, by providing appropriate evidence ahead of time.
- in all other cases, or if you are unsure, please email your mentor as soon as feasible.

Absences are generally not excused for personal non-emergency travel and vehicle problems.

***Educational Materials and Course Management Tasks**:* Responsibilities vary by class, modality, and faculty mentor, and may include creation and delivery of educational materials including lectures and activities, facilitating discussion groups or study sessions, responding to student questions, and supervised anonymized grading.

***Self-Reflection Assignment**:* Near the end of the semester, you will reflect on your teaching assistant experience, what you learned from it, and how you can/will apply what you learned to your future teaching endeavors. You should incorporate specific examples from your teaching experience. The reflection may take the form of a paper, a video, an oral presentation, or other format as determined by your faculty mentor.

University of Florida Academic Policies

Please visit https://syllabus.ufl.edu/syllabus-policy/uf-syllabus-policy-links/ for the latest academic policies.

Course Policies

Preamble

First and foremost, we want you to be successful in this experience and in your degree program. Please maintain proactive, open communication with your mentor and the undergraduate coordinator. **If at any point you experience extenuating circumstances that prevent you from performing to your full academic potential, please reach out for help!**

Make-up Policy and Late Work

Due to the nature of a teaching assistantship, it may not be feasible to submit work after the deadline. Accepting late work is at the discretion of your faculty mentor, and grading penalties for missing or late work should be established during your first weekly meeting.
Technical difficulties are not generally an excuse for missing an assignment; you should have contingency plans in case any such issues arise. I recommend storing your documents on a cloud service that can be accessed from any device (OneDrive is free for UF students), and having a plan for internet outages (such as identifying a source for public Wi-Fi near you or using your cell phone as a Wi-Fi hotspot). Try not to wait until the last minute to submit assignments!

Academic Honesty and Plagiarism

This course follows the university's honesty policy regarding cheating, plagiarism, etc.
Many students are unaware of the seriousness of violating academic ethics. **PLAGIARISM, WHETHER INTENTIONAL OR UNINTENTIONAL, IS A SERIOUS AND POTENTIALLY CAREER-ENDING FORM OF ACADEMIC MISCONDUCT. Copying and pasting from external sources without attribution is never okay in academia**.

Artificial Intelligence (AI) Statement

Artificial Intelligence is an amazing new technology that is revolutionizing the way we access and process information, just like computers, the internet, and mobile phones did in prior decades. AI can be a useful tool to aid (but NOT replace) writers when brainstorming, spellchecking, and editing. **However, all work submitted for credit in this course must be your own. Using AI to generate *content* for you, including but not limited to copying & pasting AI output in whole or part into work submitted for this class** (even if you subsequently edit or paraphrase the AI output), **constitutes academic dishonesty unless explicitly permitted by your faculty mentor in writing (as part of written assignment instructions or email communication).**

If you use any AI application for any part of an assignment (including brainstorming ideas or editing), you must state so as part of your submission and include the entire prompt(s) that you used with the AI tool(s) as part of your submission; **failure to do so will be considered academic dishonesty**.

Students should be cognizant that large language models (LLMs) and similar AI applications are not credible sources and should not be used as such. They are also ill-suited for finding scholarly sources.
Further, many web sites, online services, and software packages (e.g. Grammarly, Canva, many word processors) now feature AI integrations. These policies apply to these services the same way that they do for LLMs. It is your responsibility to determine if any tools you use contain AI components, and if so, disclose use of that AI. AI-generated images may not be used unless expressly approved in writing by your mentor for a specific assignment.

Paper Guidelines
All writing assignments will be submitted to Canvas and must be in **.docx** format, with the proper file extension. All assignments must include citations and references in APA 7th edition formatting. You do not need cover pages, running headers, etc.
If you experience difficulties in the writing process you are encouraged to contact your mentor for advice or visit the UF Writing Studio (see *Campus Helping Resources* below).
I strongly recommend watching the following video on academic honesty, citing sources, and proper paraphrasing by the end of the drop-add period:
https://www.youtube.com/watch?v=g81hPRKWsdM

Course Communication
Outside of scheduled weekly meetings with your faculty mentor, use your UF email account to contact your mentor and/or coordinator as needed. You can expect a response within 24-48 hours on weekdays in most cases.

Email
Students are required to check their email account(s) daily (at least Monday through Friday) and respond to course/program related requests, inquiries, etc. in a timely manner.

External Communication
You may use GroupMe or similar tools to communicate with other students about the class and environmental science-related topics. **You may not, however, discuss quiz and exam questions/answers with others, including quizzes and exams from prior semesters, or collaborate on any assignments intended to be worked on individually. Doing so constitutes academic dishonesty.**

Canvas Display Name Change
Canvas uses the "Display Name" as set in myUFL. The Display Name is what you want people to see in the UF Directory, such as "Ally" instead of "Allison." To update your display name, go to one.ufl.edu, click on the dropdown at the top right, and select "Directory Profile." Click "Edit" on the right of the name panel, uncheck "Use my legal name" under "Display Name," update how you wish your name to be displayed, and click "Submit" at the bottom. This change may take up to 24 hours to appear in Canvas. This does not change your legal name for official UF records.

Technical Difficulties

For help with technical issues or difficulties with Canvas, please contact the UF Computing Help Desk at https://helpdesk.ufl.edu, 352-392-HELP (4357) or walk-in: HUB 132

While technical difficulties are not generally an acceptable excuse, any requests for make-ups (assignments, exams, etc.) due to technical issues should be accompanied by the ticket number received from the UF Computing Help Desk when the problem was reported to them. The ticket number will document the time and date of the problem. You should email me within 24 hours of the technical difficulty if you wish to request a make-up.

Zoom Conference Privacy
Should it become necessary or convenient to hold classes virtually using zoom, those class sessions may be audio-visually recorded for students in the class to refer back and for enrolled students who are unable to attend live. Students who participate with their camera engaged or utilize a profile image are agreeing to have their video or image recorded. If you are unwilling to consent to have your profile or video image recorded, be sure to keep your camera off and do not use a profile image. Likewise, students who un-mute during class and participate orally are agreeing to have their voices recorded. If you are not willing to consent to have your voice recorded during class, you will need to keep your mute button activated. As in all courses, unauthorized sharing of recorded materials is prohibited.

Software Use
All UF faculty, staff and students are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against university policies and rules, disciplinary action will be taken as appropriate.

Course Material Copyright and Confidentiality
All course material is the property of the University of Florida and the course instructor, and **may not** be posted online for any commercial or non-commercial purpose. Students found in violation may be subject to disciplinary action under the University's Student Conduct Code.

Campus Helping Resources

Your wellbeing is important to us and the University of Florida community. If you experience a crisis or personal problem that interferes with your wellbeing, please utilize the university's counseling resources. You are, of course, always welcome and encouraged to talk to your mentor, your coordinator, or advisor about any issues that interfere with your academic performance and wellbeing.

Please visit https://syllabus.ufl.edu/syllabus-policy/uf-syllabus-policy-links/ for the latest information on academic and health & wellness resources, including the Whole Gator app.

Course Outline **(subject to change)**

Critical Dates

Required trainings	Monday, January 12
Self-reflection assignment	Wednesday, April 22

WEEKLY COURSE SCHEDULE

Week	Activities	Assignments Due
1	Getting Organized and Oriented • Establish a regular weekly meeting time with your faculty mentor • Learn about your mentor's expectations for class attendance and course management tasks • Complete FERPA Basics Training and Maintaining and Safe and Respectful Campus Training	FERPA Basics Certificate Maintaining and Safe and Respectful Campus Certificate
2	Course Activities as Assigned by Faculty Mentor • Weekly meeting with mentor	Educational materials and course management tasks as assigned
3	Course Activities as Assigned by Faculty Mentor • Weekly meeting with mentor	Educational materials and course management tasks as assigned
4	Course Activities as Assigned by Faculty Mentor • Weekly meeting with mentor	Educational materials and course management tasks as assigned
5	Course Activities as Assigned by Faculty Mentor • Weekly meeting with mentor	Educational materials and course management tasks as assigned
6	Course Activities as Assigned by Faculty Mentor • Weekly meeting with mentor •	Educational materials and course management tasks as assigned
7	Course Activities as Assigned by Faculty Mentor • Weekly meeting with mentor	Educational materials and course management tasks as assigned
8	Course Activities as Assigned by Faculty Mentor • Weekly meeting with mentor	Educational materials and course management tasks as assigned
9	Course Activities as Assigned by Faculty Mentor • Weekly meeting with mentor	Educational materials and course management tasks as assigned
10	Course Activities as Assigned by Faculty Mentor • Weekly meeting with mentor	Educational materials and course management tasks as assigned
11	Course Activities as Assigned by Faculty Mentor • Weekly meeting with mentor	Educational materials and course management tasks as assigned
12	Course Activities as Assigned by Faculty Mentor • Weekly meeting with mentor	Educational materials and course management tasks as assigned
13	Course Activities as Assigned by Faculty Mentor • Weekly meeting with mentor	Educational materials and course management tasks as assigned
14	Course Activities as Assigned by Faculty Mentor • Weekly meeting with mentor	Educational materials and course management tasks as assigned

15	Course Activities as Assigned by Faculty Mentor • Weekly meeting with mentor	Educational materials and course management tasks as assigned Self-Reflection

Course Alterations
Due to unforeseen circumstances or to enhance class learning opportunities, it may be necessary to alter the information given in this syllabus during the semester. Such changes are not unusual and should be expected. All changes to the syllabus will be announced during weekly meetings. It is your responsibility to keep up with any syllabus changes.

Acknowledgment
Parts of this syllabus are based on DIE4940 (Dr. Acosta).

Addendum

Faculty Mentor Responsibilities and Expectations

- Mentors must make themselves available for a regular weekly meeting time of at least 30 minutes, during which aspects of the course, the mentee's tasks, and pedagogy will be discussed.
- Mentors should discuss the mentee's aims for what they seek to get out of the experience and accommodate those preferences as much as feasible given the constraints of the class and its modality.
- Mentees should be kept appraised of their performance through timely, rubric-based grading of assignments and tasks (as outlined in this syllabus) and actionable feedback
- Mentors must ensure that the mentee is given student-facing responsibilities so that they can establish a meaningful presence in the course. They should be introduced as a member of the instructional team at the start of the semester. In synchronous classes, student-facing tasks should include designing and delivering at least one 50-minute lecture (including associated lesson plan), designing and implementing at least one activity, etc. In asynchronous classes, this may include designing at least one extra credit assignment, moderating discussion boards, and holding quiz or exam review sessions (with associated lesson plan and Canvas announcements).
- To avoid conflicts of interest or peer pressure, any grading the mentee does must be done anonymously and supervised. The mentee must not know the identity of the students they are grading. The mentor must provide clear guidance through trainings and rubrics, and they or a graduate teaching assistant must review the mentee's grading and provide them feedback on their grading performance. Student-facing feedback should be entered by the mentor or graduate teaching assistant so that the mentee's name is not associated with any individual grade.
- The mentor must keep the mentee's workload manageable and ensure that assigned tasks represent a meaningful educational experience as opposed to mere "grunt work". As a general guideline (approximating the 1:3 rule that states for each hour of class, two to three hours should be spent working on the class):
    - 1 credit hour = an average of 3-4 hours of work per week (including weekly meeting and presence in classroom, if applicable)
    - 2 credit hours = an average of 6-7 hours of work per week
    - 3 credit hours = an average of 9-10 hours of work per week
    - 0 credit hours = mutually agreed upon by the mentee, mentor, and undergraduate coordinator, not to exceed an average of 10 hours per week.

Cover Sheet: Request 21495

WIS2xxx

Info

Process	Course|New|Ugrad/Pro
Status	Pending at CALS - College of Agricultural and Life Sciences
Submitter	Miguel Acevedo Torres maacevedo@ufl.edu
Created	4/10/2025 3:36:32 PM
Updated	5/19/2025 9:55:42 AM
Description of request	Course request

Actions

Step	Status	Group	User	Comment	Updated
Department	Approved	CALS - Wildlife Ecology and Conservation 60470000	Eric Hellgren		4/10/2025
No document changes					
College	Pending	CALS - College of Agricultural and Life Sciences			4/10/2025
No document changes					
University Curriculum Committee					
No document changes					
Statewide Course Numbering System					
No document changes					
Office of the Registrar					
No document changes					
Catalog					
No document changes					
Student Academic Support System					
No document changes					
College Notified					
No document changes					

Course|New for request 21495

Info

Request: WIS2xxx
Description of request: Course request
Submitter: Miguel Acevedo Torres maacevedo@ufl.edu
Created: 4/10/2025 3:21:22 PM
Form version: 1

Responses

Recommended Prefix WIS
Course Level 2

Course Number xxx
Lab Code None
Course Title Computational problem solving in Wildlife Ecology using R
Transcript Title Problem solving using R
Delivery Method PC - Primarily Classroom (0-49% of course content taught outside of classroom)
Effective Term Fall
Effective Year 2026
Rotating Topic No
Repeatable Credit? No

Amount of Credit 1

S/U Only? No
Contact Type Regularly Scheduled
Course Type Lecture
Weekly Contact Hours 2 hrs. This class has a computer lab component where students work on group problems. While most students finish the work in one period, having two periods available would provide some buffer time for those students who need additional time and contact with the instructor.
Course Description Quantitative methods are useful to explain and predict wildlife patterns and processes. The application of these methods is becoming more prevalent in our field, and understanding how to solve problems using these methods is a fundamental skill. In this class, you will learn the basic aspects of R programming and visualization as it is commonly applied in wildlife ecology and conservation. These skills will be useful by themselves and as a foundation for other courses in our Department.
Prerequisites N/A
Co-requisites N/A
Rationale for Placement in the Curriculum This class will become required for all WEC majors as a prerequisite for other courses with a high computational workload like Wildlife Population Ecology, Quantitative Wildlife Ecology, Landscape Ecology and Conservation Genetics.
Syllabus Content Requirements All Items Included

CALS Curriculum Committee
Submission Checklist

Updated Sept 2024

NOTE: This checklist must be included with all course and certificate submissions.

The checklist below is intended to facilitate course and certificate submissions to the University of Florida Academic Approval Tracking System (https://approval.ufl.edu/). The checklist consists of the most common items that can cause a submission to require changes or be recycled. Contrary to information provided on the UF approval site, the CALS Curriculum Committee requires a syllabus be submitted with each new course or course modification request. Please note that submitters are encouraged to attend the CALS CC meeting at which their item is being reviewed. This allows the submitter to answer any potential questions that may arise that could cause the item to not be approved. Also, be aware that when completing the UCC form the section Description of Request is asking for a brief statement about what you are doing. This is **not** the place for a course description. A statement such as "Proposal of a new undergraduate course" is all that is needed. Please do not submit documents in pdf format. All documents should be submitted in Word to facilitate editing on our end if necessary.

CHECKLIST: PLEASE INITIAL OR MARK N/A FOR EACH STATEMENT TO INDICATE YOUR COMPLIANCE.

__X__ It is required when making a submission that you consult your department's representative to the CALS CC. A list of current members can be found on the committee site located at: https://cals.ufl.edu/faculty-staff/committees/.

__X__ You MUST comply with the CALS Syllabus Policy, including items 1 through 8 and all standard syllabus statements. This document can be viewed at the committee site(https://cals.ufl.edu/facultystaff/committees/) by clicking on the Curriculum Committee – Information & Documents heading and scrolling down to Forms, Checklists, and Other documents. The other items included here are all very helpful when making a curriculum submission. Some will be mentioned in other checklist items below.

__NA__ Submission of a course modification requires both the current version of the course syllabus and the proposed version.

__NA__ Joint course submissions must include 1) both graduate and undergraduate syllabuses and 2) a separate document outlining the substantial (more than one) differences in assignments between the two courses. These assignments must account for at least a 15% difference in graded material between the two levels. If this is a new course submission both courses must be submitted for approval simultaneously.

__X__ The course description on the UCC form and in the syllabus must match and should be no longer than 500 characters. Any other information you wish to include needs to be under a different heading such as background or additional course information.

__X__ The course learning objectives must be consistent with Bloom's taxonomy. Please see the following link at the CALS Curriculum site. (https://cals.ufl.edu/content/PDF/Faculty_Staff/cals-courseobjectives.pdf). Do not use the words demonstrate or understand when listing learning objectives.

__X__ The course schedule should be concise and include the appropriate number of weeks in the semester.

__X__ All graduate course submissions must include a reading list if a textbook is not required. The reading list should include at least some current readings (within the last 5 years). All readings do not need to be current.

__X__ Outside consultations are required if there is a possibility of the proposed course covering a significant amount of material taught in another department or college on campus. There must be a consult form completed by the chair of the department from who you are seeking the consult. Instructors may provide additional consults. The form can be found at: https://approval.ufl.edu/policies/external-consultations/.

__X__ Prerequisite courses are required for 3000 and 4000 level courses. This line of the approval form cannot be "none" or left blank. Junior or senior standing is an acceptable option. A phrase such as "a course in basic biology" is not acceptable. (Graduate courses should not have specific courses listed as prerequisites. If needed a statement of skills required prior to taking the course can be provided under other course information.)

__X__ Decimal points must be included in the grading scale if grade cut-offs are based on percentages. While this is not a university policy it is a CALS standard practice to avoid any confusion when final grades for the course are determined.

__X__ The attendance and make-up policy in a syllabus cannot contradict the university's policy. Do not include any additional wording to this policy. A statement and link regarding this are included in the CALS Syllabus Statements. For the approval process the college suggests a less is more view when it comes to this policy.

__X__ The most recent version of the CALS Syllabus Statements boiler plate must be included in all syllabuses. This document is included in the CALS Syllabus Policy and can be copied and pasted to the syllabus. Do not use the boilerplate statements from an old syllabus as they are likely to be out of date.

Certificates

If proposing a new undergraduate or graduate level certificate that includes any courses outside of the submitters department a statement regarding any possible impact on those courses needs to be included. An email from the instructor is acceptable. Also, any courses required for the certificate must have permanent prefixes and course numbers. The submission must include intended catalog copy. (Contact Dr. Anne Mathews (anne.mathews@ufl.edu) for further instruction)

WIS2xxx: Computational Problem Solving in Wildlife Ecology using R

Instructor: Miguel A. Acevedo
TA: Morgan Manning

E-mail: maacevedo@ufl.edu
Classroom: MCCB 3108
I–Office Hours: M 3–4 pm or by app
I–Office: Bldg 866, O-0111
I–Tel: (352) 846-0575

Web: **elearning.ufl.edu (CANVAS)**
Class time: W Period 8 (3:00–3:50 pm)

This syllabus is a broad description of course objectives and plan of work; it is subject to change.

1. **Codification**: WIS 2xxx
2. **Credits**: 1 crds
3. **Prerequisites**: None
4. **Course Description**: Quantitative methods are useful to explain and predict wildlife patterns and processes. The application of these methods is becoming more prevalent in our field and understanding how to solve problems using these methods is a fundamental skill. In this class, you will learn the basic aspects of R programming and visualization as it is commonly applied in wildlife ecology and conservation. These skills will be useful by themselves and as a foundation for other courses in our Department.
5. **Teaching Philosophy**: As a teacher of quantitative wildlife ecology, my goal is to relieve student's math anxieties by teaching in a welcoming environment where students feel free to learn, ask, and inquire at their own pace. I follow a general active learning framework that includes socratic questioning, group learning exercises, inquiry-based and student-centered learning.
6. **Assumed previous skills**: Because this is an introductory class we only assume that students understand the basic architecture and components of a computer. For instance, we assume that students understand how the file systems work in their operation system of choice (e.g. Windows, MacOS or GNU/Linux). We also assume that students know how to use a web browser and conduct simple spreadsheet operations.
7. **Course Objectives**: At the completion of this course, students will be able to:

(a) recognize basic concepts and vocabulary related to computational ecology

(b) organize data structures commonly used in wildlife ecology and conservation

(c) construct figures to summarize data

(d) produce reproducible code

(e) solve computational problems using scripts in the `R` language

8. **Tentative Course Outline**:

The weekly coverage might change as it depends on the progress of the class. Every week there will an assignment due on Mondays and a group exercise due on Thursdays.

Week	Content
Week 1	• **Class introduction** • RStudio cloud
Week 2	• `R` **basics** • Math operators, functions, variables, data types, special values, options and commenting your code • *Assignment due*: Basic `R`
Week 3	• **Data structures** • Vector basics, combining vectors, generating vectors, random vectors, built-in vectors, accessing vectors, vector functions, vector math, and matrices • *Group exercise due*: Basic `R` • *Assignment due*: Data structures
Week 4	• **Logic** • Logical operators, logic chains, vector logic, logic functions • *Group exercise due*: Data structures • *Assignment due*: Logic
Week 5	• **Data Frames** • Creation, accessing data frames, loading data, built-in data frames, adding columns, combining data frames, row names, and functions. • *Group exercise due*: Logic • *Assignment due*: Data Frames
Week 6	• **Data Visualization** • Histograms, scatterplots, barplots, boxplots, graphical parameters, labels and style, and adding elements • *Group exercise due*: Data Frames • *Assignment due*: Data Visualization
Week 7	• **Programming fundamentals I: Functions** • Simple functions, parameters, returns, nuances • *Group exercise due*: External packages • *Assignment due*: PFI: Functions

Week 8	• **Programming fundamentals II: `for` and `while` loops** • Nested, basics, errors, objects • *Group exercise due*: PFI: Functions • *Assignment due*: PFII: Loops
Week 9	• **Programming fundamentals III: `if-else` conditional statements** • Conditionals, combining conditionals, `ifelse`, comibing fundamentals • *Group exercise due*: PFII: Loops • *Assignment due*: PFIII: Conditionals
Week 10	• **Advanced Features I: lists and classes** • Lists, and classes • *Group exercise due*: PFIII: Conditionals • *Assignment due*: AFI: lists and classes
Week 11	• **Exploring wildlife ecology data with external packages** • Exploring installed packages, installing packasges, `raster`, `terra`, `vegan`, `popbio`, `adegenet` • *Group exercise due*: lists and classes • *Assignment due*: External Packages
Week 12	• **Advanced Features II: `apply`** • `sapply, lapply, mapply, tapply, apply` • *Group exercise due*: AFI: lists and classes • *Assignment due*: AFII: `apply`
Week 13	• **Coding best practices** • Search, clean environments, code organization, project organization, style, working directories • *Group exercise due*: AFII: `apply` • *Assignment due*: Coding best practices
Week 14	• Thanksgiving break
Week 15	• **Introduction to `Rmarkdown`** • Markdown, rmarkdown, quarto • *Group exercise due*: Coding best practices • *Assignment due*: Introduction to `Rmarkdown`; Final project

9. **Educational Strategies**: We follow an active learning framework that include inquire-based lectures, analysis of the primary literature, computer exercises, group projects and group discussions.

10. **Minimum resources needed by the students**: Computer with `R` and `RStudio` installed [1].

11. **Evaluation strategies**:

Group exercises	50%
Assignments	50%

[1] `R` and `RStudio` are freely available statistical software. https://www.rstudio.com/products/rstudio/. We may also use this software in the cloud in https://posit.cloud/

More details on UF grading policy can be found here: https://catalog.ufl.edu/UGRD/academic-regulations/grades-grading-policies/.

Assignments: Every week we will have an R exercise where we will practice the topics learned during the week's module. These will include examples and problems.
Group exercises: Every week we will have an R group exercise where students will work together solving a real-world problem in wildlife ecology and conservation using the skills learned until that point in the class. There is no final exam, but there is a final group project.

12. **Critical Dates**:

Assignments	Weekly (due on Mondays before 5pm)
Group exercises	Weekly (due on Thursdays before 5pm)

13. **Grading**:

>= 93.00 %	A	90.00–92.99	A-
87.00–89.99	B+	83.00–86.99	B
80.00–82.99	B-	77.00–79.99	C+
73.00–76.99	C	70.00–72.99	C-
67.00–69.99	D+	63.00–66.99	D
60.00–62.99	D-	< 59.99	E

For information on current UF policies for assigning grade points, see https://catalog.ufl.edu/UGRD/academic-regulations/grades-grading-policies/.

14. **Textbook**: There is no text required for this course; however, the following books can be used as a guide:

Bolker, B. M. (2008). Ecological models and data in R. Princeton University Press.

Wickham, H., & Grolemund, G. (2016). R for data science: import, tidy, transform, visualize, and model data. " O'Reilly Media, Inc.".

Cotton, R. (2013). Learning R: A step-by-step function guide to data analysis. " O'Reilly Media, Inc.".

15. **Bibliography and other resources**:

Jombart, T. (2008). adegenet: a R package for the multivariate analysis of genetic markers. Bioinformatics, 24(11), 1403-1405.

Hijmans, R. J., Bivand, R., Forner, K., Ooms, J., Pebesma, E., & Sumner, M. D. (2022). Package 'terra'. Maintainer: Vienna, Austria.

Hijmans, R. J., Van Etten, J., Cheng, J., Mattiuzzi, M., Sumner, M., Greenberg, J. A., ... & Hijmans, M. R. J. (2015). Package 'raster'. R package, 734.

Xie, Y., Allaire, J. J., & Grolemund, G. (2018). R markdown: The definitive guide. Chapman and Hall/CRC.

16. **Class attendance and Make-up Work**: Requirements for class attendance and make-up exams, assignments and other work are consistent with university policies that can be found at: https://catalog.ufl.edu/UGRD/academic-regulations/attendance-policies/.

17. **Online Course Evaluation Process**: Student assessment of instruction is an important part of efforts to improve teaching and learning. Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online. Students can complete evaluations in three ways:

    (a) The email they receive from GatorEvals,

    (b) Their Canvas course menu under GatorEvals, or

    (c) The central portal at https://my-ufl.bluera.com

    Guidance on how to provide constructive feedback is available at https://gatorevals.aa.ufl.edu/students/. Students will be notified when the evaluation period opens. Summaries of course evaluation results are available to students at https://gatorevals.aa.ufl.edu/public-results/.

18. **Academic honesty**: UF students are bound by The Honor Pledge which states "We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code. On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: "On my honor, I have neither given nor received unauthorized aid in doing this assignment." The Conduct Code specifies a number of behaviors that are in violation of this code and the possible sanctions. See the UF Conduct Code (https://sccr.dso.ufl.edu/process/student-conduct-code/) website for more information. If you have any questions or concerns, please consult with the instructor or TAs in this class.

    It is assumed that you will complete all work independently in each course unless the instructor provides explicit permission for you to collaborate on course tasks (e.g. assignments, papers, quizzes, exams). It is your individual responsibility to know and comply with all university policies and procedures regarding academic integrity and the Student Honor Code. Violations of the Honor Code at the University of Florida will not be tolerated. Violations will be reported to the Dean of Students Office for consideration of disciplinary action. For more information regarding the Student Honor Code, please see: (https://policy.ufl.edu/regulation/4-040/).

19. **Software use**: All faculty, staff and students of the university are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against university policies and rules, disciplinary action will be taken as appropriate.

20. **In-Class Recording**: Students are allowed to record video or audio of class lectures. However, the purposes for which these recordings may be used are strictly controlled. The only allowable purposes are (1) for personal educational use, (2) in connection with a complaint to the university, or (3) as evidence in, or in preparation for, a criminal or civil proceeding.

All other purposes are prohibited. Specifically, students may not publish recorded lectures without the written consent of the instructor.

A "class lecture" is an educational presentation intended to inform or teach enrolled students about a particular subject, including any instructor-led discussions that form part of the presentation, and delivered by any instructor hired or appointed by the University, or by a guest instructor, as part of a University of Florida course. A class lecture does not include lab sessions, student presentations, clinical presentations such as patient history, academic exercises involving solely student participation, assessments (quizzes, tests, exams), field trips, private conversations between students in the class or between a student and the faculty or lecturer during a class session.

Publication without permission of the instructor is prohibited. To "publish" means to share, transmit, circulate, distribute, or provide access to a recording, regardless of format or medium, to another person (or persons), including but not limited to another student within the same class section. Additionally, a recording, or transcript of a recording, is considered published if it is posted on or uploaded to, in whole or in part, any media platform, including but not limited to social media, book, magazine, newspaper, leaflet, or third party note/tutoring services. A student who publishes a recording without written consent may be subject to a civil cause of action instituted by a person injured by the publication and/or discipline under UF Regulation 4.040 Student Honor Code and Student Conduct Code.

Our class sessions may be audio visually recorded for students in the class to refer back and for enrolled students who are unable to attend live. Students who participate with their camera engaged or utilize a profile image are agreeing to have their video or image recorded. If you are unwilling to consent to have your profile or video image recorded, be sure to keep your camera off and do not use a profile image. Likewise, students who un-mute during class and participate orally are agreeing to have their voices recorded. If you are not willing to consent to have your voice recorded during class, you will need to keep your mute button activated and communicate exclusively using the "chat" feature, which allows students to type questions and comments live. The chat will not be recorded or shared. As in all courses, unauthorized recording and unauthorized sharing of recorded materials is prohibited.

21. **Services for Students with Disabilities**: Students with disabilities who experience learning barriers and would like to request academic accommodations should connect with the Disability Resource Center. See the "Get Started With the DRC" (https://disability.ufl.edu/get-started/) webpage on the Disability Resource Center site. It is important for students to share their accommodation letter with their instructor and discuss their access needs, as early as possible in the semester.

22. **Campus Helping Resources** Students experiencing crises or personal problems that interfere with their general well- being are encouraged to utilize the university's counseling resources. The Counseling & Wellness Center provides confidential counseling services at no cost for currently enrolled students. Resources are available on campus for students having personal problems or lacking clear career or academic goals, which interfere with their academic performance.

Whole Gator App and website connects UF students with resources dedicated to supporting overall health and well-being. In addition to many of the resources below it also has strategies to practice self-care. https://one.uf.edu/whole-gator/topics

Health and Wellness

- U Matter, We Care: If you or someone you know is in distress, please contact umatter@ufl.edu, 352-392-1575, or visit U Matter, We Care website (https://umatter.ufl.edu/) to refer or report a concern and a team member will reach out to the student in distress.
- Counseling and Wellness Center: Visit the Counseling and Wellness Center website (https://counseling.ufl.edu/) or call 352-392-1575 for information on crisis services as well as non- crisis services.
- Student Health Care Center: Call 352-392-1161 for 24/7 information to help you find the care you need, or visit the Student Health Care Center website (https://shcc.ufl.edu/).
- University Police Department: Visit UF Police Department website (https://police.ufl.edu/) or call 352- 392-1111 (or 9-1-1 for emergencies).
- UF Health Shands Emergency Room / Trauma Center: For immediate medical care call 352-733-0111 or go to the emergency room at 1515 SW Archer Road, Gainesville, FL 32608; Visit the UF Health Emergency Room and Trauma Center website (https://ufhealth.org/emergency-room-trauma-center).
- GatorWell Health Promotion Services: For prevention services focused on optimal wellbeing, including Wellness Coaching for Academic Success, visit the GatorWell website (https://gatorwell.ufsa.ufl.edu/) or call 352-273- 4450.
- Hitchcock Field and Fork Pantry (https://pantry.fieldandfork.ufl.edu/). Food and toiletries for those experiencing food insecurity.
- Student Success Initiative, http://studentsuccess.ufl.edu.

23. **Academic Resources**

(a) E-learning technical support: Contact the UF Computing Help Desk (http://helpdesk.ufl.edu/) at 352-392- 4357 or via e-mail at helpdesk@ufl.edu.

(b) Career Connections Center (https://career.ufl.edu/): Reitz Union Suite 1300, 352-392- 1601. Career assistance and counseling services.

(c) Library Support (https://cms.uflib.ufl.edu/ask): Various ways to receive assistance with respect to using the libraries or finding resources. Call 866-281-6309 or email ask@ufl.libanswers.com for more information.

(d) Teaching Center (https://umatter.ufl.edu/office/teaching-center/): 1317 Turlington Hall, 352-392-2010 or to make an appointment 352- 392-6420. General study skills and tutoring.

(e) Writing Studio (https://writing.ufl.edu/writing-studio/): Daytime (9:30am-3:30pm): 2215 Turlington Hall, 352-846-1138 | Evening (5:00pm-7:00pm): 1545 W University Avenue (Library West, Rm. 339). Help brainstorming, formatting, and writing papers.

(f) Academic Complaints: Office of the Ombuds; Visit the Complaint Portal webpage for more information (https://www.ombuds.ufl.edu/complaint-portal/).

(g) Enrollment Management Complaints (Registrar, Financial Aid, Admissions): View the Student Complaint Procedure webpage for more information (https://www.ombuds.ufl.edu/complaint-portal/).

(h) Dean of Students Office (https://care.dso.ufl.edu/). 202 Peabody Hall, 392-1261. Among other services, the DSO assists students who are experiencing situations that compromise their ability to attend classes. This includes family emergencies and medical issues.

Student Complaints:

- Residential Course: https://www.ombuds.ufl.edu/complaint-portal
- Online Course: https://pfs.tnt.aa.ufl.edu/state-authorization-status/#student-complaint

Cover Sheet: Request 21775

WISXXX - Zoo Conservation & Management

Info

Process	Course|New|Ugrad/Pro
Status	Pending at CALS - College of Agricultural and Life Sciences
Submitter	Matthew Hallett mhallett2320@ufl.edu
Created	8/12/2025 12:02:16 PM
Updated	8/13/2025 2:44:19 PM
Description of request	New course request.

Actions

Step	Status	Group	User	Comment	Updated
Department	Commented	CALS - Wildlife Ecology and Conservation 60470000	Eric Hellgren	Highly detailed syllabus. Possible revisions to syllabus (while retaining full detail at the course's Canvas site):: 1. Summarize assignments, perhaps by only including assignment titles in the syllabus, with descriptions in Canvas 2. Provide a reduced calendar in tabular format so students have a quick view of the schedule. 3. Provide this link: https://syllabus.ufl.edu/syllabus policy/uf-syllabus-policy-links/ for course policies and remove redundancies between syllabus and material at the weblink. Retain policies specific to your course (such as attendance and class demeanor policy. Thanks, Matt.	8/13/2025
ZMnC_Course Syllabus_2025.docx					8/12/2025
Department	Approved	CALS - Wildlife Ecology and Conservation 60470000	Eric Hellgren		8/13/2025
No document changes					
College	Pending	CALS - College of Agricultural and Life Sciences			8/13/2025
No document changes					
University Curriculum Committee					
No document changes					
Statewide Course Numbering System					

Step	Status	Group	User	Comment	Updated
No document changes					
Office of the Registrar					
No document changes					
Catalog					
No document changes					
Student Academic Support System					
No document changes					
College Notified					
No document changes					

Course|New for request 21775

Info

Request: WISXXX - Zoo Conservation & Management
Description of request: New course request.
Submitter: Matthew Hallett mhallett2320@ufl.edu
Created: 8/11/2025 9:48:33 AM
Form version: 1

Responses

Recommended Prefix WIS
Course Level 3

Course Number XXX
Lab Code None
Course Title Zoo Management & Conservation
Transcript Title Zoo Mgmt & Cons
Delivery Method PC - Primarily Classroom (0-49% of course content taught outside of classroom)
Effective Term Fall
Effective Year Earliest Available
Rotating Topic No
Repeatable Credit? No

Amount of Credit 3

S/U Only? No
Contact Type Regularly Scheduled
Course Type Lecture
Weekly Contact Hours Contact hours will be 1:1 for credits (i.e. 3 hours/week).
Course Description Modern zoos and aquariums harness a massive potential to connect people and wildlife in a way that benefits wild populations and wild places. Throughout this course, you will learn how zoos and aquariums are working to balance these three ambitious goals and meet some of the people that are working behind and in front of the scenes to make it all happen, before gaining the opportunity to try your own hand at building a zoo that meets the high standards of modern science and society.
Prerequisites BSC 2010 or BSC 2011
Co-requisites N/A
Rationale for Placement in the Curriculum Bachelors degree level elective course for WIS, ZOO, BSC, ANS, and EVS majors and minors.
Syllabus Content Requirements All Items Included

Course Syllabus

Zoo Management & Conservation

WIS 4934 – Fall 2025

Class Times:

Tuesday: Period 7	1:55 pm – 2:45 pm	Architecture 0215
Thursday: Period 6-7	12:50 pm – 2:45 pm	Matherly 0015

Instructor:

Dr. Matt Hallett
Assistant Research Professor, Department of Wildlife Ecology & Conservation

Office: 2322 Mowry Road, IFAS Building 116,
https://campusmap.ufl.edu/#/index/0116

Email: mhallett2320@ufl.edu
Website: www.rupununiwildlife.org

Office Hours: Tuesday 10am – 12pm (via Zoom), Thursday 10am – 12 pm (via Zoom), or in person / via Zoom by appointment

Course Description:

In an era marked by biophilia and nature deficit disorder, zoos and aquariums harness a massive potential to connect people and wildlife in a way that benefits wild populations and wild places. In the modern zoo, animals in a collection are considered ambassadors who receive extraordinary care while building a bridge to the issues faced by their wild counterparts. An ever-evolving cultural awareness of the rights of animals and a historical consciousness that includes cases of outdated practices and facilities serve as motivation for modern zoos and aquariums to separate themselves from mere attractions by dramatically improving animal welfare, emphasizing education, and actively engaging in, or supporting, field conservation. The mission of the Association of Zoos & Aquariums dictates that their members 'advance animal welfare, public engagement, and conservation of wildlife.' Throughout this course, you will learn how zoos and aquariums are working to balance these three ambitious goals and meet some of the people that are working behind and in front of the scenes to make it all happen, before gaining the opportunity to try your own hand at building a zoo that meets the high standards of modern science and society.

Course Pre-requisites:

1. Must have taken BSC 2010 (Integrated Principles of Biology 1) or BSC 2011 (Integrated Principles of Biology 2) prior to taking this course.

Course Objectives:

By the end of this course, students will be able to:

- Identify zoo careers that are pertinent to their interests and understand how they are attained;
- Understand the history of zoos and aquariums and differentiate modern accomplishments from historical shortcomings;
- Form and defend a position on the benefits of modern zoo and aquariums;
- Evaluate mission-based programs, initiatives, and offerings of a zoo from the perspective of a business with basic needs to provide life support for animals and compensation for staff;
- Design facilities, exhibits, and infrastructure that promotes the health and safety of animals, staff, and visitors, generate revenue, and meet high standards for sustainability;
- Formulate plans for increasing animal welfare through wellness-inspired design, nutrition, enrichment, and training;
- Develop zoo programming that benefits science and conservation education;
- Explain how zoos and aquariums support, facilitate, or directly engage in conservation;
- Demonstrate ability to balance the needs of business, welfare, education, and conservation by building a successful zoo using simulation software.

Required Text

None. Readings are to be completed prior to class on the day listed in the course schedule. Readings will come from recommended texts, peer-reviewed journals, popular media, web resources, or videos, and will be posted on the course page in canvas. You are expected to read each of the assigned readings and review one highlighted supplementary material prior to class. The remaining supplementary materials are there for your learning and/or for the optional 'deep dive' extra credit assignment outlined below. You are **NOT** required to purchase any of the recommended texts. All readings will be made available via the course page on canvas.

Materials & Supplies

Each student is required to purchase access to Planet Zoo, a zoo simulation software.

Required software:
Planet Zoo©. (2020) Frontier Developments plc. All rights reserved.

Recommended Texts

Grazian, D. (2015). American Zoo: A Sociological Safari. Princeton University Press, New Jersey, USA.

Kaufman, A.B., Bashwa, M.J., & Maple, T.L. (eds.). (2019). Scientific foundations of zoos and aquariums. Cambridge University Press, UK.

Kleiman, D.G., Thompson, K.V., & Baer, C.K. (2010). Wild Mammals in Captivity: Principles & Techniques for Zoo Management. The University of Chicago Press, IL, USA.

Maple, T.L. (2016). Professor in the Zoo: Designing the Future of Wildlife in Human Care. Red Leaf Press, Fernandina Beach, FL, USA.

Minteer, B.A., Maienschein, J., & Collins, J.P. (2018). The Ark and Beyond: The Evolution of Zoos and Aquarium Conservation. The University of Chicago Press, Illinois, USA.

Rees, P.A. (2011). An Introduction to Zoo Biology & Management. John Wiley & Sons, Ltd, West Sussex, U.K.

Zimmermann, A., Hatchwell, M., Dickie, L, & West, C. (eds.). (2007). Zoos in the 21st Centruy: Catalysts for Conservation? Cambridge University Press, UK.

General Course Structure:

Prior to class meetings:

- Complete assigned readings;
- Review one supplementary item (video or popular article);
- Watch video of virtual guest speaker.

During class meetings:

- Attend live in-person sessions during assigned class times;
- Participate in online discussions and activities.

Weekly:

- Complete and submit participation assignment related to guest speaker.

In between class meetings:

- Construct, improve, expand, and grow your zoo using PlanetZoo© simulation software.

Over the course of the semester:

- Attend at least one zoo/aquarium field trip.

Course Schedule:

Theme I: Purpose, history, legislation & organizational structure of zoos

August 21: Course introduction, syllabus, assignments, expectations, pre-survey

August 26: Intro to zoo management, zoo conservation, and the history of zoos
Course introduction, review syllabus, and discuss the purpose and history of zoos from prehistoric to menageries to colonial/industrial to modern

Assigned readings:

1. Barrow, M.V. (2018). Teetering on the Brink of Extinction: The Passenger pigeon, the Bison, and American Zoo Culture in the Late Nineteenth and Early Twentieth Centuries. In: The Ark and Beyond: The Evolution of Zoos and Aquarium Conservation.
2. Rees, P.A. (2011). Chapter 3: A short history of zoos. An introduction to zoo biology & management.

Supplemental readings:

1. Rees, P.A. (2011). Chapter 1: The purpose and popularity of zoos. An Introduction to Zoo Biology & Management.
2. Guerrini, A. & Osborne, M.A. (2018). Animals in Circulation: The "Prehistory" of Modern Zoos. In: The Ark and Beyond: The Evolution of Zoos and Aquarium Conservation.
3. Ritvo, H. (2018). The World as Zoo: Acclimatization in the Nineteenth Century. In: The Ark and Beyond: The Evolution of Zoos and Aquarium Conservation.

Supplemental web resources:

1. National Geographic. (2020). Zoo.
2. Rothfels, N.T. (2019). Prison, spectacle, refuge: Modern zoos are proud of their contribution to animal conservation but will always be haunted by their histories. Aeon.
3. European Professional Zookeeper Qualification Framework. (2017). Evolution of Zoos.
4. Association of Zoos & Aquariums. (2020).
5. American Association of Zoo Keepers. (2020).
6. World Association of Zoos & Aquariums. (2020).
7. The Species Survival Commission. (2020).

Supplemental videos:

1. UC Davis. (2011). Jane Goodall on Role Zoos Play in Saving Wild Animals.
2. Origins OSU. (2017). Caged: Humans and Animals at the Zoo (a History Talk podcast).
3. Discovery Science. (2019). Human Zoos: America's Forgotten History of Scientific Racism.
4. Association of Zoos & Aquariums. (2018). We Are AZA.
5. WorldZooAqua. (2009). World Association of Zoos and Aquariums (WAZA) Trailer.
6. Species Survival Commission IUCN. (2020). About the Species Survival Commission.

August 28: Animal acquisition, zoo legislation, and zoo organizations & governing bodies

Hour 1: Acquiring animals for zoo collections (wild-caught vs. captive-bred), zoos vs. circus', zoos vs. wildlife tourism, AZA accredited zoos vs. private zoos, AZA vs. ZAA

Hour 2: Zoo legislation, governing bodies, and organizations

Assigned readings:

1. Powell, D.M., Dorsey, C.L., Faust, L.J. (2020). Advancing the science behind animal program sustainability: An overview of the special issue. Zoo Biology. 38:5-11.

2. Earnhardt, J. M., Thompson, S. D., & Schad, K. (2004). Strategic planning for captive populations: projecting changes in genetic diversity. Animal Conservation, 7(1), 9-16.

Supplemental readings:

1. Rees, P.A. (2011). Chapter 5: Zoo legislation. An introduction to zoo biology & management.
2. Tlusty, M. F., et al. (2013). Opportunities for public aquariums to increase the sustainability of the aquatic animal trade. Zoo biology, 32(1), 1-12.
3. Barringer, F. (2012). Opposition as Aquarium Seeks Import of Whales. New York Times.
4. Pepper, Elly. (2017). Zoos Take a Step Backward in Pangolin Conservation. Scientific American.
5. Morrell, V. (2008). Do Zoos Shorten Elephant Life Spans? Science.
6. Zoological Society of Milwaukee. n.d. How new animals come to the zoo.
7. Holst, B. & Dickie, L.A. (2007). How do national and international regulations and policies influence the role of zoos and aquariums in conservation? In: Zoos in the 21st Century: Catalysts for Conservation?

Supplemental web resources:

1. Association of Zoos & Aquariums. (2016). AZA Policy on Responsible Population Management.
2. Association of Zoos & Aquariums. (2017). Guidelines for the Humane and Ethical Acquisition and Management of Vertebrate Feeder Animals (excluding fish).
3. Association of Zoos & Aquariums. (2020). About AZA Accreditation.
4. Zoological Association of America. n.d. About ZAA.
5. Zoological Association of America. n.d. ZAA Accreditation.
6. Lincoln Park Zoo. (2020). Advising AZA Species Survival Plans.
7. Lincoln Park Zoo. (2020). Advising AZA Population Management Center.
8. Larsen, J.L. (2010). Current non-AZA accredited zoos, aquariums, nature-wildlife centers and refuges in the United States.
9. Animal Legal & Historical Center. (2004). Overview of the Laws Affecting Zoos.

Supplemental videos:

1. Calgary Zoo. (2018). The Association of Zoos and Aquariums.
2. Association of Zoos & Aquariums. (2019). Why AZA Matters.
3. LouisvilleZoo. (2019). Why Accredited Zoos Are Important.
4. WFMY News 2. (2019). AZA Accreditation: What Is It & How It Helps With Security Where Dangerous Animals Live.
5. Detroit Zoo. (2020). Detroit Zoo | Educational Lesson: What is the AZA?
6. Tennessee Aquarium. (2019). Celebrating 25 Years of Accreditation from the Association of Zoos and Aquariums!

Virtual guest speaker(s):

- Kristine Schad Eebes, AZA Population Management Center (PMC), Lincoln Park Zoo

September 2: Zoos as a business – organizational structure, staffing, and zoo economics

Organizational structure (departments, duties, & staffing) and economics (ticket sales, memberships, gift shop, food, fundraising, marketing, & PR)

Assigned readings:

1. Driml, S., Ballantyne, R., & Packer, J. (2017). How Long Does an Economic Impact Last? Tracking the Impact of a New Giant Panda Attraction at an Australian Zoo. Journal of Travel Research. 56(5): 613-624.
2. Grajal, A. (2013). Chapter 35: Zoos as ecotourism experiences. In: International Handbook on Ecotourism.

Supplemental readings:

1. Association of Zoos & Aquariums. (2019). AZA Zoos and Aquariums Contribute $24 Billion to U.S. Economy.
2. NPR Planet Money. (2014). Episode 566: The Zoo Economy.
3. San Antonio Business Journal. (2011). Study shows zoos have big economic impact.
4. Chicago Zoological Society. (2019). Economic Impact.
5. Cincinnati Zoo & Botanical Garden. (2013). Zoo Boosts Local Economy with BIG Regional Impact.
6. Fuller, S.S. (2012). Economic Impact of Zoo & Aquarium Operations and Construction Spending in 2012. George Mason University, Arlington, Virginia.
7. Rees, P.A. (2011). Chapter 4: Zoo organization and management. An Introduction to Zoo Biology & Management.
8. Grazian, D. (2015). Chapter 6: Simply Nature: Zoos and the Branding of Conservation. American Zoo: A Sociological Safari

Supplementary web materials:

1. Minnesota Zoological Gardens. (2019). Minnesota Zoo Organizational Chart.
2. Jacksonville Zoo & Gardens. (2019). Jacksonville Zoo Organizational Chart.
3. Zoo Miami. (2019). Zoo Miami Organizational Chart.
4. Woodland Park Zoo. (2019). Woodland Park Zoo Organizational Chart.
5. Smithsonian's National Zoo. (2019) National Zoo Organizational Chart.

Supplemental videos:

1. PBNUpload. (2019). Can a zoo boost the economy?
2. NBC News. (2020). While Zoos Are Closed To The Public, Keepers Care For Animals Big And Small | NBC Nightly News.
3. WNIT Public Television. (2011). Economic Outlook: Impact of Zoos & Aquariums.
4. TMJ4 News. (2016). Study reveals Milwaukee County Zoo is economic driver.
5. Vox. (2017). China's panda diplomacy, explained.

Virtual guest speaker(s):

- David Jenike, Chief Operating Officer, Cincinnati Zoo & Botanical Gardens

September 4: Intro to zoo design – naturalistic, multi-species exhibits, focus on wild habitats, cultural connections, attractions, and sustainability

1st 40 minutes: The modern zoo – naturalistic, multi-species exhibits with hidden barriers that provide an educational experience vs. concrete and bars, connections to wild habitats, cultural artifacts and connections to people

2nd 40 minutes: Gardens, art, dinosaurs, shopping, roller coasters, and other attractions

3rd 40 minutes: Sustainability – water, power, trash, food, waste, animal feed

Assigned readings:

1. Ross, S. R., et al. (2012). The impact of a modern, naturalistic exhibit design on visitor behavior: A cross-facility comparison. Visitor Studies, 15(1), 3-15.

2. Townsend, S. (2009). Incorporating sustainable practices for zoos and aquariums: a Triple Bottom Line approach. International Zoo Yearbook, 43(1), 53-63.

Supplemental readings:

1. Rees, P.A. (2011). Chapter 7: Zoo and exhibit design (7.1-7.2). An Introduction to Zoo Biology & Management.
2. Coe, J. C. (1985). Design and perception: Making the zoo experience real. Zoo Biology, 4(2), 197-208.
3. Davey, G. (2006). Relationships between exhibit naturalism, animal visibility and visitor interest in a Chinese Zoo. Applied Animal Behaviour Science, 96(1-2), 93-102.
4. Ward, P. I., et al. (1998). The relationship between popularity and body size in zoo animals. Conservation Biology, 12(6), 1408-1411.
5. Fàbregas, M. C., et al. (2012). Do naturalistic enclosures provide suitable environments for zoo animals? Zoo Biology, 31(3), 362-373.
6. Skibins, J. C., et al. (2013). Charisma and conservation: charismatic megafauna's influence on safari and zoo tourists' pro-conservation behaviors. Biodiversity and Conservation, 22(4), 959-982.
7. Koldewey, H. J., Atkinson, J., & Debney, A. (2009). Threatened species on the menu? Towards sustainable seafood use in zoos and aquariums. International Zoo Yearbook, 43(1), 71-81.

Supplemental web resources:

1. Brown, S. (2019). Jacksonville's Zoo's ten-year overhaul poised to begin. WOKV.
2. MIG Portico. n.d. Miami Zoo Master Plan.
3. Denver Zoo. (2016). Facility Master Plan. https://denverzoo.org/wp-
4. Oregon Zoo. (2011). Comprehensive Capital Master Plan.
5. Omaha Zoo. (2015). Omaha's Henry Doorly Zoo Announces 15 Year Master Plan.

Supplemental videos:

1. TEDx Talks. (2016). Zoos of the Future | Keith Lovett | TEDxNewBedford.
2. The Cincinnati Zoo & Botanical Garden. (2018). Cincinnati Zoo "More Home to Roam" Campaign Video.
3. WYFF News 4. (2011). Community to Decide Greenville Zoo's Future.
4. The Calgary Zoo. (2013). The Calgary Zoo Announces 20 - Year Master Plan.
5. The Florida Aquarium. (2011). Rising Tides: The Campaign to Grow The Florida Aquarium.

Virtual guest speakers:

- Erin Valley Donato, Sustainability Manager, Houston Zoo
- Tony Vecchio, Executive Director, Jacksonville Zoo & Gardens

September 9: Special design and staffing considerations

Accessibility, demographics of zoo staff and visitors, AZA's 5th promise

Assigned readings:

1. Lukins, J.M. & Szendrey, S. (2024). Access and Inclusion Go to the Zoo. Journal of Museum Education. 49 (4): 486-497.
2. Walters, G., Sithole, S., Hymas, O. (2024). Zoos and aquariums are changing how they engage with indigenous peoples and local communities. World Associations of Zoos and

Aquariums (WAZA) News. https://serval.unil.ch/resource/serval:BIB_57C41955FD7C.P001/REF.pdf
3. Shore, L. M., Cleveland, J. N., & Sanchez, D. (2018). Inclusive workplaces: A review and model. Human Resource Management Review, 28(2), 176-189.
4. Zookeeping isn't common in the Black community. This Black zookeeper wants to change that. (2021). Washington Post. https://www.washingtonpost.com/local/zookeeping-isnt-common-in-the-black-community-this-black-zookeeper-wants-to-change-that/2021/10/18/4c5c91aa-302a-11ec-a1e5-07223c50280a_story.html

Supplemental readings:

1. The Zookeeper. (2018). Zookeepers have a problem with diversity. Zookeeper Gear blog.
2. Murray, M.J. (2017). Developing diversity in veterinary medicine. JAVMA. 250 (1): 41.
3. Page, H. M. (2018). A Larger Table: Fostering Inclusion in Museums through Hiring Directors of Community Engagement. Master's Thesis, Buffalo State University.
4. Edgerton, A. (2018). Racial diversity in public garden internships (Doctoral dissertation, University of Delaware).
5. Strong, M. W. (2017). Still the Boys 'club. Women in the Museum: Lessons from the Workplace, 62.

Supplemental web resources:

1. Association of Zoos & Aquariums. (2020). AZA Board of Directors Position Statement. aza_bod_statement_deai.pdf
2. AZA. (2016). Diversity & Inclusion Policy.
3. AZA. (2020). Diversity Committee.
4. AZA. (2020). Visitor demographics.
5. AZA. (2020). Angela Peterson Excellence in Diversity Award.
6. Ashe, D. (2018). Bridging the Gap. AZA.
7. Chicago Zoological Society's Brookfield Zoo. (n.d.). Diversity at CZS.
8. San Diego Zoo Global. (2020). Diversity and inclusion initiative.

Supplemental videos:

1. Association of Zoos & Aquariums. (2022). Advancing AZA's Fifth Promise: Everyone Has a Part to Play.
2. Talks at Columbia. (2015). Why Diversity Matters | Katherine Phillips | Talks@Columbia.
3. TEDX Talks. (2018). INCLUSION over Diversity | Kenyona Matthews | TEDxAkron.
4. TEDx Talks (2019). On Diversity: Access Ain't Inclusion | Anthony Jack | TEDxCambridge.
5. TEDx Talks. (2014). The science of inclusion: Quinetta Roberson at TEDxVillanovaU.
6. TEDx Talks. (2015). Practical diversity: taking inclusion from theory to practice | Dawn Bennett-Alexander | TEDxUGA.

Virtual guest speaker:

- Dr. Jo-Elle Mogerman, Director, St. Louis Zoo North Campus
- Curtis Bennett, Director of Equity & Community Engagement, National Aquarium

Theme II: Zoo ethics, design, animal care, and wellness

September 11: Zoo ethics and wellness-inspired design
Hour 1: The ethics of keeping animals in captivity, the influence of animal welfare organizations, and anti-zoo groups
Hour 2: Features, types, and considerations for designs that promote animal wellness
Assigned readings:

1. Minteer, B. A., & Collins, J. P. (2013). Ecological ethics in captivity: Balancing values and responsibilities in zoo and aquarium research under rapid global change. Ilar Journal, 54(1), 41-51.
2. Wallace, K. (2016). After gorilla shooting, are zoos becoming 'obsolete'? CNN.
3. Ranganathan, R. (2017). Zoos are prisons for animals – no one needs to see a depressed penguin in the flesh. The Guardian.
4. PETA. n.d. Zoos: Pitiful Prisons.

Supplementary readings:

1. Kreger, M.D., & Hutchins, M. (2010). Ethics of Keeping Mammals in Zoos and Aquariums. In: Wild Mammals in Captivity: Principles & Techniques for Zoo Management.
2. Rees, P.A. (2011). Chapter 6: Ethics and zoos. An Introduction to Zoo Biology & Management.

Supplementary web resources:

1. Berkoff, M. (2017). Zoo Ethics and the Challenges of Compassionate Conservation. Psychology Today.
2. Ganzert, R. (2017). Zoos Are Not Prisons. They Improve the Lives of Animals. Time Magazine.
3. Block, M. (2005). The Ethics of the Zoo.

Supplementary videos:

1. BBC. (2016). Horizon explores the existence of Zoos - Horizon: Should We Close Our Zoos? - BBC Two.
2. Above the Noise. (2019). Are Zoos Good or Bad for Animals?
3. TEDx Talks. (2014). Why We Need Zoos | Gabriela Mastromonaco | TEDxToronto.
4. TEDx Talks. (2014). Animal rights -- birth of an activist | Simone Reyes | TEDxOrangeCoast.
5. Inside Edition. (2017). Why Zoos Are Targets for Closure After 'Greatest Show On Earth' Ends.

Virtual guest speaker(s):

- Dr. Terry Maple, Professor-in-Residence & Director of Wildlife Wellness, Jacksonville Zoo & Gardens

September 16: Captive animal behavior, enrichment, & training
Understanding, managing, and enriching the behavior of captive animals, techniques for monitoring captive animal behavior and training
Assigned readings:

1. Rees, P.A. (2011). Chapter 10: Zoo animal behavior, enrichment and training. An Introduction to Zoo Biology & Management.

2. Elsbeth McPhee, M. & Carlstead, K. (2010). The Importance of Maintaining Natural Behaviors in Captive Mammals. In: Wild Mammals in Captivity: Principles & Techniques for Zoo Management.
3. Melfi, V. (2013). Is training zoo animals enriching? Applied Animal Behaviour Science, 147(3-4), 299-305.

Supplemental readings:

1. Veasey, J. & Hammer, G. (2010). Managing Captive Mammals in Mixed Species Communities. In: Wild Mammals in Captivity: Principles & Techniques for Zoo Management.
2. Hill, S. P., & Broom, D. M. (2009). Measuring zoo animal welfare: theory and practice. Zoo Biology: Published in affiliation with the American Zoo and Aquarium Association, 28(6), 531-544.
3. Shyne, A. (2006). Meta-analytic review of the effects of enrichment on stereotypic behavior in zoo mammals. Zoo Biology: Published in affiliation with the American Zoo and Aquarium Association, 25(4), 317-337.
4. Davey, G. (2007). Visitors' effects on the welfare of animals in the zoo: A review. Journal of Applied Animal Welfare Science, 10(2), 169-183.

Supplemental web resources:

1. Lincoln Park Zoo. (2020). Understanding Animal Behavior.
2. Smith, L. (2014). Zoos Drive Animals Crazy. Slate.
3. Smithsonian's National Zoo. (2020). Animal Enrichment.
4. Association of Zoos & Aquariums. (2020). Managing Animal Enrichment and Training.
5. Association of Zoos & Aquariums. (2020). Behavior Scientific Advisory Group.

Supplemental Videos:

1. North Carolina Zoo. (2019). UNTAMED SCIENCE: Animal Enrichment.
2. Association of Zoos & Aquariums. (2019). 2019 Annual Conference: Ken Ramirez.
3. Phoenix Zoo. (2020). Phoenix Zoo: Tiger Enrichment.
4. Smithsonian's National Zoo. (2015). Scent Enrichment at the Smithsonian's National Zoo.
5. Stlzootube. (2017). Polar bear training at Saint Louis Zoo.
6. IndianapolisZoo. (2020). Training with Walruses Aku and Ginger.
7. Houston Zoo. (2010). Jaguar Training and Enrichment.
8. Stanford University. (2014). Stanford students design and build enrichments for San Francisco Zoo animals.

Virtual guest speaker:

- Angela Miller, Zoological Manager of Behavioral Husbandry, Disney's Animal Kingdom®

September 18: Animal health & wellness

Hour 1: Animal handling, management, and treatment

Hour 2: Veterinary care – preventative medicine, infectious diseases, congenital issues

Assigned readings:

1. Kagan, R. & Veasey. (2010). Challenges of Zoo Animal Welfare. In: Wild Mammals in Captivity: Principles & Techniques for Zoo Management.

2. Fernandes Cipreste, C., et al. (2010). How to Develop a Zoo-Based Environmental Enrichment Program: Incorporating Environmental Enrichment into Exhibits. In: Wild Mammals in Captivity: Principles & Techniques for Zoo Management.

Supplemental readings:

1. Rees, P.A. (2011). Chapter 11: Animal welfare and veterinary care. An Introduction to Zoo Biology & Management.
2. Hill, S. P., & Broom, D. M. (2009). Measuring zoo animal welfare: theory and practice. Zoo Biology: Published in affiliation with the American Zoo and Aquarium Association, 28(6), 531-544.
3. West, G., Heard, D. J., & Caulkett, N. (Eds.). (2014). Zoo animal and wildlife immobilization and anesthesia.

Supplemental web resources:

1. Smithsonian's National Zoo & Conservation Biology Institute. (2020). Zoo 101: Animal Health and Welfare.
2. Lincoln Park Zoo. (2020). Zoo Animal Health Network.
3. Woodland Park Zoo. (2020). Excellence in Animal Care and Health.
4. Wildlife Conservation Society. (2020). One World One Health Zoological Health Program.
5. Nashville Zoo. (2020). HCA Healthcare Veterinary Center.

Supplemental videos:

1. Denver Zoo. (2018). Wild About Denver Zoo: Veterinary Care.
2. Georgia Aquarium. (2016). STEAM Forward Ep. 3: Veterinary Operations at Georgia Aquarium (Activity Breaks).
3. NC State College of Veterinary Medicine. (2019). Behind the Scenes with the N.C. Zoo Veterinarian.
4. News4Jax. (2018). Wild Walkabouts: Animal hospital at the Jacksonville Zoo.
5. Columbus Zoo & Aquarium. (2017). Becoming a Zoo Vet – Dr. Jimmy Johnson Interview.

Virtual guest speaker:

- Dr. Yousef Jafarey, Veterinarian, Jacksonville Zoo & Gardens

September 23: Nutrition & feeding behavior

Food, energy, digestion, nutritional issues, food prep, and feeding behavior

Assigned readings:

1. Kirk Baer, C., et al. (2010). Contemporary Topics in Wild Mammal Nutrition. In: Wild Mammals in Captivity: Principles & Techniques for Zoo Management.
2. Henry, B., et al. (2010). Quality Control Aspects of Feeding Wild Mammals in Captivity. In: Wild Mammals in Captivity: Principles & Techniques for Zoo Management.

Supplemental readings:

1. Rees, P.A. (2011). Chapter 8: Nutrition and feeding. An Introduction to Zoo Biology & Management.
2. Kawata, K. (2008). Zoo animal feeding: a natural history viewpoint. Der Zoologische Garten, 78(1), 17-42.

3. Lindburg, D. G. (1988). Improving the feeding of captive felines through application of field data. Zoo biology, 7(3), 211-218.
4. Hatt, J. M., et al. (2006). Browse silage in zoo animal nutrition: feeding enrichment of browsers during winter. Zoological Library, 201-204.
5. Robbins, C. T. (1993). Wildlife feeding and nutrition. Academic Press.
6. Cheeke, P. R., & Dierenfeld, E. S. (2010). Comparative animal nutrition and metabolism. CABI.
7. Klasing, K. C. (1998). Comparative avian nutrition. Cab International.

Supplemental web resources:

1. AZA Nutrition Advisory Group. (2020).
2. St. Louis Zoo. (2020). Animal Food & Nutrition Center.
3. Brookfield Zoo. (2020). Zoo Nutrition Service.
4. Nijboer, J. (2015). Nutrition in Zoo Carnivores. Merck Veterinary Manual.
5. Nijboer, J. (2015). Overview of Nutrition: Exotic and Zoo Animals. Merck Veterinary Manual.

Supplemental videos:

1. Smithsonian. (2009). Feeding the Animals at the Smithsonian's National Zoo.
2. Cincinnati Zoo & Botanical Garden. (2017). What Does it Take to Feed All the Animals - Cincinnati Zoo.
3. Brookfield Zoo. (2020). Bringing the Zoo to You: Animal Nutrition.
4. Denver Zoo. (2017). Denver Zoo's carcass feeding program provides nutrition and enrichment.
5. Columbus Zoo & Aquarium. (2016). Wildlife and Wild Places with Tom Stalf - Animal Nutrition Center.

Virtual guest speaker:

- Dr. Heidi Bissell, Zoo Nutritionist, Busch Gardens, Tampa
- Dr. Jennifer Watts, Director of Nutrition, Chicago Zoological Society/Brookfield Zoo

September 25: Special care – Great apes, elephants, & orcas

1st 40 minutes: Great apes: Cognitive enrichment & psychological science in the zoo
2nd 40 minutes: Managing care for elephants and inheriting the burden of circus animals
3rd 40 minutes: Shamu, *Blackfish*, Sea World, and the future of marine mammals in captivity

Assigned readings:

1. Maple, T.L. (2016). Chapter 6: Psychological Science in the Zoo. Professor in the Zoo: Designing the Future of Wildlife in Human Care. Red Leaf Press, Fernandina Beach, FL, USA.
2. Maple, T.L. (2016). Chapter 7: Equity for Elephants. Professor in the Zoo: Designing the Future of Wildlife in Human Care. Red Leaf Press, Fernandina Beach, FL, USA.
3. Joseph, B. & Antrim, J. (2010). Special Considerations for the Maintenance of Marine Mammals in Captivity. In: Kleiman, D.G., Thompson, K.V., & Baer, C.K. (2010). Wild Mammals in Captivity: Principles & Techniques for Zoo Management. The University of Chicago Press, IL, USA.

Supplementary readings:

1. Maple, T.L. (2016). Chapter 8: Beyond Blackfish: Thinking outside the Aquatic Box. Professor in the Zoo: Designing the Future of Wildlife in Human Care. Red Leaf Press, Fernandina Beach, FL, USA.
2. Off Exhibit Podcast. (2015). Caring for African Elephants. https://www.marylandzoo.org/news-and-updates/2015/11/off-exhibit-caring-african-elephants/
3. Wells, D. L. (2005). A note on the influence of visitors on the behaviour and welfare of zoo-housed gorillas. *Applied Animal Behaviour Science*, *93*(1-2), 13-17.
4. Leeds, A., Boyer, D., Ross, S. R., & Lukas, K. E. (2015). The effects of group type and young silverbacks on wounding rates in western lowland gorilla (Gorilla gorilla gorilla) groups in North American zoos. *Zoo biology*, *34*(4), 296-304.
5. Leeds, A., Elsner, R., & Lukas, K. E. (2016). The effect of positive reinforcement training on an adult female western lowland gorilla's (Gorilla gorilla gorilla) rate of abnormal and aggressive behavior. *Animal Behavior and Cognition*, *3*(2), 78-87.
6. Gartner, M. C., & Weiss, A. (2018). Studying primate personality in zoos: Implications for the management, welfare and conservation of great apes. *International Zoo Yearbook*, *52*(1), 79-91.
7. Clark, F. E. (2013). Marine mammal cognition and captive care: A proposal for cognitive enrichment in zoos and aquariums. *Journal of Zoo and Aquarium Research*, *1*(1), 1-6.
8. Brando, S., Broom, D. M., Acasuso-Rivero, C., & Clark, F. (2018). Optimal marine mammal welfare under human care: Current efforts and future directions. *Behavioural processes*, *156*, 16-36.
9. Carlstead, K., Mench, J. A., Meehan, C., & Brown, J. L. (2013). An epidemiological approach to welfare research in zoos: The elephant welfare project. *Journal of Applied Animal Welfare Science*, *16*(4), 319-337.
10. Carlstead, K., Paris, S., & Brown, J. L. (2019). Good keeper-elephant relationships in North American zoos are mutually beneficial to welfare. *Applied Animal Behaviour Science*, *211*, 103-111.
11. Greco, B. J., Meehan, C. L., Miller, L. J., Shepherdson, D. J., Morfeld, K. A., Andrews, J., ... & Mench, J. A. (2016). Elephant management in North American zoos: environmental enrichment, feeding, exercise, and training. *PloS one*, *11*(7), e0152490.

Supplemental web resources:

1. Zoo Atlanta. (2018). Studying gorillas at the zoo and in the wild.
2. Lincoln Park Zoo. (2020). Ape cognition studies.
3. Zoological Society of Milwaukee. (2017). Great Care for Great Apes.
4. Conway, W. (2013). National Geographic blog. Elephants in Captivity.
5. Oregon Zoo. (2020). Oregon Zoo's vision for our elephants.
6. St. Louis Zoo. (2020). Taking Care of Our Elephants.
7. Sea World. (2020). Animal Care.
8. Raja, T. (2014). SeaWorld Says It Has to Keep Orcas in Captivity to Save Them. Mother Jones.
9. Daly, N. (2019). Orcas don't do well in captivity: here's why. National Geographic.

Supplemental videos:

1. ClevelandZooSociety. (2015). Conservation Chat: Dian Fossey Gorilla Fund at Cleveland Metroparks Zoo.
2. Riverbanks Zoo and Garden. (2016). Gorilla Enrichment at Riverbanks Zoo and Garden.
3. Chicago Tribune. (2014). Apes and touch screens at the Lincoln Park Zoo.
4. Oregon Zoo. (2016). Chimp turns videographer with GoPro enrichment.
5. Smithsonian's National Zoo. (2013). Apps for Apes: Smithsonian Orangutans using iPads for Enrichment.
6. Omaha Zoo. (2020). African Elephant Training | Omaha's Henry Doorly Zoo and Aquarium.
7. Dallas Zoo. (2016). Letting Elephants be Elephants at the Dallas Zoo.
8. Cincinnati Zoo & Botannical Garden. (2018). Elephant Enrichment Tree - Cincinnati Zoo.
9. SeaWorld® Parks & Entertainment. (2019). Go Behind The Scenes With SeaWorld Trainers And Learn How We Care For Orcas.
10. Indianapolis Zoo. (2020). Dolphin Dome Training.
11. Mystic Aquarium. (2019). Enriching Animals Lives In A Unique Way - Aquarium Rehab.

Virtual guest speaker:

- Dr. Kristen Lukas, Curator of Conservation and Science, Cleveland Metroparks Zoo
- Mike McClure, General Curator/Elephant Manager, The Maryland Zoo in Baltimore

September 30: Ensuring the health & safety of animals, staff, and visitors

Exhibit size, shape, substrate, temperature, water, light, humidity, fences, barriers, trenches, off-exhibit areas, emergency situations, and escape planning

Assigned readings:

1. Rosenthal, M. & Xanten W. (2010). Safety Considerations in a Zoological Park. In: Kleiman, D.G., Thompson, K.V., & Baer, C.K. (2010). Wild Mammals in Captivity: Principles & Techniques for Zoo Management. The University of Chicago Press, IL, USA.
2. Rosenthal, M. & Xanten, W. (2010). Structural and Keeper Considerations in Exhibit Design. In: Kleiman, D.G., Thompson, K.V., & Baer, C.K. (2010). Wild Mammals in Captivity: Principles & Techniques for Zoo Management. The University of Chicago Press, IL, USA.

Supplemental readings:

1. Fernandez, E. J., Tamborski, M. A., Pickens, S. R., & Timberlake, W. (2009). Animal–visitor interactions in the modern zoo: Conflicts and interventions. Applied Animal Behaviour Science, 120(1-2), 1-8.
2. Hill, D. J., Langley, R. L., & Morrow, W. M. (1998). Occupational injuries and illnesses reported by zoo veterinarians in the United States. Journal of zoo and wildlife medicine, 371-385.

Supplemental web resources:

1. Association of Zoos & Aquariums. (2020). Safety & Security.
2. Association of Zoos & Aquariums. (2015). Zoo & Aquarium Safety: Example Practices.

3. Louisville Zoo. (2020). Tips and Safety Guidelines.
4. Bittel, J. (2019). How to be safe while visiting the zoo or other wildlife facility. National Geographic.
5. Smithsonian National Zoo. n.d. Safety at the Zoo.

Supplemental videos:

1. CBS This Morning. (2016). Veteran zookeeper mauled by tiger and killed.
2. National Geographic. (2008). Zoo-Tiger Escape | National Geographic.
3. ABC News. (2012). Toddler at Pittsburgh Zoo Killed in Painted Dog Exhibit.
4. Today. (2019). Jaguar Attacks Woman Who Jumped Zoo Barrier For Selfie | TODAY.
5. CBS News. (2019). Woman climbs into lion exhibit at NYC zoo.

Virtual guest speaker:

- Dan Maloney, Director of Animal Care & Conservation, Jacksonville Zoo & Gardens

Theme III: Captive breeding and ex-situ conservation

October 2: Zoos as an ark: Reproductive biology & captive breeding

Zoos have largely moved away from positioning themselves as 'arks', but the Amphibian Ark has proven successful in repatriating populations of amphibians under dire threat

Assigned readings:

1. Mendelson, J.R. (2018). Frogs in Glass Boxes: Responses of Zoos to Global Amphibian Extinctions. In: Minteer, B.A., Maienschein, J., & Collins, J.P. (eds.). The Ark and Beyond: The Evolution of Zoos and Aquarium Conservation. The University of Chicago Press, Illinois, USA.
2. Clarke, A. G. (2009). The Frozen Ark Project: the role of zoos and aquariums in preserving the genetic material of threatened animals. International Zoo Yearbook. 43(1), 222-230.

Supplemental readings:

1. Browne, R. K., Wolfram, K., García, G., Bagaturov, M. F., & Pereboom, Z. J. J. M. (2011). Zoo-based amphibian research and conservation breeding programs. Amphibian and Reptile Conservation, 5(3), 1-14.
2. Tapley, B., Bradfield, K. S., Michaels, C., & Bungard, M. (2015). Amphibians and conservation breeding programmes: do all threatened amphibians belong on the ark?. Biodiversity and Conservation, 24(11), 2625-2646.
3. Biega, A. M. (2017). Evaluating the role of zoos and ex situ conservation in global amphibian recovery (Doctoral dissertation, Science: Biological Sciences Department).

Supplemental web resources:

1. Zoo Atlanta. (2020). Amphibian Ark.
2. Karlsdóttir, B. (2018). General guidelines for managers and supporters of amphibian captive breeding programmes. Amphibian Ark.
3. The Frozen Ark. (2020). Welcome.
4. Kolbert, E. (2013). Building the Ark. National Geographic.
5. Johnson, S. (2018). Ark, lifeboat, or something wilder? Future of zoos under debate. Chicago Tribune.

Supplemental videos:

1. Zoo Atlanta. (2012). Zoo Atlanta Amphibian Discovery Hangout On Air.
2. Mutual of Omaha's Wild Kingdom. (2017). Wild Kingdom | On Location | Panamanian Golden Frog.
3. ZSL - Zoological Society of London. (2014). Saving The Mountain Chicken Frog | Breeding.
4. LA Zoo. (2018). 2,000+ Endangered Frogs Hatch at L.A. Zoo.
5. San Diego Zoo Kids. (2019). Raising Hellbenders at the St. Louis Zoo.
6. AmphibianArk. (2015). Join Amphibian Ark to help save amphibians.

Virtual guest speaker:

- Dr. Joseph Mendelson, Herpetologist, Zoo Atlanta

Biology and behavior of breeding animals in captivity

Assigned readings:

1. Rees, P.A. (2011). Chapter 9: Reproductive biology. An Introduction to Zoo Biology & Management. John Wiley & Sons, Ltd, West Sussex, U.K.
2. Carlstead, K., & Shepherdson, D. (1994). Effects of environmental enrichment on reproduction. Zoo biology, 13(5), 447-458.

Supplemental readings:

1. Rees, P.A. (2011). Chapter 12: Collection planning and captive breeding (12.5-12.9). An Introduction to Zoo Biology & Management. John Wiley & Sons, Ltd, West Sussex, U.K.
2. Penfold, L. M., Powell, D., Traylor-Holzer, K., & Asa, C. S. (2014). "Use it or lose it": characterization, implications, and mitigation of female infertility in captive wildlife. Zoo Biology, 33(1), 20-28.
3. Brown, J. L., Graham, L. H., Wielebnowski, N., Swanson, W. F., Wildt, D. E., & Howard, J. G. (2001). Understanding the basic reproductive biology of wild felids by monitoring of faecal steroids. Journal of reproduction and fertility. Supplement, 57, 71-82.
4. Wildt, D. E., Brown, J. L., Bush, M., Barone, M. A., Cooper, K. A., Grisham, J., & Howard, J. G. (1993). Reproductive status of cheetahs (Acinonyx jubatus) in North American zoos: the benefits of physiological surveys for strategic planning. Zoo Biology, 12(1), 45-80.
5. Mellen, J. D. (1993). A comparative analysis of scent-marking, social and reproductive behavior in 20 species of small cats (Felis). American Zoologist, 33(2), 151-166.

Supplemental web resources:

1. White Oak Conservation. (2020). Animal Programs.
2. South-East Zoo Alliance for Reproduction & Conservation. (2020). About SEZARC: What We Do.
3. San Diego Zoo Institute for Conservation Research. (2020). Reproductive Sciences.
4. Smithsonian's National Zoo & Conservation Biology Institute. (2020). Wildlife Endocrinology.
5. North Carolina Zoo. (2020). Animal Behavior and Biology.

Supplemental videos:

1. University of North Florida. (2014). UNF/SEZARC Partner to Maximize Reproduction in Endangered Animals.
2. White Oak Conservation. (2020). White Oak Conservation Promotional Video.
3. BBC Earth. (2018). Giant Pandas' Mating Attempt | BBC Earth.
4. TurtleSurvival. (2015). New Hope for the World's Most Endangered Turtle.
5. AP Archive. (2019). Family planning key to successful cheetah breeding.
6. CBS This Morning. (2019). The fight to save the northern white rhino.
7. San Diego Zoo. (2011). "Super Diego" the Galapagos Tortoise Helped Save His Species.
8. Audubon Nature Institute. (2018). Saving Whooping Cranes from Extinction.
9. North Carolina Zoo. (2009). NC Zoo Supports Red Wolf Captive Program.

Virtual Guest speaker:

- Dr. Linda Penfold, Director, South-East Zoo Alliance for Reproduction & Conservation & White Oak Conservation

October 7: Studbooks, Species Survival Plans, and coordination across scales

Record keeping via Studbooks, managing captive populations through Species Survival Plans (SSPs), planning and coordination

Assigned readings:

1. Rees, P.A. (2011). Chapter 13: Record keeping. An Introduction to Zoo Biology & Management. John Wiley & Sons, Ltd, West Sussex, U.K.
2. Allard, R., Willis, K., Lees, C., Smith, B., & Hiddinga, B. (2010). Regional Collection Planning for Mammals. In: Kleiman, D.G., Thompson, K.V., & Baer, C.K. (2010). Wild Mammals in Captivity: Principles & Techniques for Zoo Management. The University of Chicago Press, IL, USA.
3. Lacy, R. C. (2013). Achieving true sustainability of zoo populations. Zoo Biology, 32(1), 19-26.

Supplemental readings:

1. Rees, P.A. (2011). Chapter 12: Collection planning and captive breeding (12.1-12.4). An Introduction to Zoo Biology & Management. John Wiley & Sons, Ltd, West Sussex, U.K.
2. Mallinson, J. J. (1995). Conservation breeding programmes: an important ingredient for species survival. Biodiversity & Conservation, 4(6), 617-635.
3. Songsasen, N., & Rodden, M. D. (2010). The role of the species survival plan in maned wolf Chrysocyon brachyurus conservation. International zoo yearbook, 44(1), 136-148.

Supplemental web resources:

1. Association of Zoos & Aquariums. (2020). Species Survival Plan (SSP) Programs.
2. Woodland Park Zoo. (2020). Conservation Breeding.
3. Brookfield Zoo. (2020). Species Survival Plans.
4. Zoo New England. (2020). Species Survival Plans.
5. Cameron Park Zoo. (2020). SSP.

Supplementary videos:

1. ClevelandZooSociety. (2017). Healthy Populations - Species Survival Plans.
2. Columbus Zoo and Aquarium. (2016). Bon Voyage, Nora!

3. TheLVZoo. (2011). Animal Species Survival Plan at the Lehigh Valley Zoo.
4. KPVI News. (2017). Species Survival Plan (Idaho Falls Zoo).
5. First Coast News. (2019). Jacksonville Zoo gets first litter of giant river otter pups.

Virtual guest speaker:

- Dr. Candice Dorsey, Senior Vice President, Conservation, Management & Welfare Sciences, Association of Zoos & Aquariums

October 9: Genetics in small populations & technological advances in captive breeding

Hour 1: Conservation genetics, managing small populations, and genetic rescue
Hour 2: Artificial techniques: insemination, cloning, and reviving extinct species
Assigned readings:

1. Ryder, O.A. (2018). Opportunities and Challenges for Conserving Small Populations: An Emerging Role for Zoos in Genetic Rescue. In: Minteer, B.A., Maienschein, J., & Collins, J.P. (eds.). The Ark and Beyond: The Evolution of Zoos and Aquarium Conservation. The University of Chicago Press, Illinois, USA.
2. Ballou, J.D., Lees, C., Faust, L.J., Long, S., Lynch, C., Bingaman Lackey, L., & Foose, T.J. (2010). Demographic and Genetic Management of Captive Populations. In: Kleiman, D.G., Thompson, K.V., & Baer, C.K. (2010). Wild Mammals in Captivity: Principles & Techniques for Zoo Management. The University of Chicago Press, IL, USA.
3. Tubbs, C.W. (2018). Advancing Laboratory-based Zoo Research to Enhance Captive Breeding of Southern White Rhinoceros. In: Minteer, B.A., Maienschein, J., & Collins, J.P. (eds.). The Ark and Beyond: The Evolution of Zoos and Aquarium Conservation. The University of Chicago Press, Illinois, USA.

Supplemental readings:

1. Friese, C. (2018). Cloning in the Zoo: When Zoos Become Parents. In: Minteer, B.A., Maienschein, J., & Collins, J.P. (eds.). The Ark and Beyond: The Evolution of Zoos and Aquarium Conservation. The University of Chicago Press, Illinois, USA.
2. Ogden, R., Chuven, J., Gilbert, T., Hosking, C., Gharbi, K., Craig, M., ... & Senn, H. (2020). Benefits and pitfalls of captive conservation genetic management: Evaluating diversity in scimitar-horned oryx to support reintroduction planning. Biological Conservation, 241, 108244.

Supplemental web resources:

1. Cincinnati Zoo & Botanical Garden. (2020). Center for Conservation and Research of Endangered Wildlife (CREW).
2. Omaha Zoo. (2020). Conservation Genetics.
3. Smithsonian's National Zoo & Conservation Biology Institute. (2020). Center for Conservation Genetics.
4. San Diego Zoo Institute for Conservation Research. (2020). Conservation Genetics.
5. Royal Zoological Society of Scotland. (2020). Applied Conservation Genetics.

Supplemental videos:

1. TEDx Talks. (2013). Genetic rescue and biodiversity banking: Oliver Ryder at TEDxDeExtinction.
2. PBS NewsHour Student Reporting Labs. (2014). Detroit Zoo uses captive breeding to 'sustain zoo population'.

3. American Museum of Natural History. (2012). Science Bulletins: Cloning and Conservation.
4. The Cincinnati Zoo & Botanical Garden. (2011). Pallas' Cats Born from Artificial Insemination - Cincinnati Zoo.
5. KPBS. (2018). Artificial Insemination Yields Rhino Embryo At Zoo's Safari Park.
6. Columbus Zoo and Aquarium. (2020). History Making Cheetah Cubs Born Through IVF.
7. chicagobotanicgarden. (2019). What do genetics have to do with conservation? - Emily Orr.

Virtual guest speaker:

- Dr. Terri Roth, Director of CREW, Cincinnati Zoo & Botanical Garden

Theme IV: Zoo education

October 14: Formal and information presentations

Keeper chats, public feedings, presentations, and shows

Assigned readings:

1. Grazian, D. (2015). Chapter 5: Bring on the Dancing Horses: American Zoos in the Entertainment Age. American Zoo: A Sociological Safari. Princeton University Press, New Jersey, USA.
2. Balmford, A., Leader-Williams, N., Mace, G.M., Manica, A. Walter, O., West, C. & Zimmermann, A. (2007). Message received? Quantifying the impact of informal conservation education on adults visiting UK zoos. In: Zimmermann, A., Hatchwell, M., Dickie, L, & West, C. (eds.). Zoos in the 21st Century: Catalysts for Conservation? Cambridge University Press, UK.

Supplemental readings:

1. Miller, L. J., Zeigler-Hill, V., Mellen, J., Koeppel, J., Greer, T., & Kuczaj, S. (2013). Dolphin shows and interaction programs: benefits for conservation education? Zoo biology, 32(1), 45-53.
2. Pearson, E. L., Lowry, R., Dorrian, J., & Litchfield, C. A. (2014). Evaluating the conservation impact of an innovative zoo-based educational campaign: 'Don't Palm Us Off' for orang-utan conservation. Zoo biology, 33(3), 184-196.
3. Jensen, E. (2014). Evaluating children's conservation biology learning at the zoo. Conservation Biology, 28(4), 1004-1011.
4. Ballantyne, R., Packer, J., Hughes, K., & Gill, C. (2018). Post-visit reinforcement of zoo conservation messages: The design and testing of an action resource website. Visitor Studies, 21(1), 98-120.

Supplemental web resources:

1. Florida Aquarium. (2020). Education.
2. Sea World Orlando. (2020). Shows and presentations.
3. Brevard Zoo. (2020). Animal Encounters.
4. Dallas Zoo. (2020). Daily Zookeeper Chats.
5. South Carolina Aquarium. (2020). Daily Programs.
6. San Diego Zoo. (2020). Shows.

7. Columbus Zoo. (2020). Surfin Safari.
8. SeaWorld Orlando. (2020). Live Family Friendly Shows & Presentations.

Supplemental videos:

1. Fort Worth Zoo. (2020). Fort Worth Zoo keeper chat – porcupines.
2. Memphis Zoo. (2019). Keeper Chat: Global Tiger Day.
3. New England Aquarium. (2020). Virtual Visit: Penguin Feeding!
4. Eric Homan Media Productions. (2020). Columbus Zoo: June 2016 - Animals on Safari.
5. SeaWorld® Parks & Entertainment. (2016). A look Inside SeaWorld's Revamped Orca Shows.

Virtual guest speaker(s):

- Debbi Stone, Vice President of Education, Florida Aquarium

October 16: Exhibit-based educational opportunities

Hour 1: On-exhibit opportunities – Signage, exhibit interpretation, messaging, docents
Hour 2: Hands on – Animal encounters, petting zoos, and touch tanks
Readings:

1. Grajal, A. Luebke, J.F., DeGregoria Kelly, L.A. (2018). Why Zoos Have Animals: Exploring he Complex Pathway from Experiencing Animals to Pro-environmental Behaviors. In: Minteer, B.A., Maienschein, J., & Collins, J.P. (eds.). The Ark and Beyond: The Evolution of Zoos and Aquarium Conservation. The University of Chicago Press, Illinois, USA.
2. Sterling, E., Lee, J., & Wood, T. (2007). Conservation education in zoos: an emphasis on behavioral change. In: Zimmermann, A., Hatchwell, M., Dickie, L, & West, C. (eds.). Zoos in the 21st Century: Catalysts for Conservation? Cambridge University Press, UK.
3. Godinez, A. M., & Fernandez, E. J. (2019). What is the Zoo Experience? How Zoos Impact a Visitor's Behaviors, Perceptions, and Conservation Efforts. Frontiers in psychology, 10, 1746.

Supplemental readings:

1. Reading, R.P. & Miller, B.J. (2007). Attitudes and attitude change among zoo visitors. In: Zimmermann, A., Hatchwell, M., Dickie, L, & West, C. (eds.). Zoos in the 21st Century: Catalysts for Conservation? Cambridge University Press, UK.
2. Rees, P.A. (2011). Chapter 14: Education, research and zoo visitor behavior. An Introduction to Zoo Biology & Management. John Wiley & Sons, Ltd, West Sussex, U.K.
3. Pennisi, L., Lackey, N. Q., & Holland, S. M. (2017). Can an immersion exhibit inspire connection to nature and environmentally responsible behavior?
4. Gwynne, J.A. (2007). Inspiration for conservation: moving audiences to care. In: Zimmermann, A., Hatchwell, M., Dickie, L, & West, C. (eds.). Zoos in the 21st Century: Catalysts for Conservation? Cambridge University Press, UK.
5. Rautman, E., Ogden, J. & Winsten, K. (2010). Visitors, Conservation Learning, and the Design of Zoo and Aquarium Experiences. In: Kleiman, D.G., Thompson, K.V., & Baer, C.K. (2010). Wild Mammals in Captivity: Principles & Techniques for Zoo Management. The University of Chicago Press, IL, USA.

6. Mony, P. R., & Heimlich, J. E. (2008). Talking to visitors about conservation: Exploring message communication through docent–visitor interactions at zoos. *Visitor Studies*, *11*(2), 151-162.

Supplemental web resources:

1. Wojton, M. & Heimlich, J.E. (2016). iSaveSpecies—Summative Evaluation Report. Center for Research and Evaluation.
2. International Zoo Educators Association. n.d. Interactive Zoo Signage.
3. St. Louis Zoo. n.d. Conservation Conversation.
4. Myers, C. & Jenike, S. (2014). Saving Species: Socially-Networked Exhibits for Science Inquiry and Public Action. NSF.

Supplemental videos:

1. Denver Zoo (2018). Meet the Animal Ambassadors who will be at Do At The Zoo!
2. Zoo Atlanta. (2020). Virtual Petting Zoo Tour.
3. City of Greenville, South Carolina. (2017). Become a Greenville Zoo Docent.
4. Jacksonville Zoo & Gardens. (2020). Behind the Scene Stingray Bay.
5. WAVY TV 10. (2020). Virginia Zoo moves toward more inclusive, sensory-friendly visitor experience.

Virtual guest speaker(s):

- Thane Maynard, CEO, Cincinnati Zoo & Botanical Gardens
- Chris & Lynne Myers, Project Dragonfly at Miami University

October 21: Long-term, participatory, and immersive programs

Outreach, work-study, internships, citizen science, and immersive nature-based programs

Assigned readings:

1. Hart, R. A. (2008). Stepping back from 'The ladder': Reflections on a model of participatory work with children. In Participation and learning (pp. 19-31). Springer, Dordrecht.
2. Ardoin, N. M., Bowers, A. W., & Gaillard, E. (2020). Environmental education outcomes for conservation: A systematic review. Biological Conservation, 241, 108224.
3. Bruyere, B., Bynum, N., Copsey, J., Porzecanski, A., & Sterling, W. (2019). Conservation Leadership Capacity Building: a Landscape Study and Recommendations. National Geographic Society, Smithsonian Institute, Global Wildlife Conservation.

Supplemental readings:

1. Mulligan, M. P., Grant, C., Herget, J., Martell, E., & Melber, L. (2015). Partners in Fieldwork: empowering urban high school learners. Best Practices–Committee for Education and Cultural Action, 4, 85-94.
2. Rahm, J., Martel-Reny, M. P., & Moore, J. C. (2005). The role of afterschool and community science programs in the lives of urban youth. School Science and Mathematics, 105(6), 283-291.
3. Larson, L. R., Castleberry, S. B., & Green, G. T. (2010). Effects of an Environmental Education Program on the Environmental Orientations of Children from Different Gender, Age, and Ethnic Groups. Journal of Park & Recreation Administration, 28(3).

4. Tulloch, A. I., Possingham, H. P., Joseph, L. N., Szabo, J., & Martin, T. G. (2013). Realizing the full potential of citizen science monitoring programs. Biological Conservation, 165, 128-138.

Supplemental web resources:

1. Smithsonian Mason School of Conservation. (2020). Programs and Courses.
2. Jacksonville Zoo & Gardens. (2020). Internships.
3. Zoo Tampa. (2020). Intern at Zoo Tampa.
4. Florida Aquarium. (2020). Internships.
5. Zoo Miami. (2020). Internship Programs.
6. Shedd Aquarium. (2020). Work-study.
7. Shedd Aquarium. (2014). Underwater robotics.
8. Brookfield Zoo. (2020). College & High School Internship Program.
9. Lincoln Park Zoo. (2020). Internships

Supplemental videos:

1. TED. (2012). Ernesto Sirolli: Want to help someone? Shut up and listen!
2. Smithsonian's National Zoo. (2017). Smithsonian-Mason School of Conservation: Training the Next Generation
3. Disney Conservation. (2012). Students from The Nature Conservancy's LEAF Program Intern at the Disney Wilderness Preserve.
4. Cbpatriot8. (2015). Zoo Miami: Conservation Teen Scientist Program.
5. SeaWorld® Parks & Entertainment. (2015). Camp SeaWorld: An Amazing Week of Inspiration and Conservation.
6. Houston Zoo. (2015). Lucy Talks About the Houston Zoo Internship Program.
7. Lincoln Park Zoo. (2019). Zoo Intern Program: Bridging conservation and education with Chicago teens.

Virtual guest speaker:

- Dr. Ricardo Stanoss, Director of the Center for Learning Innovation, Smithsonian National Zoo and Conservation Biology Institute

October 23: Zoos and the media

Hour 1: TV: From Joan Embery and Jack Hannah, to Steve Irwin and Jeff Corwin
Hour 2: Movies & social media: From *Blackfish* and *The Tiger King*, to Harambe and Fiona
Assigned readings:

1. Maynard, L. (2018). Media framing of zoos and aquaria: From conservation to animal rights. Environmental Communication, 12(2), 177-190.
2. Brown, W. J. (2010). Steve Irwin's influence on wildlife conservation. Journal of Communication, 60(1), 73-93.
3. Burford, C., & Schutten, J. (2017). Internatural activists and the "Blackfish Effect": Contemplating captive orcas' protest rhetoric through a coherence frame. Frontiers in Communication. 1, 16.

Supplemental readings:

1. Hutchins, M. (2006). Death at the zoo: the media, science, and reality. Zoo Biology: Published in affiliation with the American Zoo and Aquarium Association, 25(2), 101-115.

2. Carr, N., & Cohen, S. (2011). The public face of zoos: images of entertainment, education and conservation. Anthrozoös, 24(2), 175-189.

Supplemental web resources:

1. Wallace, K. (2013). 'Blackfish' sparks debate over taking kids to animal parks. CNN.
2. O'Neill, L. (2016). Why Elephants in American Zoos May Be the New Orcas in Blackfish. Esquire.
3. Ogle, B. (2019). 'Blackfish' sparked positive new era for zoos, SeaWorld | Commentary. Orlando Sentinel.

Supplemental videos:

1. Johnny Carson. (2012). Baby Gorilla from San Diego Zoo: Orangutans on Johnny Carson's Tonight Show.
2. The Tonight Show Starring Jimmy Fallon. (2018). Kevin Hart Is Terrified of Robert Irwin's Animals.
3. Australia Zoo. (2007). Australia Zoo Tour with Steve Irwin.
4. CNN. (2013). "Blackfish" looks at whales in captivity.
5. Denver7 – The Denver Channel. (2020). 39 tigers from Netflix series 'Tiger King' are now living in a Colorado animal sanctuary.
6. The Cincinnati Zoo & Botanical Garden. (2017). Baby Hippo Fiona - Episode 1 The Beginning - Cincinnati Zoo.
    a. ABC News. (2016). Gorilla Killed After Child Falls Into Zoo Habitat.

Virtual guest speaker:

- Ron Magill, Goodwill ambassador and Communications Director, Zoo Miami

October 28: School & Teacher Programs

Field trips, outreach: Educational programs for students, teacher resources, workshops, professional development, and continuing education

Assigned readings:

1. Grazian, D. (2015). Chapter 4: Life Lessons: The Zoo as a Classroom. American Zoo: A Sociological Safari. Princeton University Press, New Jersey, USA.
2. Weinstein, M., Whitesell, E. R., & Schwartz, A. E. (2014). Museums, zoos, and gardens: How formal-informal partnerships can impact urban students' performance in science. Evaluation review, 38(6), 514-545.

Supplemental readings:

1. Davidson, S. K., Passmore, C., & Anderson, D. (2010). Learning on zoo field trips: The interaction of the agendas and practices of students, teachers, and zoo educators. Science Education, 94(1), 122-141.
2. Khalil, K., & Ardoin, N. (2011). Programmatic evaluation in association of zoos and aquariums–accredited zoos and aquariums: A literature review. Applied Environmental Education & Communication, 10(3), 168-177.
3. Randler, C., Baumgärtner, S., Eisele, H., & Kienzle, W. (2007). Learning at workstations in the zoo: A controlled evaluation of cognitive and affective outcomes. Visitor Studies, 10(2), 205-216.
4. Falk, J. H., & Dierking, L. D. (1997). School field trips: Assessing their long-term impact. Curator: The Museum Journal, 40(3), 211-218.

5. Sattler, S., & Bogner, F. X. (2017). Short-and long-term outreach at the zoo: Cognitive learning about marine ecological and conservational issues. Environmental Education Research, 23(2), 252-268.

Supplemental web resources:

1. Jacksonville Zoo & Gardens. (2020). School and Group Programs.
2. Woodland Park Zoo. (2020). Field Trip and Homeschool Resources.
3. Cleveland Metroparks Zoo. (2020). For Teachers.
4. San Diego Zoo Global. (2020). Teacher Workshops in Conservation Science.
5. Brookfield Zoo. (2020). Teacher Classes.
6. Bronx Zoo. (2020). On-site Professional Development.
7. Project Dragonfly at Miami University. (2020). Advanced Inquiry Program.

Supplemental videos:

1. The Maryland Zoo in Baltimore. (2019). Field Trip to the Maryland Zoo: Pre-Visit Video (Middle and High School).
2. KVIEvideo. (2019). Teaching Great Teachers – A Day at the Zoo (Fresno Chafee Zoo).
3. Denver Zoo. (2015). Denver Zoo's Advanced Inquiry Program.
4. Pittsburgh Zoo & PPG Aquarium. (2018). Education Programs at the Zoo.
5. Tedx Talks. (2014). No More Bad Coffee: Professional Development That Honors Teachers: Sheryl Chard at TEDxABQED.

Virtual guest speaker:

- Claire Lannoye-Hall, Curator of Education, Detroit Zoological Society
- Dr. Joy Kubarek, Co-Founder, Inform Evaluation & Research

Theme V: In-situ zoo Conservation

October 30: How do zoos contribute to the conservation of wild populations?

Captive breeding, reintroduction, generating revenue, community engagement, protected areas

Assigned readings:

1. Tribe, A., & Booth, R. (2003). Assessing the role of zoos in wildlife conservation. Human Dimensions of Wildlife. 8(1), 65-74.
2. Keulartz, J. (2015). Captivity for conservation? Zoos at a crossroads. Journal of Agricultural and Environmental Ethics. 28(2), 335-351.

Supplemental readings:

1. Miller, B., Conway, W., Reading, R. P., Wemmer, C., Wildt, D., Kleiman, D., Monfort, S., Rabinowitz, A., Armstrong, B., & Hutchins, M. (2004). Evaluating the conservation mission of zoos, aquariums, botanical gardens, and natural history museums. Conservation Biology, 18(1), 86-93.
2. Gusset, M., & Dick, G. (2010). 'Building a Future for Wildlife'? Evaluating the contribution of the world zoo and aquarium community to in situ conservation. International Zoo Yearbook, 44(1), 183-191.

Supplemental web resources:

1. Jacknsonville Zoo and Gardens. (2020). Conservation.
2. Disney's Animal Kingdom. (2020). Conservation Centers for Species Survival.
3. Zoo Miami. (2020). Conservation and Research Programs.

4. Florida Aquarium. (2020). Conservation.
5. Sea World Orlando. (2020). Conservation Efforts.
6. White Oak. (2020). Committed to saving species.
7. Bush Gardens Tampa. (2020). Sea World and Busch Gardens Conservation Fund.
8. Tampa Zoo at Lowry Park. (2020). Conservation.
9. Mote Marine Lab. (2020). Sharks and Rays Conservation Research Program.
10. St. Augustine Alligator Farm. (2020). Conservation and Research.
11. Santa Fe College Teaching Zoo. (2020). Conservation.
12. Sea Life Orlando Aquarium. (2020). Conservation.
13. Brevard Zoo. (2020). Conservation.
14. Palm Beach Zoo. (2020). Conservation.
15. Central Florida Zoo & Botanical Gardens. (2020). Conservation in Action.
16. Discovery Cove Orlando. (2019). Five ways discovery cove is making everyday earth day.
17. The Seas. (2020). Discovering Marine Life Conservation.
18. Lubee Bat Conservancy. (2020). Conservation Projects.
19. Lemur Conservation Foundation. (2020). Madagascar.
20. Lion Country Safari. (2020). Conservation Overview.

Supplemental videos:

1. Dallas Zoo. (2019). WHY ZOOS MATTER – Part 1: Conservation.
2. ZooTampa. (2019). Conservation is at Our Core.
3. Zoo Miami. (2019). Conservation Action Center at Zoo Miami Opening in 2020.
4. Mote Marine Laboratory & Aquarium. (2018). Mote Marine Laboratory Coral Reef Restoration at EMIC2R3.
5. EAZAvideo. (2010). Zoos and Conservation.

Virtual guest speaker(s):

- John Lukas, Curator of Wildlife Conservation, Jacksonville Zoo & Gardens and President, International Rhino Foundation
- Jody Palmer, Director of Conservation, Brevard Zoo

November 4: Rescue, rehabilitation, and emergency response

Emergency response to sick and injured wildlife, taxa under extreme threat of extinction

Assigned readings:

1. Adimey, N. M., Ross, M., Hall, M., Reid, J. P., Barlas, M. E., Diagne, L. W. K., & Bonde, R. K. (2016). Twenty-six years of post-release monitoring of Florida manatees (*Trichechus manatus latirostris*): evaluation of a cooperative rehabilitation program. Aquatic Mammals, 42(37), 391.
2. Maple, T.L., & Segura, V.D. (2018). Wildlife Wellness: A New Ethical Frontier for Zoos and Aquariums. In: Minteer, B.A., Maienschein, J., & Collins, J.P. (eds.). The Ark and Beyond: The Evolution of Zoos and Aquarium Conservation. The University of Chicago Press, Illinois, USA.

Supplemental readings:

1. Tisdell, C. A., Preece, H. J., Abdullah, S., & Beyer, H. L. (2017). Strategies to conserve the koala: cost-effectiveness considerations. Australasian Journal of Environmental Management, 24(3), 302-318.

2. Molina-López, R. A., Mañosa, S., Torres-Riera, A., Pomarol, M., & Darwich, L. (2017). Morbidity, outcomes and cost-benefit analysis of wildlife rehabilitation in Catalonia (Spain). PloS one, 12(7).
3. Sleeman, J. M., & Clark, E. E. (2003). Clinical wildlife medicine: a new paradigm for a new century. Journal of Avian Medicine and surgery, 17(1), 33-37.
4. Massey, J. G., Hampton, S., & Ziccardi, M. (2005, May). A cost/benefit analysis of oiled wildlife response. In International Oil Spill Conference (Vol. 2005, No. 1, pp. 463-466). American Petroleum Institute.

Supplemental web resources:

1. SeaWorld Orlando. (2020). Commitment to Animal Rescue, Rehabilitation, & Return.
2. Jacksonville Zoo & Gardens. (2020). Manatee Rescue and Rehabilitation.
3. The Sea Turtle Hospital. (2014).

Supplemental videos:

1. TheWildlifeWarriors. (2018). Australia Zoo Wildlife Hospital: Saving Native Animals.
2. SeaWorld® Parks & Entertainment. (2020). SeaWorld Rescues OVER 36,000 Animals and Counting.
3. South Carolina Aquarium. (2011). CNN International Report on the South Carolina Aquarium's Sea Turtle Rescue Program.
4. The Marine Mammal Center (California). (2013). Rescue, Rehabilitation and Release.
5. Palm Beach Zoo & Conservation Society. (2016). Palm Beach Zoo: Rescue. Rehabilitate. Respect.

Virtual guest speaker(s):

- Craig Miller, Curator of Mammals, Jacksonville Zoo & Gardens
- Teresa Calleson, Florida Manatee Recovery Lead, U.S. Fish and Wildlife Service

November 6: Reintroduction of captive bred individuals

Hour 1: Challenges – Sumatran rhino, South China tiger, Indian bustard, giant panda

Hour 2: Successes – American bison, black-footed ferret, California condor, golden lion tamarin, red wolf, Wyoming toad

Assigned readings:

1. Rothfels, N. (2018). (Re)Introducing the Przewalski's Horse. In: Minteer, B.A., Maienschein, J., & Collins, J.P. (eds.). The Ark and Beyond: The Evolution of Zoos and Aquarium Conservation. The University of Chicago Press, Illinois, USA.
2. Earnhardt, J.M. (2010). The Role of Captive populations in Reintroduction Programs. In: Kleiman, D.G., Thompson, K.V., & Baer, C.K. (2010). Wild Mammals in Captivity: Principles & Techniques for Zoo Management. The University of Chicago Press, IL, USA.

Supplemental readings:

1. Rees, P.A. (2011). Chapter 15: In-situ conservation and reintroduction. An Introduction to Zoo Biology & Management. John Wiley & Sons, Ltd, West Sussex, U.K.

2. Kraaijeveld-Smit, F. J., Griffiths, R. A., Moore, R. D., & Beebee, T. J. (2006). Captive breeding and the fitness of reintroduced species: a test of the responses to predators in a threatened amphibian. Journal of Applied Ecology, 43(2), 360-365.
3. McPhee, M. E. (2004). Generations in captivity increases behavioral variance: considerations for captive breeding and reintroduction programs. Biological conservation, 115(1), 71-77.
4. Chuven, J., Newby, J., Monfort, S., Mertes, K., Wacher, T., Al Dhaheri, S., ... & des Tigneuses, R. (2018). Reintroduction of the scimitar–horned oryx in to the Ouadi Rime-Ouadi Achim Game Reserve, Chad. Global Reintroduction Perspectives: 2018. Case studies from around the globe, 165.
5. Dreitz, V. J. (2006). Issues in species recovery: an example based on the Wyoming toad. BioScience, 56(9), 765-771.
6. Meretsky, V. J., Snyder, N. F., Beissinger, S. R., Clendenen, D. A., & Wiley, J. W. (2000). Demography of the California Condor: implications for reestablishment. Conservation Biology, 14(4), 957-967.
7. Kleiman, D. G., Beck, B. B., Dietz, J. M., Dietz, L. A., Ballou, J. D., & Coimbra-Filho, A. F. (1986). Conservation program for the golden lion tamarin: captive research and management, ecological studies, educational strategies, and reintroduction. In Primates (pp. 959-979). Springer, New York, NY.

Supplemental web resources:

1. Phoenix Zoo. (2020). Black-footed ferret.
2. Smithsonian National Zoo. (2020). Oryx Reintroduction.
3. Kansas City Zoo. (2020). Wyoming Toad Captive Breeding, Reintroduction, And Field Survey Program.
4. St. Louis Zoo. (2011). World's First Hellbender Breeding Program.
5. National Geographic. (2013). Marking the 100-year Anniversary of Historic Transfer of Bison from the Bronx Zoo to Wind Cave National Park.

Supplemental videos:

1. OSU Extension Professionals. (2019). Conserving Karner Blue Butterflies at the Toledo Zoo (Mary Gardiner, Ryan Walsh, and the Toledo Zoo).
2. The Cincinnati Zoo & Botanical Garden. (2015). Harapan's Journey - Hope for the Sumatran Rhino - Cincinnati Zoo.
3. Smithsonian's National Zoo. (2017). Earth Optimism: Oryx.
4. Arizona GameAndFish. (2011). Phoenix Zoo Ferret building.
5. TEDx Talks. (2013). How we brought the condor back from the brink | Michael Mace | TEDxDeExtinction.
6. Kansas City Zoo. (2016). A Look At The Wyoming Toad SSP.

Virtual guest speaker:

- Dr. Jared Stabach, Research Ecologist, Conservation Ecology Center, Smithsonian National Zoo
- Dr. Ryan Walsh, Conservation Coordinator, Toledo Zoo

November 11: * NO CLASS MEETING – VETERANS DAY *****

November 13: Working with industries, generating revenue to support existing field programs, and building conservation infrastructure

First 40 minutes: Guiding consumer decision making towards sustainable products (palm oil, sustainable seafood) and working directly with businesses to 'green' operations

Second 40 minutes: Grants and partnerships with organizations and academics in conservation and zoo-based tourism

Third 40 minutes: Conservation NGOs (Bronx Zoo & WCS, Frankfurt Zoo & FZS) and Field Stations (San Diego Zoo Institute for Conservation Research)

Assigned readings:

1. Cerezo, A. & Kapsar, K.E. (2018). Zoo Conservation Disembarks: Stepping off the Ark and into Global Sustainable Development. In: Minteer, B.A., Maienschein, J., & Collins, J.P. (eds.). The Ark and Beyond: The Evolution of Zoos and Aquarium Conservation. The University of Chicago Press, Illinois, USA.
2. Fa, J. E., Gusset, M., Flesness, N., & Conde, D. A. (2014). Zoos have yet to unveil their full conservation potential. Animal Conservation, 17(2), 97-100.
3. Zimmermann, A. & Wilkinson, R. (2007). The conservation mission in the wild: zoos as conservation NGOs? In: Zimmermann, A., Hatchwell, M., Dickie, L, & West, C. (eds.). Zoos in the 21st Century: Catalysts for Conservation? Cambridge University Press, UK.

Supplemental readings:

1. Christie, S. (2007). Zoo-based fundraising for in situ wildlife conservation. In: Zimmermann, A., Hatchwell, M., Dickie, L, & West, C. (eds.). Zoos in the 21st Century: Catalysts for Conservation? Cambridge University Press, UK.
2. Zimmermann, A. (2010). The Role of Zoos in Contributing to In Situ Conservation. In: Kleiman, D.G., Thompson, K.V., & Baer, C.K. (2010). Wild Mammals in Captivity: Principles & Techniques for Zoo Management. The University of Chicago Press, IL, USA.
3. Swaisgood, R. R. (2009). Zoos dream of becoming conservation NGOs. Conservation Biology, 23(5), 1338-1340.
4. Sinclair, A. R. E., Mduma, S. A., Hopcraft, J. G. C., Fryxell, J. M., Hilborn, R. A. Y., & Thirgood, S. (2007). Long-term ecosystem dynamics in the Serengeti: lessons for conservation. Conservation Biology, 21(3), 580-590.
5. Sanderson, E. W., Redford, K. H., Weber, B., Aune, K., Baldes, D., Berger, J., ... & Fearn, E. V. A. (2008). The ecological future of the North American bison: conceiving long-term, large-scale conservation of wildlife. Conservation biology, 22(2), 252-266.
6. Roheim, C. A. (2009). An evaluation of sustainable seafood guides: implications for environmental groups and the seafood industry. Marine Resource Economics, 24(3), 301-310.
7. Gusset, M., & Dick, G. (2011). The global reach of zoos and aquariums in visitor numbers and conservation expenditures. Zoo Biology, 30(5), 566-569.
8. San Diego Zoo Global. (2020). Top fundraising priorities. https://zoo.sandiegozoo.org/support-us/top-fundraising-priorities.
9. Sequoia Park Zoo. (2020). Conservation Fundraising. https://www.sequoiaparkzoo.net/conservation/conservation-fundraising/.

10. Zoo Tampa at Lowry Park. (2020). Events at the zoo. https://zootampa.org/events/.

Supplemental web resources:

1. Monterrey Bay Aquarium. (2020). Seafood Watch.
2. Cheyenne Mountain Zoo. (2020). Orangutans & Palm Oil.
3. South Carolina Aquarium. (2020). Good Catch.
4. Frankfurt Zoological Society. (2020). Conservation Work.
5. Wildlife Conservation Society. (2020). Our work.
6. American Association of Zoo Keepers. (2020). Bowling for Rhinos.
7. Association of Zoos & Aquariums. (2020). Conservation Funding.
8. Jacksonville Zoo & Gardens. (2019). Toast to Conservation.
9. Disney Conservation. (2020). Disney Conservation Fund.
10. Zoo Miami. (2020). Conservation Grants.

Supplemental videos:

1. Seafood Watch. (2019). Why rely on the Monterey Bay Aquarium Seafood Watch program?
2. Columbus Zoo and Aquarium. (2019). Sustainable Palm Oil — How to Save the Planet at Home.
3. San Diego Zoo. (2014). Saving Hawaiian Birds From Extinction.
4. Wildlife Conservation Society. (2020). WCS Celebrates 125 Years.
5. Zoologische Gesellschaft Frankfurt von 1858 e.V. (2017). Serengeti Conservation Project - Frankfurt Zoological Society.
6. DisneyConservation. (2016). Disney Conservation Fund: Reverse the Decline, Increase the Time (Full Video).
7. Phoenix Zoo. (2014). Collaboration in Conservation at the Phoenix Zoo.
8. Houston Zoo. (2011). Houston Zoo: Protecting Animals in the Wild.
9. American Association of Zoo Keepers. (2014). Bowling for Rhinos.
10. News4JAX. (2018). Toast to Conservation.

Virtual guest speaker(s):

- Shelley Dearhart, Senior Fisheries Scientist, Monterey Bay Aquarium
- Nick Espinosa, Vice President of Development, Houston Zoo

November 18: Creating and restoring habitat, preserving zoo grounds, and acquiring land

Creating an oasis for wildlife (Houston Zoo pollinator pathways, Zoo Atlanta Project Pollinator), zoos in rural areas with large properties (North Carolina Zoo Wild Land Preservation), and land acquisition by zoos (Disney Wilderness Preserve, Australia Zoo Conservation Properties)

Assigned readings:

1. Kendall, C.J., & Bergl, R.A. (2019). Evolving Approaches to Zoo-Based Conservation. Scientific Foundations of Zoos and Aquariums Their Role in Conservation and Research. p. 45-63.

Supplemental readings:

1. North Carolina Zoo. (2020). North Carolina Zoo Conservation & Research.
2. Grazian, D. (2015). Chapter 1: Where the Wild Things Aren't: Exhibiting Nature in American Zoos. American Zoo: A Sociological Safari. Princeton University Press, New Jersey, USA.

3. Stanisic, J. (2010). Biodiversity vs Bauxite: Conservation at a Snail's Pace. Wildlife Australia, 47(2), 32.
4. Lyon, B. J., Couper, P. J., Amey, A., Roberts, L. J., & Covacevich, J. A. (2010). Frogs and Reptiles of the Steve Irwin Wildlife Reserve, Cape York. Queensland Naturalist, 48(1/3), 13.
5. Hall, D. M., Camilo, G. R., Tonietto, R. K., Ollerton, J., Ahrné, K., Arduser, M., ... & Goulson, D. (2017). The city as a refuge for insect pollinators. Conservation Biology, 31(1), 24-29.
6. Provencher, L., Herring, B. J., Gordon, D. R., Rodgers, H. L., Galley, K. E., Tanner, G. W., Hardesty, J.L., & Brennan, L. A. (2001). Effects of hardwood reduction techniques on longleaf pine sandhill vegetation in northwest Florida. Restoration Ecology, 9(1), 13-27.

Supplemental web resources:

1. Australia Zoo. (2020). Conservation Properties. https://www.australiazoo.com.au/support-wildlife/properties/.
2. The Nature Conservancy. (2020). Disney Wilderness Preserve. https://www.nature.org/en-us/get-involved/how-to-help/places-we-protect/the-disney-wilderness-preserve/.
3. North Carolina Zoo. (2018). Wild Land Preservation in North Carolina. https://www.nczoo.org/conservation/regional-conservation/wild-land-preservation-north-carolina.
4. Denver Zoo. n.d. Habitat Milestone in the Mile High City. https://www.nwf.org/Garden-for-Wildlife/Create/Real-Wildlife-Habitat-Gardens/Denver-Zoo.
5. Woodland Park Zoo. (2020). Pollinator Gardens. https://www.zoo.org/butterflygarden.

Supplemental videos:

1. Australian Geographic. (2014). Terri Irwin talks about the Steve Irwin Wildlife Reserve
2. Florida Hikes! (2017). Disney Wilderness Preserve.
3. Balance For Earth. (2017). Restore Our Shores (Brevard Zoo Oyster Reef Restoration).
4. Cincinnati Zoo & Botannical Garden. (2018). Honey Bee Hive Removed from Local Home and Moved to Cincinnati Zoo.
5. Dallas Zoo. (2017). Dallas Zoo Works Hard to Restore Habitat for Endangered Birds.

Virtual guest speaker:

- Dr. Rich Bergl, Director of Conservation, Education & Science, North Carolina Zoo
- Daniel Cole, The Nature Conservancy, Disney Wilderness Preserve

November 20: Long-term applied field research

Hour 1: The academic route – universities, post docs, and formal partnerships
Hour 2: Grassroots efforts – community-based conservation and participatory research
Assigned readings:

1. Knapp, C.R. (2018). Beyond the Walls: Applied Field Research for the Twenty-first-Century Public Aquarium and Zoo. In: Minteer, B.A., Maienschein, J., & Collins, J.P.

(eds.). The Ark and Beyond: The Evolution of Zoos and Aquarium Conservation. The University of Chicago Press, Illinois, USA.
2. Loh, T.L., Larson, E.R., David, S.R., de Souza, L.S., Gerickle, R., Gryzbek, M., Kough, A.S., Willink, P.W., Knapp, C.R. (2018). Quantifying the contribution of zoos and aquariums to peer-reviewed scientific research. FACETS. 3: 287-299.

Supplemental readings:

1. Fernandez, E. J., & Timberlake, W. (2008). Mutual benefits of research collaborations between zoos and academic institutions. Zoo Biology: Published in affiliation with the American Zoo and Aquarium Association, 27(6), 470-487.
2. Knapp, C. R. (2005). Working to save the Andros iguana. Iguana, 12, 8-13.
3. Hallett, M. T., Kinahan, A. A., McGregor, R., Baggallay, T., Babb, T., Barnabas, H., Wilson, A., Li, F.M., Boone, W.W., & Bankovich, B.A. (2019). Impact of low-intensity hunting on game species in and around the Kanuku Mountains Protected Area, Guyana. Frontiers in Ecology and Evolution, 7, 412. https://www.frontiersin.org/articles/10.3389/fevo.2019.00412/full
4. Bergl, R.A. & Vigiland, L. (2007). Genetic analysis reveals population structure and recent migration within the highly fragmented range of the Cross River gorilla (*Gorilla gorilla diehli*). Molecular Ecology. 16: 501-516.
5. Niemiller, M. L., Graening, G. O., Fenolio, D. B., Godwin, J. C., Cooley, J. R., Pearson, W. D., ... & Near, T. J. (2013). Doomed before they are described? The need for conservation assessments of cryptic species complexes using an amblyopsid cavefish (Amblyopsidae: Typhlichthys) as a case study. Biodiversity and Conservation, 22(8), 1799-1820.
6. Mendelson J.R., Lips K.R., Gagliardo R.W., Rabb G.B., Collins J.P., Diffendorfer J.E., Daszak P., Ibáñez D.R., Zippel K.C., Lawson D.P., Wright K.M., Stuart S.N., Gascon C., da Silva H.R., Burrowes P.A., Joglar R.L., La Marca E., Lötters S., du Preez L.H., Weldon C., Hyatt A., Rodriguez-Mahecha J.V., Hunt S., Robertson H., Lock B., Raxworthy C.J., Frost D.R., Lacy R.C., Alford R.A., Campbell J.A., Parra-Olea G., Bolaños F., Domingo J.J., Halliday T., Murphy J.B., Wake M.H., Coloma L.A., Kuzmin S.L., Price M.S., Howell K.M., Lau M., Pethiyagoda R., Boone M., Lannoo M.J., Blaustein A.R., Dobson A., Griffiths R.A., Crump M.L., Wake D.B., Brodie E.D. (2006). Confronting amphibian declines and extinctions.
7. Stabach, J.A., Dabek, L., Jensen, R., & Wang, Y. Q. (2009). Discrimination of dominant forest types for Matschie's tree kangaroo conservation in Papua New Guinea using high-resolution remote sensing data. International Journal of Remote Sensing, 30(2), 405-422.

Supplemental web resources:

1. Jacksonville Zoo & Gardens. (2020). Conservation – Rupununi Wildlife Research Unit. https://www.jacksonvillezoo.org/rupununi.
2. Shedd Aquarium. (2020). Conservation Research. https://www.sheddaquarium.org/care-and-conservation/shedd-research.
3. San Diego Zoo. (2020). Institute for Conservation Research. https://institute.sandiegozoo.org/.
4. Smithsonian. (2020). National Zoo & Conservation Biology Institute. https://nationalzoo.si.edu/conservation.

5. San Antonio Zoo. (2020). Conservation Efforts & Research. https://sazoo.org/zoo-conservation-efforts/.

Supplementary videos:

1. Wildlife Conservation Network. (2017). WCN Fall Expo 2017 - Okapi Conservation Project- John Lukas (Jacksonville Zoo & Gardens). =
2. Shedd Aquarium. (2013). Rock Iguana Research and Conservation. =
3. WoodlandParkZoo. (2009). Tree Kangaroo Conservation Program, Papua New Guinea. =
4. Monterey Bay Aquarium Research Institute (MBARI). (2019). Tagging along with sharks to the White Shark Café.
5. Smithsonian's National Zoo. (2018). Restoring the North American Prairie.

Virtual guest speaker:

- Dr. Chuck Knapp, Vice President of Conservation Research, John G. Shedd Aquarium

November 24-28: * NO CLASS – THANKSGIVING BREAK *****

December 2: FINAL thoughts & FINAL presentations

Are zoos accomplishing their missions? Are they meeting all three tiers of their triple bottom line?

Assigned readings:

1. Maynard, L., Jacobson, S. K., Monroe, M. C., & Savage, A. (2019). Mission impossible or mission accomplished: Do zoo organizational missions influence conservation practices?. Zoo Biology.
2. Maynard, L., McCarty, C., Jacobson, S. K., & Monroe, M. C. Conservation networks: are zoos and aquariums collaborating or competing through partnerships? Environmental Conservation, 1-8.
3. Wharton, J., Khalil, K., Fyfe, C., & Young, A. (2019). Effective practices for fostering empathy towards marine life. In Exemplary practices in marine science education (pp. 157-168). Springer, Cham.

Virtual guest speaker(s):

- Dr. Lily Maynard, Conservation Program Manager, Disney's Animal Kingdom;
- Dr. Kathayoon Khalil, Conservation Impact Manager, Oregon Zoo

Grading Policy:

All assignments are to be typed, not handwritten, and should be submitted in accordance with the assignment description. Assignments are due at 1:50 pm on the due date unless otherwise specified. Late submissions of assignments (can) result in a 10% reduction in the assignment grade per day and may not be accepted after five days.

There are a total of 500 points available between assignments, attendance, and exams. The number of points available per assignment and exam is described below. Extra credit is available throughout the semester but cannot be submitted past due based on need at the end of the semester.

Percent	Semester points	Grade	Grade Points
92.5 - 100.0	462-500	A	4.00
89.5 - 92.4	448-461	A-	3.67
87.5 – 89.4	438-447	B+	3.33
82.5 – 87.4	413-437	B	3.00
79.5 – 82.4	398-412	B-	2.67
77.5 - 79.4	388-397	C+	2.33
71.5 – 77.4	358-387	C	2.00
69.5 - 71.4	348-357	C-	1.67
67.5 - 69.4	338-347	D+	1.33
62.5 – 67.4	313-337	D	1.00
60.0 - 62.4	300-312	D-	0.67
0 - 59.9	≤299	E	0.00

More information on UF grading policy may be found at:
https://catalog.ufl.edu/UGRD/academic-regulations/grades-grading-policies/

Assignments:

Semester-long project
Assignments 2, 3, 5, 6, 7, 8, and 10 are all part of a semester-long project in which you will work in groups of two or on your own to create a zoo using Planet Zoo© simulation software. This highly detailed simulation software will allow you to experience the many aspects of creating and managing a zoo that provides a high-level of care for animals, ensures the safety of its staff, creates an enriching and educational experience for your guests, and impacts conservation in the field. Each assignment is designed to document your progress and provide you with an opportunity to reflect on how your decision-making has affected your animals, staff, guests, and business. Your final presentation will simply be a review of each of these individual steps, along with a virtual tour of your zoo. You will need to construct, improve, expand, and grow your zoo outside of class time and the simulation interface will allow you to be as detailed as you like in your designs.

***Assignment 1:* Video reflection on your opinion of zoos (*15 points – 3% of final grade*)**
Due Date: Prior to the start of class on August 26th
Description: Produce a video reflection on your opinion of zoos. Be BRUTALLY honest. Outline what you like about zoos and what you don't like about them. Highlight some previous experiences at zoos, both positive and negative. You will not be graded on what you say about zoos, but rather whether or not you completed the assignment on time with a thoughtful reflection.
Grading rubric: Thoughtful reflections on video with copious connections to themes, content, and examples from class = 15; Somewhat thoughtful reflections with some connections to themes and examples = 12; Limited reflection with few connections = 10; Little reflection, no connections to course content = <9; Assignment incomplete = 0
Submission: Upload to e-learning website prior to class.

***Assignment 2*: Collection plan, strategy, & budget (*30 points – 6% of final grade*)**

Due Date: September 11th
Description: Ahead of visualizing your exhibit using Planet Zoo, begin to think about and outline the strategic important strategic elements. In a single PowerPoint slide outline your: (1) zoo a name, (2) mission, (3) vision, and (4) (up to five) strategic areas of focus. Use Houston Zoo's strategic plan as your guide (available in the links to web resources folder in Canvas). In a second PowerPoint slide, present a (5) pie chart of budget priority areas. Use the pie charts from class as a reference. Present the name, mission, vision, strategic focus, and budget priorities for your zoo in a brief 2-minute (MAX) video blog. Upload the video (no need to upload the slides for now) to Canvas. Reduce pertinent information on how and why you made zoo design and collection decisions into a single PowerPoint slide.
Grading rubric: Single PowerPoint slide with information effectively reduced video reflection that stays under time with reflections on, and connections to, content and examples from class = >25; single PowerPoint slide with too much information, video stays under time but little connection to class material = 20; single PowerPoint slide without key details or unorganized, video without key details or too long or rambling = 15; very poorly organized, not well thought out slide / video, or obviously slapped together at the last minute = <15
Submission: Upload to e-learning website prior to class.

Assignment 3:* Staffing, & zoo budget *(30 points - 6% of final grade)
Due Date: September 25th
Description: Design an organizational chart for your organization. Decide on number of staff in each area and how your expenditures will keep you under your total budget (provided). Reduce pertinent information on how and why you made organizational, staffing, and budget decisions into a three PowerPoint slides (one for org chart, one for staffing, and one for budget). Use Zoom to produce a 3-minute (MAX) video outlining your progress to date and reflecting on the decisions that you have made thus far.
Grading rubric: Three PowerPoint slides with information effectively reduced, video reflection that stays under time with reflections on, and connections to, content and examples from class = 25; three PowerPoint slides with too much/too little information, video way under/ goes over time but little connection to class material = 20; three PowerPoint slides without key details or unorganized, video without key details or too long or rambling = 15; very poorly organized, not well thought out slide / video, or obviously slapped together at the last minute = <15
Submission: Upload to e-learning website prior to class.

Extra credit:* Deep dive on the history of zoos *(5 points – 1% of final grade)
Due Date: October 2rd
Description: Review all supplemental resources provided on the history of zoos. Produce a short video reflection (<5 minutes) reflecting on anything new that you learned and how this information may effect your opinion of zoos.
Grading rubric: Video reflection that stays under time with reflections on, and connections to, content and examples from class = 5; video stays under time but little connection to class material = 3; video without key details or too long or rambling = 1
Submission: Upload to e-learning website prior to class.

Assignment 4:* Exam I *(50 points - 10% of final grade)

Due Date: Available October 3rd – 6th
Description: Mid-term exam covering course materials up to this point in the semester.
Grading rubric: Thoughtful reflections to essay questions with copious connections to themes, content, and examples from class = >45, somewhat thoughtful reflections with some connections to themes and examples = 40, limited reflection with few connections = 30, little reflection, no connections to course content = <20
Submission: Exam available to take and submit online via the course page on canvas.

Extra credit:* Deep dive into a zoo career *(5 points - 1% of final grade)
Due Date: October 9th
Description: Choose a zoo career that interests you and research the key prerequisites, responsibilities, and benefits online. There are plenty of videos on YouTube and web resources that highlight different zoo careers. Write one paragraph that outlines the key aspects identified above and includes a brief reflection on whether or not this meets your previous expectations. If you cannot find the exact career that matches your interests, choose the closest career, highlight aspects, and reflect on why you think there is not an exact match.
Grading rubric: Career sufficiently researched with thoughtful reflection = 5, career somewhat researched with little reflection = 3, little information on either front = 1
Submission: Upload to e-learning website prior to class

Assignment 5:* Exhibit design, enrichment & training protocols *(30 points - 6% of final grade)
Due Date: October 16th
Description: Design at least 2-3 key exhibits that feature key species from your collection plan. Decide on enrichment and training protocols for each species. Reduce pertinent information on how and why you made zoo design and collection decisions into two or three PowerPoint slides (one for each exhibit). Use Zoom to produce a 2-3 minute (MAX) video outlining your progress to date and reflect on the decisions that you have made thus far.
Grading rubric: Two or three PowerPoint slides with information effectively reduced video reflection that stays under time with reflections on, and connections to, content and examples from class = >25; two or three PowerPoint slides with too little or much information, video stays under time but little connection to class material = 20; two or three PowerPoint slides without key details or unorganized, video without key details or too long or rambling = 15; very poorly organized, not well thought out slide / video, or obviously slapped together at the last minute = <15
Submission: Upload to e-learning website prior to class.

Assignment 6:* Breeding plan & expected contribution to SSPs *(30 points - 6% of final grade)
Due Date: October 30th
Description: Establish a breeding plan for key species with connections to regional, national, and international SSPs. Reduce pertinent information on how and why you made decisions and how you will connect to SSPs into a single PowerPoint slide for each species. Highlight 2-3 species max. Use Zoom to produce a 2-3-minute (one minute for each species MAX) video outlining your progress to date and reflecting on the decisions that you have made thus far.
Grading rubric: Two or three PowerPoint slides with information effectively reduced video

reflection that stays under time with reflections on, and connections to, content and examples from class = >25; two or three PowerPoint slides with too little or much information, video stays under time but little connection to class material = 20; two or three PowerPoint slides without key details or unorganized, video without key details or too long or rambling = 15; very poorly organized, not well thought out slide / video, or obviously slapped together at the last minute = <15
Submission: Upload to e-learning website prior to class.

Assignment 7:* Education plan *(30 points - 6% of final grade)
Due Date: November 13th
Description: Establish an education plan for your facility which considers on-exhibit, classroom/school-based, animal-based, long-term, and media opportunities. Reduce pertinent information on how and why you made decisions and what opportunities your zoo will offer into a single PowerPoint slide for each type of offering (on-exhibit, classroom, animal-based, longterm, and media). Use Zoom to produce a 5-minute (one minute for type of program MAX) video outlining your progress to date and reflecting on the decisions that you have made thus far.
Grading rubric: Five PowerPoint slides with information effectively reduced, video reflection that stays under time with reflections on, and connections to, content and examples from class = 25; five PowerPoint slides with too much information, video stays under time but little connection to class material = 20; five PowerPoint slides without key details or unorganized, video without key details or too long or rambling = 15; very poorly organized, not well thought out slides / video, or obviously slapped together at the last minute = <15
Submission: Upload to e-learning website prior to class.

Extra credit:* Zoo career video *(5 points - 1% of final grade)
Due Date: November 20th
Description: Produce a short video reflection (2-3 minutes) on your interest in zoo and aquarium careers, what you see as the potential best options that meet your interests, and whether or not what you have learned in this course so far has changed your mind about zoo careers.
Grading rubric: Video sufficiently highlights issue, making connections to species in your zoo = 5, insufficient detail on issue or unclear connections to species in your zoo = 3, little information on either front = 1
Submission: Upload to e-learning website prior to class.

Assignment 8:* Conservation plan *(30 points - 6% of final grade)
Due Date: December 2nd
Description: Establish a conservation plan for your facility which considers species, region, or issue on which you will focus, connections to species at your zoo, and strategy for engagement (direct, indirect). Reduce pertinent information on how and why you made decisions and what conservation activities your zoo will engage in into two PowerPoint slides – one that identified focal species, region, or topic and connections to your zoo and a second that outlines your strategy for engagement. Use Zoom to produce a 3-minute (one minute to identify species/region/issue and two minutes to outline strategy) video outlining your progress to date and reflecting on the decisions that you have made thus far.
Grading rubric: Two PowerPoint slides with information effectively reduced video reflection

that stays under time with reflections on, and connections to, content and examples from class = >25; two PowerPoint slides with too little or too much information, video stays under time but little connection to class material = 20; single PowerPoint slide without key details or unorganized, video without key details or too long or rambling = 15; very poorly organized, not well thought out slide / video, or obviously slapped together at the last minute = <15
Submission: Upload to e-learning website prior to class.

Extra Credit:* Deep dive into any one issue *(5 points; 1% of final grade)
Due Date: Anytime throughout the semester prior to December 4th
Description: Choose a single topic and review all supplemental resources provided. Write a brief reflection summarizing each resource, highlighting one new thing that you learned for each.
Grading rubric: Three to four sentence reflection for each reading/resource/video under a given topic = 5, limited reflection or skipped readings/resources/videos = 3, little reflection or only chose a few additional readings/resources/videos = 1
Submission: Upload to e-learning website prior to class.

Extra credit:* Social media post supporting zoo conservation initiative *(5 points - 1% of final grade)
Due Date: Anytime throughout the semester prior to December 4th
Description: Create a post for the social media platform of your choice (Instagram, Facebook, Twitter, TikTok, etc.) that highlights a conservation initiative currently being undertaken by an AZA-accredited zoo or aquarium. Post at the beginning of final exam week and monitor how many likes, shares, and views you get over the course of the week. Submit a screen shot of your post, along with the key metrics, and a one paragraph reflection on why you think people responded to your post in this way and how you could have improved if you were to do it again.
Grading rubric: Screenshot of post with attractive visual, effective text, key metrics reported, and thoughtful paragraph reflecting on how people responded and how you could improve = 5, Screenshot of post with somewhat effective visual and text, key metrics, and paragraph lacking reflection = 3, Screenshot of post = 1
Submission: Upload to e-learning at the end of finals week.

Assignment 9:* Rate an exhibit via virtual zoo tour *(30 points - 6% of final grade)
Due Date: December 5th
Description: Observe the exhibits during your field trip and rate various aspects of the exhibit based on what you see. Choose two specific exhibits out of those available (can be single or multi species exhibit) and evaluate based on exhibit design, veterinary care/feeding, guest viewing, educational signage, and guest/staff safety. An evaluation template will be provided to you, but you will be graded heavily on the reasoning behind your scoring.
Grading rubric: Detailed insights provided for scoring under each theme = >45, scores and limited insights on reasoning = 40, scores and almost no background on reasoning = 30, scores only = <20
Submission: Upload to e-learning website at any point in the semester prior to December 8th.

Assignment 10:* Final exam *(50 points - 10% of final grade)
Due Date: Available online December 5th – 8th

Description: Comprehensive final exam covering course materials that encompass the entire semester.
Grading rubric: Thoughtful reflections to essay questions with copious connections to themes, content, and examples from class = >45, somewhat thoughtful reflections with some connections to themes and examples = 40, limited reflection with few connections = 30, little reflection, no connections to course content = <20
Submission: Upload to e-learning website prior to class.

Assignment 11: **Final Project Presentation** ***(60 points - 12% of final grade)***
Due Date: before December 10th
Description: Present your final zoo to the class. Review the PowerPoint slides and the reflections that you have shared in videos throughout the semester and condense your best work into a single 5-minute presentation that hits all the highlights while taking your classmates on a virtual tour of your zoo. Presentations will be done in class if possible, via video if necessary.
Grading rubric: Five PowerPoint slides with information effectively reduced, virtual tour that stays under time with key reflections on, and connections to, content and examples from class = >54; five PowerPoint slides with too little or too much information, tour stays under time but little connection to class material = 40; five PowerPoint slides without key details or unorganized, tour without key details or too long or rambling = 30; very poorly organized, not well thought out slides / tour, or obviously slapped together at the last minute = <20
Submission: Upload to e-learning website prior to class.

Assignment 12: **Video reflection on your opinion of zoos (*15 points – 3% of final grade*)**
Due Date: December 10th
Description: Produce a video reflection on your opinion of zoos. Again, be BRUTALLY honest. However, this time review the video that you made at the beginning of the semester and also reflect on how your opinion of zoos may have changed. Identify specific things that you learned that changed your mind one way or the other and/or activities, topics, or speakers that were particularly impactful in forming your current stance on zoos. Reflect on how this class may or may not have changed how you will look at zoos during future visits. Once again, you will not be graded on what you say about zoos, but rather whether or not you completed the assignment on time with a thoughtful reflection.
Grading rubric: Survey complete, thoughtful reflections on video with copious connections to themes, content, and examples from class = 50; survey complete, somewhat thoughtful reflections with some connections to themes and examples = 40; survey complete, limited reflection with few connections = 30; survey complete, little reflection, no connections to course content = <20; survey incomplete = 0
Submission: Upload to e-learning website prior to class.

Assignment 13: **Attendance/Participation** ***(100 points - 20% of final grade)***
Due Date: Throughout semester.
Description: There are 27 class meetings over 15 weeks in the Fall 2025 semester. Of those 27 class meetings, 26 of them have ATLEAST one associated interview with a virtual guest speaker. You are expected to watch all virtual guest speaker interviews and contribute a brief weekly reflection to the associated discussion based on what you saw/heard. Each discussion

post will be worth 5 points (75 points total for the semester). The remaining 25 points will be awarded based on your overall attendance and participation during in-class activities, discussions, etc.

Grading rubric:

- Online participation: Thoughtful reflection = 5 points, weak reflection = 2 points, do not submit answer to online question = 0 points (78 possible points total)
- In-class participation = Contribute to class discussion, activities or lectures every class meeting = 25 points, contribute in ¾ of class meetings = 18.75 points, contribute in ½ of class meetings = 12.5 points, contribute in ¼ of class meetings 6.25 points, never contribute = 0 points (25 possible points total)

Submission: Upload responses to weekly questions to e-learning website prior to class, in-class participation scored per class period and accumulated across the semester.

Attendance and Class Demeanor Policy:

There are 27 possible class meetings during the 15-week 2025 fall semester. I expect that registered students attend class meetings in-person (unless accommodations are required otherwise), arrive on time, and fully participate in class discussions, activities, and lectures. This means that cell phones should be put away during class meetings and laptops should be used for notetaking or in-class research related to class activities. In-class participation will be scored at the end of the semester, based on a general assessment of each student's participation in class activities and discussions (25 total points for the semester). Virtual participation will be scored based on discussions that will be made available weekly prior to the start of each Tuesday class meeting (5 points each) related to that week's virtual guest speakers (75 points total). This assignment will need to be submitted prior to the start of class the following Tuesday to ensure that students are prepared to discuss guest speakers.

Excused absences must be consistent with university policies in the Graduate Catalog and require appropriate documentation. Additional information can be found here: https://catalog.ufl.edu/UGRD/academic-regulations/attendance-policies/

Students Requiring Accommodations:

Students with disabilities who experience learning barriers and would like to request academic accommodations should connect with the Disability Resource Center (https://disability.ufl.edu/get-started/). It is important for students to share their accommodation letter with their instructor and discuss their access needs as early as possible in the semester.

Course Evaluation:

Students are expected to provide feedback on the quality of instruction in this course by completing online evaluations. Students can complete evaluations in three ways:

1. The email they receive from GatorEvals;
2. Their Canvas course menu under GatorEvals;
3. The central portal at https://my-ufl.bluera.com.

Guidance on how to provide constructive feedback is available at https://gatorevals.aa.ufl.edu/students/. Students will be notified when the evaluation period opens. Summaries of course evaluation results are available to students at https://gatorevals.aa.ufl.edu/public-results/.

University Honesty Policy regarding cheating, plagiarism, etc.:

UF students are bound by The Honor Pledge which states "We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code. On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: "On my honor, I have neither given nor received unauthorized aid in doing this assignment." The Conduct Code specifies a number of behaviors that are in violation of this code and the possible sanctions. See the UF Conduct Code website for more information. If you have any questions or concerns, please consult with the instructor or TAs in this class.

Software Use:

All faculty, staff, and students at the University are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against university policies and rules, disciplinary action will be taken as appropriate. We, the members of the University of Florida community, pledge to uphold ourselves and our peers to the highest standards of honesty and integrity.

Student Privacy:

There are federal laws protecting your privacy with regards to grades earned in courses and on individual assignments. For more information, please see: http://registrar.ufl.edu/catalog0910/policies/regulationferpa.html

In-Class Recording:

Students are allowed to record video or audio of class lectures. However, the purposes for which these recordings may be used are strictly controlled. The only allowable purposes are (1) for personal education use, (2) in connection with a complaint to the university, or (3) as evidence in, or in preparation for, a criminal or civil proceeding. All other purposes are prohibited. Specifically, students may not publish recorded lectures without the written consent of the instructor. A "class lecture" is an educational presentation intended to inform or teach enrolled students about a particular subject, including any instructor-led discussions that form part of the presentation, and deliver by an instructor hired or appointed by the University, or by a guest instructor, as part of a University of Florida course.

A class lecture does not include lab sessions, student presentations, clinical presentation such as patient history, academic exercises involving solely student participation, assessments (quizzes, tests, exams), field trips, private conversations between students in the class or between a student and the faculty or guest lecturer during a class session.

Publication without permission of the instructor is prohibited. To "publish" means to share, transmit, circulate, distribute, or provide access to a recording, regardless, of format or medium, to another person (or persons), including but not limited to another student within the same class section. Additionally, a recording, or transcript of a recording, is considered published if it is posted on or uploaded to, in whole or in part, any media platform, including but not limited to social media, book, magazine, newspaper, leaflet, or third-party note/tutoring services. A student who publishes a recording without written consent may be subject to a civil cause of action instituted by a person injured by the publication and/or discipline under UF Regulation 4.040 Student Honor Code and Student Conduct Code.

Campus Resources:

Health and Wellness

UF Whole Gator Resources:

Visit https://one.uf.edu/whole-gator/discover for resources that are designed to help you thrive physically, mentally, and emotionally at UF.

U Matter, We Care:

If you or a friend is in distress, please reach out to the Campus Assistance & Resources for Empowerment (CARE) at https://umatter.ufl.edu/, umatter@ufl.edu, or 352 392-1575 so that a team member can reach out to the student.

Counseling and Wellness Center:

Contact the Counseling and Wellness Center (http://www.counseling.ufl.edu/cwc) at (352) 392-1575; and the University Police Department: (352) 392-1111 or 9-1-1 for emergencies.

Sexual Assault Recovery Services (SARS)

Contact the Student Health Care Center at (352) 392-1161.

University Police Department

Contact the University of Florida Police Department at *(352)* 392-1111 (or 9-1-1 for emergencies), or http://www.police.ufl.edu/.

Academic Resources

- E-learning technical support: Contact the UF Computing Help Desk at 352-392-4357 or via e-mail at helpdesk@ufl.edu.
- Career Connections Center: Reitz Union Suite 1300, 352-392-1601. Career assistance and counseling services.
- Library Support: Various ways to receive assistance with respect to using the libraries or finding resources. Call 866-281-6309 or email ask@ufl.libanswers.com for more information.
- Academic Resources: 1317 Turlington Hall, Call 352-392-2010, or to make a private appointment: 352- 392-6420. Email contact: teaching-center@ufl.edu. General study skills and tutoring.

- Writing Studio: Daytime (9:30am-3:30pm): 2215 Turlington Hall, 352-846-1138 | Evening (5:00pm-7:00pm): 1545 W University Avenue (Library West, Rm. 339). Help brainstorming, formatting, and writing papers.
- Academic Complaints: Office of the Ombuds; Visit the Complaint Portal webpage for more information.
- Enrollment Management Complaints (Registrar, Financial Aid, Admissions): View the Student Complaint Procedure webpage for more information.
- UF Student Success Initiative: Visit https://studentsuccess.ufl.edu/ for resources that support your success as a UF student.

Cover Sheet: Request 21539

AEC3033C—Research and Business Writing in Agricultural and Life Sciences

Info

Process	Course|Add to ExistingUgrad|AI
Status	Pending at CALS - College of Agricultural and Life Sciences
Submitter	Heather Young heather.young@ufl.edu
Created	5/2/2025 2:22:24 PM
Updated	5/2/2025 2:27:22 PM
Description of request	Requesting AI Course Designation

Actions

Step	Status	Group	User	Comment	Updated
Department	Approved	CALS - Agricultural Education and Communication 514926000	Brian Myers		5/2/2025
AEC3033 Summer 2025 Syllabus.pdf					5/2/2025
College	Pending	CALS - College of Agricultural and Life Sciences			5/2/2025
No document changes					
AI Curriculum Committee					
No document changes					
Office of the Registrar					
No document changes					
Catalog					
No document changes					
Student Academic Support System					
No document changes					
College Notified					
No document changes					

Existing AI Course (without changes) for request 21539

Info

Request: AEC3033C—Research and Business Writing in Agricultural and Life Sciences
Description of request: Requesting AI Course Designation
Submitter: Heather Young heather.young@ufl.edu
Created: 1/8/2025 10:01:29 AM
Form version: 1

Responses

Canvas Availibility Yes, I acknowledge this requirement.
Assessment Data Yes, I acknowledge this requirement.
Weekly Schedule and Assignments Yes, I acknowledge this requirement.
Course Prefix and Number AEC3033C
Course Title Research & Business Writing in the Agricultural and Life Sciences
Lab Code None
Delivery Method AD - All Distance Learning (100% of course content taught outside of classroom)
Effective Term Earliest Available
Effective Year Earliest Available
Credit Hours 3
Prerequisites JR or SR standing to enroll in course
AI Percentile Designation This course contains greater than 10% and less than 50% AI-related content.
Requested AI Categories Know-AI: Know and Understand AI
Requested AI Categories (10%-50%) Enable-AI: AI Enabled
SLO Statement Requirement I understand and agree to include the required statements in the course syllabus.
Rationale for the AI Category This course accomplishes the AI Designation objectives of the subject areas listed above. The course explores a variety of uses and challenges of scientific writing in the age of AI, as well as ethical frameworks that can help us think more clearly about those uses and challenges. Students must know how to interact ethically, competently, and efficiently with AI to thrive in the workplace. They will utilize various Gen-AI models to identify which models are better for research or general information gathering. Additionally, students will learn about the Gen-AI output limitations based on their prompt quality and the available data and information accessible to trained LLMs, as well as using AI as a writing partner for brainstorming and wordsmithing.
Course Description Research & Business Writing in Agricultural and Life Sciences focuses on strategic written communication for the agricultural and life sciences. Students can hone their writing skills, gain experience in effective professional and scholarly writing, and earn 6,000 words toward UF's writing requirement. The course emphasizes critical analysis, ethics, responsibility, accuracy, clarity, brevity, and proper grammar for effective science communication, highlighting the importance of these skills for academic and professional success.

Course Objectives To enable students to write effectively in scientific, business, and academic contexts, to write in various genres using accurate grammar, spelling, and punctuation, and to accurately and ethically communicate information tailored to the needs and expectations of target and multicultural audiences.
Instructor(s) Heather Young
Required Links and Policies Yes

Research & Business Writing in the Agricultural & Life Sciences
AEC 3033C

Summer 2025 - 3 credit hours

Instructor

Dr. Heather Young
Instructional Assistant Professor
Email: heather.young@ufl.edu
Office location: 113A Bryan Space Science Center
Office hours: Mon: 10 a.m.-12 p.m., in person and/or via Zoom, and by appointment via Zoom. Zoom links are provided in Canvas under the Contact & Support Page.

Teaching Assistant

Camryn Farquhar
Email: camryn.farquhar@ufl.edu
Office hours: Tuesdays 10:00-12:00

Cesar Zamora
Email: cesarzamora@ufl.edu
Office hours: Thursdays 12:00-2:00

Chiamaka Ndukwu
Email: cndukwu@ufl.edu
Office hours: Mondays 3:00-5:00

Jenn Morgenthal
Email: jhoney@ufl.edu
Office hours: {Insert office hours}

Lily Waters
Email: waters.lily@ufl.edu
Office hours: Thursdays 3:00-5:00

Savannah Scott
Email: scott.savannah@ufl.edu
Office hours: Wednesdays 10:30-12:30

Dipendra Aryal
Email: aryaldipendra@ufl.edu
Office hours: Thursdays 12:30-2:30

Dorcas Sunday
Email: dorcassunday@ufl.edu
Office hours: Mondays 10:00-12:00

Jason Dossett
Email: j.dossett@ufl.edu
Office hours: Tuesdays 1:00-3:00

Shenara Ramadan
Email: shenara.ramadan@ufl.edu
Office hours: {Insert office hours}

Sravani Pasula
Email: sravanipasula@ufl.edu
Office hours: Thursdays 12:30-2:30

Jessica Switzer
Email: jlswitzer@ufl.edu
Office hours: Tuesdays 1:00-2:00
Thursdays 3:00-4:00

Course Description

Research & Business Writing in Agricultural and Life Sciences focuses on strategic written communication for the agricultural and life sciences. Students can hone their writing skills,

gain experience in effective professional and scholarly writing, and earn 6,000 words toward UF's writing requirement. Emphasis is placed on science communication, critical analysis, ethics, responsibility, accuracy, clarity, coherence, brevity, style, and American English grammar and spelling.
This course establishes the importance of:

- effective communication to success in both educational and professional environments,
- emphasizes writing as a primary form of communication, examines the elements of
- effective written communication in organizational and scholarly areas, and
- explores the causes of ineffective writing and ways to correct them.

Course Objectives

To enable students to

(1) write effectively in scientific, business, and academic contexts
(2) write in a variety of genres using accurate grammar, spelling, and punctuation, and
(3) accurately communicate information tailored to the needs and expectations of target and multicultural audiences.

AI Credit

Enable-AI
AI Enabled: Courses which are not completely AI focused, but rather are enriching and enabling AI knowledge and skills through complementary skills and/or knowledge. AI course content is 10-49%.

This course accomplishes the AI Designation objectives of the subject areas listed above. The course explores a variety of uses and challenges of scientific writing in the age of AI, as well as ethical frameworks that can help us think more clearly about those uses and challenges. Students must know how to interact ethically, competently, and efficiently with AI to thrive in the workplace. They will utilize various Gen-AI models to identify which models are better for research or general information gathering. Additionally, students will learn about the Gen-AI output limitations based on their prompt quality and the available data and information accessible to trained LLMs, as well as using AI as a writing partner for brainstorming and wordsmithing.

AI Student Learning Outcomes (SLOs)

SLO3. Select and/or utilize AI tools and techniques appropriate to a specific context and application.

- Addressed in Modules 2 and 3.
- Assessed by Packback Question: *What about Gen-AI?*, Packback Deep Dives: *Part A* & *Part B: Analyze Generative AI Output*, and image creation in the *Issue Guide, Situation Analysis,* and *Research Proposal*.

SLO4. Develop, apply, and/or evaluate contextually appropriate ethical frameworks to use across all aspects of AI.

- Addressed in Modules 3 and 5.
- Assessed by Packback Question: *What is ethical AI use?*, Packback Deep Dives: *Part A & Part B: Analyze Generative AI Output*, and appropriate citations for AI use in image creation in the *Issue Guide, Situation Analysis,* and *Research Proposal* assignments.

Class Times & Location

This course utilizes an online delivery. Asynchronous online content must be completed each week by Sunday evening.

Course Expectations

To succeed in this course, you must complete all assignments and quizzes for each module. As you work through the modules, we expect collegial and timely class participation in Packback discussions, on-time submission of assignments, and honest effort. Many assignments involve sharing information and ideas online with colleagues. These discussions are important to the critical analyses you will conduct for writing assignments, along with further developing your communication and critical thinking abilities.

You are expected to engage and interact respectfully with groupmates, as well as with the TAs and the instructor. You can expect such professional interaction from us in return. To ensure you are doing your part to support the free exchange of ideas in this course, please read and follow the Netiquette Guide for Online Courses guidelines.

Your instructor is committed to helping you improve your writing and critical thinking skills. To that end, you can expect constructive feedback on your writing and expression of ideas and opportunities to apply that feedback, including rewrites for the appropriate three assignments, which can help improve both your writing and your scores for those assignments.

You are responsible for all information delivered in class, including information given via Canvas announcements, in the modules, and recorded lectures. Lecture notes are posted but are not a substitute for viewing lectures. You are also expected to contact the instructor or your assigned TA if instructions are unclear or information is missing at least 24 hours before the due date.

DRC accommodations: Students must discuss their needs at the beginning of the semester before the need arises.

Instructor Team Communication & Feedback

The instructor and teaching assistants (TA) are committed to responding to your Canvas and email messages **within 24 hours** when feasible during the work week, Monday through Friday, *except holidays*. We also hold student hours weekly in person or via Zoom; links are provided in the 'Teaching Assistant' section above. The major assignments will be graded, with *meaningful feedback* provided, **within two weeks of their submission**. Quizzes are graded automatically upon submission.
Questions about class content should be directed to Dr. Young at heather.young@ufl.edu. Brooke Brammer (brooke.brammer@ufl.edu) is our instructional designer and can assist with Canvas content and functionality. She does not grade or have answers to assignment-specific questions, so please do not include her in your content-related messages.
Questions about **Canvas** should be directed to the Canvas Help Desk at http://helpdesk.ufl.edu.

Requirements

Textbook:

Required:

- Johnson-Sheehan, R. (2024). *Technical communication today* (7th ed.). Pearson. https://www.pearson.com/en-us/subject-catalog/p/technical-communication-today/P200000006746/9780137704453
  (The 6th edition is also acceptable Pearson, (2021). ISBN: 9780137527724)
- ****You will need a Packback subscription; you will receive an email to start your subscription.****

Recommended:

- APA 7th edition Publication Manual or Concise Guide to APA Style: 7th edition
  - Amazon link for 7th edition Publication Manual
  - Amazon link for 7th edition Concise Guide

Technology:

To succeed in this course, you must have access to the following technology:

- Desktop Computer or Laptop
  - Audio Capabilities
  - Webcam and Microphone for synchronous sessions
- Microsoft Office Programs
  - Microsoft Privacy Statement
  - Microsoft Accessibility Information
  - Word - Microsoft 365 basics video training
- Adobe Reader
  - Acrobat tutorials
  - Adobe Privacy Statement
  - Adobe Accessibility Statement
- Zoom
  - Zoom Privacy Policy
  - Zoom Accessibility Information
- UF NaviGator
  - Data Information (no privacy policy or accessibility statement exists)
- Quinncia
  - Quinncia Privacy Policy
  - No Accessibility Statement
- Packback
  - Packback Privacy Policy
  - Packback Accessibility Statement
- Internet Connection with access to Canvas
  - Canvas is the course management system at the University of Florida in which students will find course content, links to video lectures, assignments, quizzes, discussions, and grades. The use of this system will vary by instructor, but the following videos describe the most common tools in Canvas. The full student guide is provided if you have additional questions.
    - Canvas Privacy Policy
    - Canvas Accessibility Standards

- **Web Browser - Chrome** is the preferred browser for Canvas. If you do not have Chrome, you can download it.
- University of Florida Email
  - Students are expected to check their my.ufl emails daily. View the Student Computing Requirements page for information on technology requirements and expectations.

Prerequisite Knowledge:

AEC 3033C has no pre-requisite courses, but students must have junior or senior standing to enroll.
ESL students (and others) may get general writing, grammar, and mechanics assistance in the Writing Studio: http://writing.ufl.edu/writing-studio/for-students/esl-assistance/

Expected Technical & Digital Literacy Skills:

Minimum skills required:

- Proficiency in utilizing Canvas and navigating the internet effectively.
- Competence in using email for communication purposes, including sending and receiving messages and managing attachments.
- Familiarity with commonly used word processing applications (such as Microsoft Word or Google Docs), including the ability to create, edit, and format documents.
- Basic computer skills, including understanding fundamental operations like file management, using menus and toolbars, and navigating between different applications.
- Ability to perform online research using a variety of search engines and library databases.

Assignments

Further information about UF grading policies can be found here:
https://catalog.ufl.edu/UGRD/academic-regulations/grades-grading-policies/

Assignments are submitted electronically through Packback Writing Assignments (Deep Dives) or Canvas, as each assignment instructs. The Canvas submissions allow us to check for proper formatting (i.e., cover letter/resume, reference lists, etc.).

You are responsible for **submitting your assignments correctly**, ensuring they have uploaded successfully, and checking Packback/Canvas for their return.

Optional rewrites are available for four (4) assignments.

- If you choose to do the rewrite, it must be submitted ***within one week*** of the graded assignment being posted in Packback or Canvas.
- Rewrites are submitted in Canvas only.
- You can earn, at the most, half of the points lost on your initial submission grade.
  - If you earned 90 pts on your initial submission, you would regain 5 pts by submitting an edited rewrite, given that all errors were fixed.
- It is your responsibility to check Packback for your graded assignments routinely, as the assignments don't always automatically sync to the Canvas gradebook.
  - ***Late rewrites will not be accepted.***

Last Assignment Policy:

You must notify Dr. Young two weeks in advance and provide documentation if participation in UF-approved activities can affect your grade. Late Deep Dives will be penalized 10% of the available points for that assignment per day unless you have a documented, excused absence submitted to Dr. Young within 24 hours of the missed deadline. The late penalty is automatically assigned in Packback Questions. The Question will lock after the final assignment deadline. If you are active military or reserves, please reach out to Dr. Young so she is aware of your situation and can make necessary arrangements.

Work submitted more than seven (7) days past the due date will receive a 0 unless arrangements are made with Dr. Young and documentation is submitted **before** the assignment deadline.

Extensions for quiz and assignment deadlines are granted only for documented excused absences consistent with UF policies: https://catalog.ufl.edu/UGRD/academic- regulations/attendance-policies/.

Documentation for excused absences must be provided within one week of the absence.

Assignment Points:

Assignments	Due Date	Word Count	Points Available
Packback Questions (Monday Discussions 8) (Issue-related 3)	Weekly		230
Syllabus, Packback & APA Formatting Quizzes	Varies		31
What ANR Science Issue Worksheet (Resubmit until 25/25 is achieved)	May 18		25
1. Introduction Email (R)	May 25	500	100
2. Media Critique	Jun 1	500	??
3. Analyze Gen-AI Output			
Part A: Description & Explanation (Start of A6 draft)	Jun 8	500	50
Part B: Reflection on AI-use & Audience Analysis Activity	Jun 15	500	50
1st Reference List check-in	Jun 13		
4. Cover Letter (R)	Jun 22	500	70
5. Résumé (R)	Jun 29	300	30
6. Personal Statement (R)	Jul 6	700	100
2nd Reference List check-in	Jul 6		
7. Issue Guide	Jul 13	500	100
8. Situation Analysis Report	Jul 20	1000	100
Final Reference List check-in	Jul 27		
9. Research Proposal	Aug 3	1000	100
Final Formatted Submission	Aug 3		50

Course Grading:

Your assignments are graded according to course rubrics located in Packback/Canvas. Questions or concerns about your grade must be directed to ***your TA within one week*** of the assignment's being returned to you before appealing to Dr. Young. Rewrites, available for specific assignments, can help you **earn up to half** the points you missed on the original.

UF writing requirement: The UF writing requirement ensures students maintain their fluency in writing and use writing as a tool to facilitate learning. To receive writing requirement credit, you must receive a grade of C or higher and satisfactorily complete the writing component of the course.

Grading Scale

A = 93-100%	C+ = 76 – 79.99%	F = Below 60%
A- = 90 – 92.99%	C = 73 – 75.99%	
B+ = 86 – 89.99%	C- = 70 – 72.99%	
B = 83 – 85.99%	D+ = 66 – 69.99%	
B- = 80 – 82.99%	D = 63 – 65.99%	
	D- = 60 – 62.99%	

Reading & Assignment Schedule:

Readings are from the **seventh edition** of the textbook. Sixth-edition readings are specified where they differ.

Week	Lectures	Readings	Assignments
1 – Introduction & Issues	• Science Issues • From Writing Well: History of English • How to Write an Email • How to Write the BEST Email	• Chapters 6 (pages 156-175) and 19, Technical Communication Today • Why copying only a few words can be plagiarism • How to Email a Professor: Complete Guide with Samples • UF Introduction to Library Research • Library Tutorials for Students and Faculty: Helpful Videos and Links	• Worksheet – ANR Related Science Issue Selection • Packback Discussion: Introduce Yourself • Knowledge Check

2 - Grammar & Writing Well	• Writing Well • What Is a Preposition? • Part 1 Grammar Common Problems • Part 2 Sentences Modifiers Appositives • Part 3 Punctuation and Spelling • Part 4 Irregular Verbs and Other Problems	• Appendix A & B, Technical Communication Today • Grammar Update	• Packback Discussion: What About Gen AI? • #1 Introduction Email • Syllabus & Packback Quiz • Knowledge Check • Extra Credit: Course Deadlines
3 - Communication Law & Ethics	• Communication & Ethics Parts 1, 2, & 3 • Ethics in Research	• Chapter 4, Technical Communication Today	• Packback Discussion: What is ethical AI use? • Packback Writing Assignment - #2 Media Critique • Knowledge Check
4 – Audiences	• Audiences • Writing Styles	• Chapters 2 and 17 (pages 497-514), Technical Communication Today	• Packback Discussion: Audience Analysis • Packback Writing Assignment - #3 Part A: Analyze Generative AI Output • Knowledge Check
5 – APA Style	• Issue Tracking • APA Style • Why Do You Need APA Style? • Who Uses APA Style and Why?	• Ch. 15 (pages 443-463), Technical Communication Today • When You Must Cite • Reference Guide for Journal Articles, Books, and Edited Book Chapters • Common Reference Examples Guide • Reference Examples	• Packback Writing Assignment - #3-Part B: Analyze Generative AI Output • 1st Reference List Check-in • Knowledge Check
6 – Cover Letter, Resume, & Personal Statement	• Job Search & Cover Letters • Resume • Interview & Personal Statement	• Chapters 5 & 6, Technical Communication Today • UF Career Connections Center: Professional Communication Guide	• Packback Discussion: Do I Still Need It? • APA Formatting Quiz #1 • Packback Writing Assignment - #4 Cover Letter • Knowledge Check

		• UF Career Connections Center: Resume Guide • UF Career Connections Center: Resume Examples • UF Career Connections Center: Cover Letter Guide • Beat the Robots: How to Get Your Resume Past the System and Into Human Hands • Should You Use Canva for Your Resume? Here's What You Need to Know	
UF Summer Break			
7 – Technical Writing: Definitions & Descriptions	• Technical Definitions & Descriptions • 4 Types of Business Writing	• Chapters 1 & 7, Technical Communication Today	• Packback Discussion: What is a white paper? • #5 Resume • Knowledge Check
8– Explanations	• Explanations • What is Technical Writing (2 videos)	• Chapter 8, Technical Communication Today	• Packback Discussion: Picture worth 1,000 words • Packback Writing Assignment – #6 Personal Statement • 2nd Reference List Check in • Knowledge Check
9 – Science Communication, Issue Analysis, & Brainstorming	• Communicating Science Parts 1, 2, & 3 • Flat Earthers vs. Scientists: Can We Trust Scientists?	• Chapters 1 (pages 4-11) and 3 (pages 49-56), Technical Communication Today • Communication Fundamentals • Communicating Science Online	• Packback Discussion: What is EDIS? • APA Formatting Quiz #2 • #7 Issue Guide • Knowledge Check
10 – Persuasive Writing	• Persuasive Writing Parts 1, 2, & 3	• Chapters 14, 16, and 17 (pages 514-522), Technical Communication Today. • UF Career Connections Center:	• Packback Discussion: Brainstorm and vote • Packback Writing Assignment - #8 Situation Analysis Report • Knowledge Check

		Personal Statement Guide	
11 – Research Reports and Proposals	•	• Chapters 9, 11, & 15, Technical Communication Today.	• Packback Discussion: Why does citation format matter? • APA Formatting Quiz #3 • Final Reference List Check-in • Knowledge Check
12 – Intercultural Communication	• Intercultural Communication	• Chapter 2 (pages 33-40), Technical Communication Today.	• Packback Discussion: What did you learn? • Packback Writing Assignment - #9 Research Proposal • Final Formatted Submission • Knowledge Check

Mod	**AI-Related Topic**	**Provide # of Contact Hours of AI-Related Content**	**Provide Details: AI-Related Readings, Projects, and Assignments**
1	Select & utilize AI tools & techniques	1	Assignment: - Introduce Yourself o AI-image generator
2	Select & utilize AI tools & techniques	2	Assignment: - What about Gen-AI? Readings/Podcast: - Listen to this episode of *The Daily*. o https://www.nytimes.com/2022/12/16/podcasts/the-daily/chatgpt-openai-artificial-intelligence.html
3	Ethics with AI in writing, research, science comm	3	Assignment: - What is ethical AI use? Readings/Videos: - Ethical Use of Artificial Intelligence for Scientific Writing: Current Trends - Guidance for Students | AI @ University of Florida - UF writing courses redefine the role of AI - https://cte.ku.edu/ethical-use-ai-writing-assignments - https://www.carleton.edu/writing/resources-for-faculty/working-with-ai/ethical-issues/ - https://www.youtube.com/watch?v=01xTlNJuDeI

4	Select & utilize AI tools & techniques	2	Assignment: - Part A: Analyze Generative AI Output
5	Develop, apply, evaluate ethical frameworks of AI use	2	Assignments: - Part B: Analyze Generative Al Output - APA citations for Al-image creation in the *Issue Guide, Situation Analysis,* and *Research Proposal* Resource: - AI-generated image citation guidance
6	Select & utilize AI tools & techniques	2	Assignments: - QUINNCIA Resume Review Readings - Beat the Robots: How to Get Your Resume Past the System and Into Human Hands - Should You Use Canva for Your Resume? Here's What You Need to Know
9	Recognition of AI use	30 min	Assignment: - Image creation for Issue Guide/citing AI
10	Recognition of AI use	30 min	Assignment: - Image creation for Situation Analysis/citing AI
11	Recognition of AI use	30 min	Assignment - Why does citation format matter?
12	Recognition of AI use	30 min	Assignment - Image creation for Research Proposal/citing AI

Packback:

Participation is a requirement for this course, and the Packback Questions platform will be used for online discussion about class topics. Packback Questions is an online community where you can be fearlessly curious and ask open-ended questions to build on what we cover in class and relate topics to real-world applications. Watch this video for a brief introduction to Packback Questions and why we use it in this class.

Packback Questions Requirements:

Participation in/on Packback will count toward 10% of your overall course grade. Monday Discussions have different requirements than the 'Introduce yourself,' Analyze your audience,' and 'Brainstorm communication solutions' discussions, so please pay close attention to the assignment details. Discussions will become available on Sunday mornings at 12:00 am. There are bi-weekly deadlines of Thursday and Sunday for submissions unless otherwise stated in Packback. To receive full credit, you must submit the following:

- One question by Thursday @ 11:59 p.m.
- Two responses by Sunday @ 11:59 p.m. (or 5 responses for the 3 'issue-related' discussions)
- Achieve a Curiosity Score of 65 or greater.

Packback Writing Assignments (Deep Dives)

Packback Deep Dives will be used to assess independent research skills and improve academic communication through long-form writing assignments such as essays, papers, and case studies. While completing the summative writing prompts on Deep Dives, you will interact with an AI Research Assistant who will help you gather your notes and cite your sources and a Digital Writing Assistant for in-the-moment feedback and guidance on your writing.

Deep Dives Requirements:

Here are your Deep Dives assignments for this course:

- Analyze Gen-AI Output
  - Part A: Due Date: June 8
  - Part B: Due Date: June 15
- Cover Letter
  - Due Date: June 22
- Personal Statement
  - Due Date: June 29
- Situation Analysis Report
  - Due Date: July 20
- Research Proposal
  - Due Date: August 3

How to Register on Packback:

Packback requires a paid subscription.

1. Click "Packback" within Canvas to access our community.
2. Follow the instructions on your screen to finish your registration.
3. For your grade to be visible in Canvas and for them to sync correctly, you must access Packback only directly from the Canvas page.

How to Get Help from the Packback Team:

If you have any questions or concerns about Packback throughout the semester, please read their FAQ at help.packback.co. If you need more help, contact their customer support team directly at help@packback.co.

Academic Code of Conduct

UF's Academic Honesty Statement:

As a student at the University of Florida, you have committed yourself to uphold the Honor Code, which includes the following pledge: ***"We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity."*** You are expected to exhibit behavior consistent with this commitment to the UF academic community, and on all work submitted for credit at the University of Florida, the following pledge is either required or implied: ***"On my honor, I have neither given nor received unauthorized aid in doing this assignment."***

It is assumed that you will complete all work independently in each course unless the instructor provides explicit permission for you to collaborate on course tasks (e.g.,

assignments, papers, quizzes, exams). Furthermore, as part of your obligation to uphold the Honor Code, you should report any condition that facilitates dishonesty to the instructor, department chair, college dean or Student Honor Court. **It is your individual responsibility to know and comply with all university policies and procedures regarding academic integrity and the Student Honor Code.** Violations of the Honor Code at the University of Florida will not be tolerated. Violations will be reported to the Dean of Students Office for consideration of disciplinary action. For more information regarding the Student Honor Code, please see: UF Student Code of Conduct Webpage.

Plagiarism:

Academic integrity is a fundamental value in our educational community and is essential for maintaining a fair and honest learning environment. As students, you are expected to adhere to the highest standards of honesty and ethical behavior in all academic activities. To ensure that you maintain academic integrity throughout the course, please ensure all sources and text are properly referenced. Familiarize yourself with the appropriate citation style for the course (e.g., APA, MLA, Chicago) and consistently apply it to all written work. Properly citing sources not only demonstrates respect for others' intellectual contributions but is also crucial in avoiding plagiarism. Plagiarism encompasses using verbatim phrases without permission or proper attribution, quoting excessively from sources, and surpassing the 10% limit for direct quotes in an assignment. It extends to appropriating unique expressions, like short phrases or simple monikers.

Artificial Intelligence (A.I.) Use:

This course expects you to write your assignments using your own words unless directions are specifically given to use other forms of technology, such as generative AI.

The availability of artificial intelligence (AI) should not be viewed as a shortcut or the easy way out of an assignment. This course includes assignments where we will utilize the benefits of AI, specifically Generative AI, and we will also spend time identifying AI's shortfalls. Just as we give credit to the work of others, you will be **required to provide the AI output** utilized for the assignment. Using AI and not providing the necessary information or using AI when not explicitly stated in the instructions, the penalty can be a deduction of up to 100%.

Attendance Policies

Requirements for class attendance and make-up exams, assignments and other work are consistent with university policies that can be found at: UF Attendance Policies..

Institutional Policies

Recording Statement

Students are allowed to record video or audio of class lectures. However, the purposes for which these recordings may be used are strictly controlled. The only allowable purposes are (1) for personal educational use, (2) in connection with a complaint to the university, or (3) as evidence in, or in preparation for, a criminal or civil proceeding. All other purposes are prohibited. Specifically, students may not publish recorded lectures without the written consent of the instructor.
A "class lecture" is an educational presentation intended to inform or teach enrolled

students about a particular subject, including any instructor-led discussions that form part of the presentation, and delivered by any instructor hired or appointed by the University, or by a guest instructor, as part of a University of Florida course. A class lecture does not include lab sessions, student presentations, clinical presentations such as patient history, academic exercises involving solely student participation, assessments (quizzes, tests, exams), field trips, private conversations between students in the class or between a student and the faculty or guest lecturer during a class session. Publication without permission of the instructor is prohibited. To "publish" means to share, transmit, circulate, distribute, or provide access to a recording, regardless of format or medium, to another person (or persons), including but not limited to another
student within the same class section. Additionally, a recording, or transcript of a recording, is considered published if it is posted on or uploaded to, in whole or in part, any media platform, including but not limited to social media, book, magazine, newspaper, leaflet, or third party note/tutoring services. A student who publishes a recording without written consent may be subject to a civil cause of action instituted by a person injured by the publication and/or discipline under UF Regulation 4.040 Student Honor Code and Student Conduct Code. UF In-Class Recording

Software Use

All faculty, staff and students of the university are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against university policies and rules, disciplinary action will be taken as appropriate. UF Acceptable Use Policy

Course Evaluations

Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online. Students can complete evaluations in three ways:

1. The email they receive from GatorEvals,
2. Their Canvas course menu under GatorEvals, or
3. The central portal at https://my-ufl.bluera.com

Guidance on how to provide constructive feedback is available at https://gatorevals.aa.ufl.edu/students/. Students will be notified when the evaluation period opens. Summaries of course evaluation results are available to students at https://gatorevals.aa.ufl.edu/public-results/."

Student Services

Health & Wellness

- U Matter, We Care
  - If you or someone you know is in distress, please contact umatter@ufl.edu, 352-392-1575, or visit U Matter, We Care website to refer or report a concern and a team member will reach out to the student in distress.
- Counseling and Wellness Center
  - Visit the Counseling and Wellness Center website or call 352-392-1575 for information on crisis services as well as non-crisis services.
  - Students experiencing crises or personal problems that interfere with their general well-being are encouraged to utilize the university's counseling

resources. The Counseling & Wellness Center provides confidential counseling services at no cost for currently enrolled students.

- Student Health Care Center
  - Call 352-392-1161 for 24/7 information to help you find the care you need, or visit the Student Health Care Center website.
- University Police Department
  - Visit UF Police Department website or call 352-392-1111 (or 9-1-1 for emergencies).
- GatorWell Health Promotion Services
  - For prevention services focused on optimal wellbeing, including Wellness Coaching for Academic Success, visit the GatorWell website or call 352-273-4450.

Academic Resources

- E-learning technical support
  - Contact the UF Computing Help Desk at 352-392-4357 or via e-mail at helpdesk@ufl.edu.
- Career Connections Center
  - Reitz Union Suite 1300, 352-392-1601. Career assistance and counseling services.
- Library Support
  - Various ways to receive assistance with respect to using the libraries or finding resources.
- Teaching Center
  - Broward Hall, 352-392-2010 or to make an appointment 352-392-6420. General study skills and tutoring.
- Writing Studio
  - 2215 Turlington Hall, 352-846-1138. Help brainstorming, formatting, and writing papers.
- Student Complaints On-Campus
  - Visit the Student Honor Code and Student Conduct Code webpage for more information.
- On-Line Students Complaints
  - View the Distance Learning Student Complaint Process.

Services for Students with Disabilities

The Disability Resource Center coordinates the needed accommodations of students with disabilities. This includes registering disabilities, recommending academic accommodations within the classroom, accessing special adaptive computer equipment, providing interpretation services and mediating faculty-student disability related issues. Students requesting classroom accommodation must first register with the Dean of Students Office. The Dean of Students Office will provide documentation to the student who must then provide this documentation to the Instructor when requesting accommodation
0001 Reid Hall, 352-392-8565, UF Disability Resource Center.