CALS Curriculum Committee Meeting
February 25, 2022
1:00 p.m.

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

Members: S. Ahn, J. Brendemuhl, D. Coenen, K. Fogarty, M. Dvorak, D. Gabriel, V. Hull, P. Inglett, J. Larkin (Chair), L. Lietzenmayer, L. Lundy, T. Martin, G. Nunez, B. Pearson, C. Prince, J. Scheffler, M. Sharp, A. Watson, J. Weeks, A. Wysocki

Agenda and Index for Materials

Approve Minutes from January 21, 2021 meeting

Dr. Brendemuhl: Update from UCC

Graduate New Course Proposals

1. HOS 5XXXC – Cultivation, Extraction, and Application of Medicinal Plants and Their Bioactive Compounds (req. #17071)

2. SUR 6XXX – Marine Geomatics (req. #17049)

3. SWS 6XXX – Fertilizer Technology and Use (req. #17054)

Graduate Course Change Proposals

4. FAS 6337C – Fish Population Dynamics (req. #16326)

5. HOS 6991 – Evolution, Eco-physiology, and Global Importance of Seeds (req. #17019)

6. SWS 6136 – Soil Fertility (req. #17013)

Undergraduate New Course Proposals

7. FAS 4XXX – Spatial Sciences for Marine Environmental Characterization (req. #16589)

8. HOS 3XXX – Breeding and Production of Medicinal Plants and Herbs (req. #17070)

9. ORH 2XXXC – Introduction to Medicinal Plants (req. #17083)

10. SUR 4XXX – Marine Geomatics (req. #17048)

11. WIS 4XXX – Diverse Perspectives in Conservation (req. #17029)

Undergraduate Course Change Proposals

12. FOS4427C – Principles of Food Processing (req. #17050)

13. WIS 3553C – Introduction to Conservation Genetics (req. #16940)

14. WIS 4203C – Landscape Ecology and Conservation (req. #17040)

Certificate/Minor Change Proposals

15. Proposed closure of graduate level certificate Personal and Family Financial Planning (req. #17008)

16. Proposed addition and updating of courses for the Food Science Minor (req. #17052)

17. Proposed addition and removal of courses for the Nutritional Sciences Minor (req. #17053)

Curriculum

18. Proposed removal of course requirement from the undergraduate major in Food Science (req. #17051)

19. Proposed changes to the Academic Learning Compact for the undergraduate major in Family, Youth, and Community Sciences (req. #17068)

Recycled Items

20. WIS 6XXX – Disease and Wildlife (req. #15942)

Previously reviewed on 3/26/2021. Comments as follows: This item was reviewed with item #4. All comments apply to both items unless otherwise stated. **Please be sure to make any adjustments to both the syllabus and UCC form if necessary.** A motion was made by Dr. Porter to recycle these items back to the department for required updates and resubmission. The motion was approved. Specific office hours must be listed on the syllabus. The course objectives for both courses cannot be the same. The graduate level course must have some objective(s) reflecting the appropriate rigor expected at that level. Since the texts are recommended at the graduate level the syllabus must include a required reading list. Consideration should be given to increase the value of the term paper listed in the graduate syllabus.

21. WIS 4XXX = Disease and Wildlife (req. #15941)

Previously reviewed on 3/26/2021. See previous comments above.

Discussion

22. Credits exclusive to minors. Can approved advisor/department electives count as exclusive?

CALS Curriculum Committee Meeting
January 21, 2022
Submitted by James Fant

Members Present: S. Ahn, J. Brendemuhl, D. Coenen, K. Fogarty, M. Dvorak, D. Gabriel, V. Hull, P. Inglett, J. Larkin, L. Lietzenmayer, T. Martin, G. Nunez, B. Pearson, C. Prince, J. Scheffler, M. Sharp, A. Watson, J. Weeks

Substitute: Becky Cook for L. Lundy

Visitors: Jamie Foster, Graciela Lorca

Call to Order: The College of Agricultural and Life Sciences Curriculum Committee met via Zoom on January 21, 2022. Dr. Larkin called the meeting to order at 1:02 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. Weeks to approve the minutes from the December 17, 2021, 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.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.

Update from UCC:

1) Here are the items that were approved at the 01/18/22 UCC meeting.
    a. Proposed New Certificate - Beekeeping
    b. Proposed New Course – ANS 4XXXC Discovery of Sustainable Cattle Systems
    c. Proposed Changes to Courses – ALS 4154 – Global Agroecosystems; FYC 3112 – Contemporary Family Problems and Interventions; FYC 3115 – Human Services; FYC 4210 – Children: Trauma and Resiliency; FYC 4622 – Planning and Evaluating Family, Youth and Community Service Science Programs; FYC 4660 – Family Policy; FYC 4931 – Family, Youth and Community Sciences Professional Development; WIS 4945C – Wildlife Techniques

2) These items were conditionally approved at the 01/18/22 UCC meeting.

a. Proposed change to the FYC Curriculum
b. Proposed addition of the MCB Bioinformatics Minor to UFO

Undergraduate Course Change Proposal

1. WIS 4501 – Introduction to Wildlife Population Ecology (req. #16870)

Please be sure to make all requested changes to both the UCC form and syllabus if necessary. A motion was made by Dr. Martin to approve this item with edits required. The motion was approved. A current version of the course syllabus needs to be included with the submission. All course modification submissions require both a current and proposed syllabus. The syllabus must include a term and potential office hours. The new prerequisite courses must be included on the proposed syllabus.

Curriculum

2. Proposed new concentration in Online MS Microbiology and Cell Science program – Microbiome in Health & Disease (req. #16937)

A motion was made by Dr. Nunez to approve this item with edits required. The motion was approved. In the rationale include a statement that required courses with rotating topics numbers will be submitted for permanent numbers in the future. The use of "their" in the first sentence of the catalog description implies the student's contributions to human health. This should be changed to "its" to reflect the microbiome's contributions. The SLOs need to include measurable learning verbs. Refer to the following for assistance: https://cals.ufl.edu/content/PDF/Faculty_Staff/cals-course-objectives.pdf.

3. Proposed change of required course in MS Microbiology and Cell Science program (req. #16832)

A motion was made by Dr. Inglett to approve this item with edits required. The motion was approved. Make a notation that this change applies to the non-thesis MS program on the UCC form. Include a syllabus for the new required course.

4. Proposed addition of the Management and Sales in Agribusiness to UF Online (req. #16867)

A motion was made by Dr. Martin to approve this item with edits required. The motion was approved. Include a statement from UF Online indicating that they are in favor of adding this minor to their program.

Discussion

5. Credits exclusive to minors. Can approved advisor/department electives count as exclusive. Continue discussion.

Dr. Brendemuhl provided an example where this can be a problem. Members will continue to discuss the issue with their departments.

The meeting was adjourned at **2:13** p.m.

Cover Sheet: Request 17071

HOS5XXXC Cultivation, Extraction, and Application of Medicinal Plants and Their Bioactive Compounds

Info

Process	Course|New|Grad
Status	Pending at CALS - College of Agricultural and Life Sciences
Submitter	Brian Pearson bpearson@ufl.edu
Created	2/11/2022 3:23:23 PM
Updated	2/22/2022 5:34:00 PM
Description of request	Create new course in Env. Horticulture Graduate Program

Actions

Step	Status	Group	User	Comment	Updated
Department	Approved	CALS - Environmental Horticulture 60180000	Dean Kopsell	I have been in conversation with Dr. Pearson about this course proposal and I am fully supportive.	2/11/2022
CALS CC Checklist.pdf					2/11/2022
College	Pending	CALS - College of Agricultural and Life Sciences			2/11/2022
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					

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Course|New for request 17071

Info

Request: HOS5XXXC Cultivation, Extraction, and Application of Medicinal Plants and Their Bioactive Compounds
Description of request: Create new course in Env. Horticulture Graduate Program
Submitter: Brian Pearson bpearson@ufl.edu
Created: 2/21/2022 3:08:30 PM
Form version: 3

Responses

Recommended Prefix HOS
Course Level 5
Rationale for 5000 level course request The course is designed for senior-level undergraduate students or first-year graduate students interested in learning about the cultivation, extraction, and application of medicinal crops. The course can also serve as an elective for students in the College of Pharmacy that plan to specialize in natural product chemistry.
Course Number XXX
Lab Code C
Category of Instruction Introductory
Course Title Cultivation, Extraction, and Application of Medicinal Plants and Their Bioactive Compounds
Transcript Title Cultivation of Med. Plants
Degree Type Graduate

Delivery Method(s) On-Campus, Off-Campus
Co-Listing No

Effective Term Spring
Effective Year 2023
Rotating Topic? No
Repeatable Credit? No

Amount of Credit 3

S/U Only? No
Contact Type Regularly Scheduled
Course Type Lecture
Weekly Contact Hours 3
Course Description This three-credit graduate level course focuses on the cultivation, extraction, and use of medicinal crops and will prepare students for a career in plant science, biochemistry, or pharmacology. This course is co-taught by faculty in the UF/IFAS College of Agriculture and Life Sciences and the UF College of Pharmacy. Significant emphasis will be placed on the cultivation and use of Cannabis sativa, Mitragyna speciosa, and Piper methysticum.
Prerequisites N/A
Co-requisites N/A
Rationale and Placement in Curriculum The course provides information and knowledge regarding the cultivation and use of medicinal crops to undergraduate and graduate students. Interest in this topic area has continued to grow over the past decade. This course is designed to compliment proposed undergraduate course offerings and provide an advanced level of knowledge in support of undergraduate and graduate research efforts. To provide a sufficient breadth of subject knowledge, this course is co-taught with faculty housed in the UF College of Pharmacy.
Course Objectives • Examine and critique the influence of production factors on synthesis of secondary plant compounds cultivated and extracted for use as human medicines
• Successfully propagate, selectively prune, harvest, and dry select, high-value medicinal plant species
• Prepare and perform plant sample extractions to isolate bioactive compounds

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- Organize, manage, and perform analytical procedures to accurately quantify plant secondary metabolites
- Predict and explain the pharmacodynamics associated with select plant compounds
- Propose appropriate procedures for successful research on medicinal chemistry and drug interactions
- Evaluate principles of drug actions and their use as therapeutics

Course Textbook(s) and/or Other Assigned Reading Required textbook: Heinrich, M., J. Barnes, J. Garcia, S. Gibbons, and E. Williamson, 2018. Fundamentals of Pharmacognosy and Phytotherapy. Edinburgh: Elsevier (ISBN: 978-0702070082)

Provided supplemental Extension reading: Students will be required to read Extension articles related to course topics such as EDIS ENH901 - Botany Handbook for Florida

Provided supplemental manuscript readings: Students are required to read, review, and discuss high-impact scientific journals each week to include manuscripts such as:
Avery, B. A., Boddu, S. P., Sharma, A., Furr, E. B., Leon, F., Cutler, S. J., & McCurdy, C. R. (2019). Comparative Pharmacokinetics of Mitragynine after Oral Administration of Mitragyna speciosa (Kratom) Leaf Extracts in Rats. Planta Med, 85(04), 340-346.

Lydecker, A. G., Sharma, A., McCurdy, C. R., Avery, B. A., Babu, K. M., & Boyer, E. W. (2016). Suspected Adulteration of Commercial Kratom Products with 7-Hydroxymitragynine. Journal of Medical Toxicology, 12(4), 341-349. doi:10.1007/s13181-016-0588-y

Brown, P. N., Lund, J. A., & Murch, S. J. (2017). A botanical, phytochemical and ethnomedicinal review of the genus Mitragyna korth: Implications for products sold as kratom. Journal of Ethnopharmacology, 202, 302-325. doi:https://doi.org/10.1016/j.jep.2017.03.020

Weekly Schedule of Topics TENTATIVE SCHEDULE

Week	Date	Day	Lead Instructor	Topic	Reading
1	1/7/22	F	Dr. Pearson	Introduction to Pharmacognosy	Fundamentals of Pharmacology and Phytotherapy - Chapter 1
2	1/10/22	M	Dr. Pearson	History of Plants, People, and Natural Products	Fundamentals of Pharmacology and Phytotherapy – Chapter 2
2	1/12/22	W	Dr. Ping/Dr. Nadakuduti	Lab 1 – Germination and Propagation	EDIS CIR579 – Plant Propagation Techniques for the Florida Gardener
2	1/14/22	F	Dr. Pearson	Literature Review #1	Student selected
3	1/17/22	M	-	Holiday	-
3	1/19/22	W	Dr. Pearson	Plant Morphology and Important Plant Families for Phytopharmaceuticals	Fundamentals of Pharmacology and Phytotherapy – Chapters 3 & 4
3	1/21/22	F	Dr. Pearson	Literature Review #2	Student selected
4	1/24/22	M	Dr. Pearson	Ethnobotany	Quiz #1 Fundamentals of Pharmacology and Phytotherapy – Chapter 5
4	1/26/22	W	Dr. Pearson/Dr. Nadakuduti	Lab 2 – Greenhouse and Field Management	EDIS SSENH901 – Botany Handbook for Florida
4	1/28/22	F	Dr. Yu	Literature Review #3	Student selected
5	1/31/22	M	Ms. Zhang	Influence of Production Environment on Growth and Secondary Metabolites	Challenge Question #1 TBA
5	2/2/22	W	Dr. Nadakuduti	Primary and Secondary Metabolism	TBA
5	2/4/22	F	Dr. Pearson	Literature Review #4	Student selected
6	2/7/22	M	Dr. Nadakuduti	Biosynthesis of Natural Products for Human Use	Fundamentals of Pharmacology and Phytotherapy – Chapter 6
6	2/9/22	W	Dr. Pearson/Dr. Nadakuduti	Lab 3 – Harvest and Post-harvest Techniques	EDIS ENH1304 – Process of Drying Post-harvest Hops (Humulus lupulus) for Small-scale Producers Using a Novel Drying Rig
6	2/11/22	F	Dr. Pearson	Literature Review #5	Student selected
7	2/14/22	M	Dr. Nadakuduti	Aromatic Plants for Essential Oils	TBA
7	2/16/22	W	Dr. McCurdy	Natural Product Chemistry	Fundamentals of Pharmacology and Phytotherapy – Chapter 11

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7	2/18/22	F	Dr. Pearson	Literature Review #6	Student selected
8	2/21/22	M	Dr. Sharma	Production, Quality Control, and Standardization	
Quiz #2	Fundamentals of Pharmacology and Phytotherapy – Chapter 10				
8	2/23/22	W	Dr. Pearson/Dr. Sharma	Lab 4 – Sample Extraction Techniques I	
	TBA				
8	2/25/22	F	Dr. Sharma	Literature Review #7	Student selected
9	2/28/22	M	Dr. Sharma	Methods in Natural Product Chemistry	
Challenge Question #2	Fundamentals of Pharmacology and Phytotherapy – Chapter 8				
9	3/1/22	W	Dr. Nadakuduti	Genomics Enabled Plant Biochemistry	TBA
9	3/4/22	F	Dr. Nadakuduti	Literature Review #8	Student selected
10	3/7/22	M	-	Spring Break	-
10	3/9/22	W	-	Spring Break	-
10	3/11/22	F	-	Spring Break	-
11	3/14/22	M	Dr. Pearson	Medicinal Species Deep Dive I – Cannabis sativa	
	TBA				
11	3/16/22	W	Dr. Pearson/Dr. Sharma	Lab 5 – Sample Extraction Techniques II	
	TBA				
11	3/18/22	F	Dr. Pearson	Literature Review #9	Student selected
12	3/21/22	M	TBA	Medicinal Species Deep Dive II – Cannabis sativa	
Quiz #3	UF/IFAS Industrial Hemp Pilot Project Report				
12	3/23/22	W	Dr. Pearson	Medicinal Species Deep Dive I – Mitragyna speciosa	
	Kratom and Other Mitragynines: The Chemistry and Pharmacology of Opioids from a Non-Opium Source – Chapter 6				
12	3/25/22	F	Dr. Pearson	Literature Review #10	Student selected
13	3/28/22	M	Ms. Zhang	Medicinal Species Deep Dive II – Mitragyna speciosa	
Challenge Question #3	TBA				
13	3/30/22	W	Dr. Pearson/Dr. Sharma	Lab 6 – GC/MS and HPLC Techniques	
	TBA				
13	4/1/22	F	Dr. Pearson	Literature Review #11	Student selected
14	4/4/22	M	Dr. McCurdy	Medicinal Species Deep Dive III – Mitragyna speciosa	
	TBA				
14	4/6/22	W	Dr. Pearson	Medicinal Species Deep Dive I – Piper methysticum	
	Hawaiian ‘Awa: Views of an Ethnobotanical Treasure – Chapter 3				
14	4/8/22	F	Dr. Pearson	Literature Review Discussion #12	Student selected
15	4/11/22	M	TBA	Medicinal Species Deep Dive II – Piper methysticum	
	Hawaiian ‘Awa: Views of an Ethnobotanical Treasure – Chapter 4				
15	4/13/22	W	-	Field Trip	-
15	4/15/22	F	Dr. Pearson	Literature Review #13	Student selected
16	4/18/22	M	Dr. Sharma	Principles of Drug Action and Therapeutics	
Quiz #4	Fundamentals of Pharmacology and Phytotherapy – Chapter 11				
16	4/20/22	W	Dr. McCurdy	Research Procedures in Medicinal Chemistry and Drug Interactions	
Challenge Question #4	Fundamentals of Pharmacology and Phytotherapy – Chapter 12				
16	4/22/22	F	-	Reading Day	-

Grading Scheme EVALUATION AND GRADING
Course grades will be based on 1000 points. All students are expected to view recorded lectures, participate in literature review discussions, and conduct laboratory exercises. Additionally, all students are expected to participate in one field trip event.

Assignment	Number	Points per assignment	Total
Quiz	4	75	300
Challenge question	4	75	300
Literature review	2	100	200
Lab report	1	200	200
Total		1000	

The final grade earned in the course will be assigned based on accumulated total score and its associated letter grade as displayed below:

Total points	% points	Letter grade	Grade points
940 - 1000	94 – 100%	A	4.0

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900 - 939	90 - 93.9%	A-	3.67
860 - 899	86 - 89.9%	B+	3.33
830 - 859	83 - 85.9%	B	3.0
800 - 829	80 - 82.9%	B-	2.67
760 - 799	76 - 79.9%	C+	2.33
730 - 759	73 - 75.9%	C	2.0
700 - 729	70 - 72.9%	C-	1.67
660 - 699	66 - 69.9%	D+	1.33
630 - 659	63 - 65.9%	D	1.0
500 - 629	50 - 62.9%	D-	0.67
0-499	0-49.9%	E	0.00

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Attendance & Make-up Yes
Accomodations Yes
UF Grading Policies for assigning Grade Points Yes
Course Evaluation Policy Yes

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CALS Curriculum Committee
Submission Checklist

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.

BJP ____ 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/.

BJP ____ 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/faculty-staff/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.

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

BJP ____ 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.

BJP ____ The course description on the UCC form and in the syllabus must match. Any other information you wish to include needs to be under a different heading such as background or additional information.

BJP ____ 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-course-objectives.pdf). Do not use the words demonstrate or understand when listing learning objectives.

Original file: CALS CC Checklist.pdf

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

BJP ____ 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.

BJP ____ Outside consultations are required if there is a possibility of the proposed course covering 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/.

BJP ____ 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.

BJP ____ 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.

BJP ____ 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 is included in the CALS Syllabus Statements. For the approval process the college suggests a less is more view when it comes to this policy.

BJP ____ 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. Joel Brendemuhl (brendj@ufl.edu) for further instruction)

Original file: CALS CC Checklist.pdf

HOS5XXXC

CULTIVATION, EXTRACTION, AND APPLICATION OF MEDICINAL PLANTS AND THEIR BIOACTIVE COMPOUNDS

Spring 2022 - 3 credits

MEETING DAYS, TIMES, AND LOCATION

- **Lectures**: Each week, one to two lectures will be made available online within the course Canvas page (http://lss.at.ufl.edu). The lecture schedule is listed within the Tentative Course Schedule section of this syllabus.
- **Literature discussion**: Every Friday a 50-minute synchronous Zoom session will be held from 10:40am to 11:30am.
- **Labs**: Six laboratory lessons will be held throughout the semester on the dates listed within the Tentative Course Schedule. Laboratory lesson times will take place from 10:40am until 12:35pm.
- **Field trip**: One optional field trip is scheduled to occur on Wednesday, April 13th from 8:30am until 4:55pm.

PREREQUISITE

N/A

INSTRUCTORS

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Office Hours: By appointment

COURSE DESCRIPTION

Strong interest in cultivation, extraction, and use of medicinal crops has recently emerged in the fields of plant science, biochemistry and pharmacology. This three-credit graduate level course will focus on development of a more thorough understanding of plant production and management as well as secondary plant compound synthesis, extraction, analysis, and use. This course is co-taught by faculty in the UF/IFAS College of Agriculture and Life Sciences and the UF College of Pharmacy to prepare students for careers in natural plant product development and commercial cultivation of medicinal crops. Significant emphasis will be placed on the cultivation and use of *Cannabis sativa*, *Mitragyna speciosa*, and *Piper methysticum*.

COURSE LEARNING OBJECTIVES

Upon successful completion of the course students will be able to:

- Examine and critique the influence of production factors on synthesis of secondary plant compounds cultivated and extracted for use as human medicines
- Successfully propagate, selectively prune, harvest, and dry select, high-value medicinal plant species
- Prepare and perform plant sample extractions to isolate bioactive compounds
- Organize, manage, and perform analytical procedures to accurately quantify plant secondary metabolites
- Predict and explain the pharmacodynamics associated with select plant compounds
- Propose appropriate procedures for successful research on medicinal chemistry and drug interactions
- Evaluate principles of drug actions and their use as therapeutics

TEXT AND MATERIALS

Required textbook: Heinrich, M., J. Barnes, J. Garcia, S. Gibbons, and E. Williamson, 2018. *Fundamentals of Pharmacognosy and Phytotherapy*. Edinburgh: Elsevier (ISBN: 978-0702070082).

Additional course reading materials will be provided and posted within the Canvas course site.

COURSE ACTIVITIES

Each week, one to two lectures will be made available online within the course Canvas page (http://lss.at.ufl.edu). The lecture schedule is listed within the Tentative Course Schedule section of this syllabus. Additionally, each week a synchronous (face-to-face) session will be held via Zoom to review, critique, and reflect upon recent research publications as they relate to both previously presented materials and the future of medicinal plant science. Students will be assigned and tasked with identifying scientific manuscripts pertinent to course materials and leading the weekly literature review discussions. Lastly, six laboratory lessons will be held throughout the semester. The laboratory lesson schedule is listed within the Tentative Course Schedule section of this syllabus. The labs will provide students with the opportunity to obtain hands-on experience working with medical plants. The lessons have been designed to provide students with experience on how to propagate medicinal plants, cultivate them within various production environments, harvest and dry plant material, and extract and analyze plant samples for analysis.

To assess successful attainment of learning objectives, the following assignment types will be utilized:

Quizzes: Four quizzes will be assigned throughout the course. Quizzes will focus on content presented in lecture and assigned readings to assess comprehension, interpretation, and application of topics. All quizzes will be administered via Canvas using the "Quizzes" tool. Quizzes will be available beginning on the date listed on the schedule and must be completed within one week. Once you begin, you will have 30 min to complete the quiz.

Challenge questions: Four challenge questions will be given throughout the course. Challenge questions will assess your ability to evaluate, critique, formulate, and propose solutions to challenging questions related to materials presented in the course. Challenge questions will be made available at the beginning of the week with one week provided to complete the assignment.

Literature review: Each student, either individually or in assigned paired groups, will identify two scientific manuscripts throughout the semester to review and present to the class. Students will be responsible for identifying, examining, critiquing, and reflecting on the impacts presented within the assigned manuscripts. Moreover, students will be responsible for leading the online classroom discussion session during their assigned week. Purposes of this assignment are to develop literature review and assessment skills as well as bolster proficiency in professional communication and oral speaking skills. Grades for this assignment will be peer-assessed.

Lab report: Six in-person laboratory exercises will be performed throughout the semester. Laboratory exercises will focus on development of skills in plant propagation techniques, plant production and operations management, harvest and post-harvest techniques, and extraction and analysis of medicinal plant compounds. Additionally, one in-person field trip to a medicinal crop cultivation facility will provide students the opportunity to interact with plant production mangers and evaluate commercial facilities and operational procedures. A final laboratory report encompassing findings from the six laboratory exercises will be due at the end of the semester. Each of the six exercises should be presented in a manner similar to an abbreviated scientific manuscript inclusive of the introduction, methods and materials, results and discussion, and conclusion section. The purpose of this assignment is to provide time for reflection of laboratory exercises and to further develop written communication skills.

TENTATIVE SCHEDULE

Week	Date	Day	Lead Instructor	Topic	Reading
1	1/7/22	F	Dr. Pearson	Introduction to Pharmacognosy	*Fundamentals of Pharmacology and Phytotherapy* - Chapter 1
2	1/10/22	M	Dr. Pearson	History of Plants, People, and Natural Products	*Fundamentals of Pharmacology and Phytotherapy* – Chapter 2
2	1/12/22	W	Dr. Ping/Dr. Nadakuduti	Lab 1 – Germination and Propagation	EDIS CIR579 – *Plant Propagation Techniques for the Florida Gardener*
2	1/14/22	F	Dr. Pearson	Literature Review #1	Student selected
3	1/17/22	M	-	Holiday	-
3	1/19/22	W	Dr. Pearson	Plant Morphology and Important Plant Families for Phytopharmaceuticals	*Fundamentals of Pharmacology and Phytotherapy* – Chapters 3 & 4
3	1/21/22	F	Dr. Pearson	Literature Review #2	Student selected
4	1/24/22	M	Dr. Pearson	Ethnobotany Quiz #1	*Fundamentals of Pharmacology and Phytotherapy* – Chapter 5
4	1/26/22	W	Dr. Pearson/Dr. Nadakuduti	Lab 2 – Greenhouse and Field Management	EDIS SSENH901 – *Botany Handbook for Florida*
4	1/28/22	F	Dr. Yu	Literature Review #3	Student selected
5	1/31/22	M	Ms. Zhang	Influence of Production Environment on Growth and Secondary Metabolites Challenge Question #1	TBA
5	2/2/22	W	Dr. Nadakuduti	Primary and Secondary Metabolism	TBA
5	2/4/22	F	Dr. Pearson	Literature Review #4	Student selected
6	2/7/22	M	Dr. Nadakuduti	Biosynthesis of Natural Products for Human Use	*Fundamentals of Pharmacology and Phytotherapy* – Chapter 6
6	2/9/22	W	Dr. Pearson/Dr. Nadakuduti	Lab 3 – Harvest and Post-harvest Techniques	EDIS ENH1304 – *Process of Drying Post-harvest Hops (Humulus lupulus) for Small-scale Producers Using a Novel Drying Rig*
6	2/11/22	F	Dr. Pearson	Literature Review #5	Student selected
7	2/14/22	M	Dr. Nadakuduti	Aromatic Plants for Essential Oils	TBA
7	2/16/22	W	Dr. McCurdy	Natural Product Chemistry	*Fundamentals of Pharmacology and Phytotherapy* – Chapter 11
7	2/18/22	F	Dr. Pearson	Literature Review #6	Student selected
8	2/21/22	M	Dr. Sharma	Production, Quality Control, and Standardization Quiz #2	*Fundamentals of Pharmacology and Phytotherapy* – Chapter 10
8	2/23/22	W	Dr. Pearson/Dr. Sharma	Lab 4 – Sample Extraction Techniques I	TBA
8	2/25/22	F	Dr. Sharma	Literature Review #7	Student selected
9	2/28/22	M	Dr. Sharma	Methods in Natural Product Chemistry Challenge Question #2	*Fundamentals of Pharmacology and Phytotherapy* – Chapter 8
9	3/1/22	W	Dr. Nadakuduti	Genomics Enabled Plant Biochemistry	TBA

9	3/4/22	F	Dr. Nadakuduti	Literature Review #8	Student selected
10	3/7/22	M	-	Spring Break	-
10	3/9/22	W	-	Spring Break	-
10	3/11/22	F	-	Spring Break	-
11	3/14/22	M	Dr. Pearson	Medicinal Species Deep Dive I – *Cannabis sativa*	TBA
11	3/16/22	W	Dr. Pearson/Dr. Sharma	Lab 5 – Sample Extraction Techniques II	TBA
11	3/18/22	F	Dr. Pearson	Literature Review #9	Student selected
12	3/21/22	M	TBA	Medicinal Species Deep Dive II – *Cannabis sativa* Quiz #3	UF/IFAS Industrial Hemp Pilot Project Report
12	3/23/22	W	Dr. Pearson	Medicinal Species Deep Dive I – *Mitragyna speciosa*	*Kratom and Other Mitragynines: The Chemistry and Pharmacology of Opioids from a Non-Opium Source* – Chapter 6
12	3/25/22	F	Dr. Pearson	Literature Review #10	Student selected
13	3/28/22	M	Ms. Zhang	Medicinal Species Deep Dive II – *Mitragyna speciosa* Challenge Question #3	TBA
13	3/30/22	W	Dr. Pearson/Dr. Sharma	Lab 6 – GC/MS and HPLC Techniques	TBA
13	4/1/22	F	Dr. Pearson	Literature Review #11	Student selected
14	4/4/22	M	Dr. McCurdy	Medicinal Species Deep Dive III – *Mitragyna speciosa*	TBA
14	4/6/22	W	Dr. Pearson	Medicinal Species Deep Dive I – *Piper methysticum*	*Hawaiian ʻAwa: Views of an Ethnobotanical Treasure* – Chapter 3
14	4/8/22	F	Dr. Pearson	Literature Review Discussion #12	Student selected
15	4/11/22	M	Dr. Xing	Medicinal Species Deep Dive II – *Piper methysticum*	*Hawaiian ʻAwa: Views of an Ethnobotanical Treasure* – Chapter 4
15	4/13/22	W	-	Field Trip	-
15	4/15/22	F	Dr. Pearson	Literature Review #13	Student selected
16	4/18/22	M	Dr. Sharma	Principles of Drug Action and Therapeutics Quiz #4	*Fundamentals of Pharmacology and Phytotherapy* – Chapter 11
16	4/20/22	W	Dr. McCurdy	Research Procedures in Medicinal Chemistry and Drug Interactions Challenge Question #4	*Fundamentals of Pharmacology and Phytotherapy* – Chapter 12
16	4/22/22	F	-	Reading Day	-

EVALUATION AND GRADING

Course grades will be based on 1000 points. All students are expected to view recorded lectures, participate in literature review discussions, and conduct laboratory exercises. Additionally, all students are expected to participate in one field trip event.

Assignment	Number	Points per assignment	Total
Quiz	4	75	300
Challenge question	4	75	300
Literature review	2	100	200
Lab report	1	200	200
Total			**1000**

The final grade earned in the course will be assigned based on accumulated total score and its associated letter grade as displayed below:

Total points	% points	Letter grade	Grade points
940 - 1000	94 – 100%	A	4.0
900 - 939	90 - 93.9%	A-	3.67
860 - 899	86 - 89.9%	B+	3.33
830 - 859	83 - 85.9%	B	3.0
800 - 829	80 - 82.9%	B-	2.67
760 - 799	76 - 79.9%	C+	2.33
730 - 759	73 - 75.9%	C	2.0
700 - 729	70 - 72.9%	C-	1.67
660 - 699	66 - 69.9%	D+	1.33
630 - 659	63 - 65.9%	D	1.0
500 - 629	50 - 62.9%	D-	0.67
0-499	0-49.9%	E	0.00

For information on current UF policies for assigning grade points, see:
https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx (Undergrads)
http://gradcatalog.ufl.edu/content.php?catoid=2&navoid=762#grades (Graduate students)

Class policies that students MUST follow:

Attendance: Your attendance and participation are a strong expectation, but if you are ill or an emergency occurs, contact your instructor PRIOR TO the scheduled class time. Participation credit can be earned in every class discussion. 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/.

Preparation for class: Please come to class prepared by reading all assigned readings and viewing all posted lectures. This can help you not only for this class but for your future semesters and your research as well.

Late Assignments: Assignments will be accepted late up to two days after the due date with a penalty of 25%. If you have a foreseeable event that will prevent timely submission of an assignment, please contact the instructor prior to the due date.

Makeup Quizzes: Special permission is required ahead of time to accommodate makeup quizzes. This will be made possible only under reasonable circumstances but NOT for all requests.

Expectations for laboratory and field trip behavior: Please do not talk privately during the laboratory exercises or the field trip. Please do not multitask (i.e. doing work for other courses or research, using your computer, cell phone or other electronic devices for web surfing or email). Ask questions and be involved in the class.

COVID Response Statements:
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 unmute 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.

Online Course Evaluation Process:
Student assessment of instruction is an important part of efforts to improve teaching and learning. At the end of the semester, students are expectedto provide feedback on the quality of instruction in this course using a standard set of university and college criteria. 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/. students will be given specific time in the class to fulfill this requirement.

Academic Honesty:
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 academic misconduct to appropriate personnel. 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:
http://www.dso.ufl.edu/sccr/process/student-conduct-honor-code.

** Please DO NOT borrow the writing of others – this is called Plagiarism. If you do not understand what this means, ask your instructor to clarify. If you are presenting others' thoughts or writing including diagrams/pictures you must cite them. Instructors will do the same!

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.

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, https://disability.ufl.edu/

Campus Helping Resources:
Students experiencing crises or personal problems that interfere with their general wellbeing 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.

Health and Wellness

U Matter, We Care:
If you or a friend is in distress, please contact umatter@ufl.edu or 352-392-1575
so that a team member can reach out to the student. Dean of Students Office (CARE team)
https://care.dso.ufl.edu/

Counseling and Wellness Center: http://www.counseling.ufl.edu/cwc 352-392-1575

Sexual Assault Recovery Services (SARS) Student Health Care Center, 352-392-1161

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

Academic Resources

E-learning technical support, 352-392-4357 (select option 2) or e-mail to Learningsupport@ufl.edu. https://lss.at.ufl.edu/help.shtml

Career Connections Center, First Floor JWRU, 392-1601, https://career.ufl.edu/

Library Support, http://cms.uflib.ufl.edu/ask. Various ways to receive assistance with respect to using the libraries or finding resources.

Teaching Center, Broward Hall, 392-2010 or 392-6420. General study skills and tutoring. https://teachingcenter.ufl.edu/

Writing Studio, **302 Tigert Hall**, 846-1138. Help brainstorming, formatting, and writing papers. https://writing.ufl.edu/writing-studio/

Student Complaints
Residential Course: https://sccr.dso.ufl.edu/policies/student-honor-code-studentconduct-code/
Online Course: http://www.distance.ufl.edu/student-complaint-process

University of Florida Complaints Policy
The University of Florida believes strongly in the ability of students to express concerns regarding their experiences at the University. The University encourages its students who wish to file a written complaint to submit that complaint directly to the department that manages that policy.

A student who is unsure as to the official responsible for handling his or her particular complaint may contact the Ombuds office or the Dean of Students Office. For complaints that are not satisfactorily resolved at the department level or which seem to be broader than one department, students are encouraged to submit those complaints to one of the following locations: Ombuds: http://www.ombuds.ufl.edu/ 31 Tigert Hall, 352-392-1308

The purpose of the Ombuds office is to assist students in resolving problems and conflicts that arise in the course of interacting with the University of Florida. By considering problems in an unbiased way, the Ombuds works to achieve a fair resolution and works to protect the rights of all parties involved. Dean of Students Office: http: //www.dso.ufl.edu/ 202 Peabody Hall, 352-392-1261

The Dean of Students Office works with students, faculty, and families to address a broad range of complaints either through directly assisting the student involved to resolve the issue, working with the student to contact the appropriate personnel, or referring the student to resources or offices that can directly address the issue. Follow up is provided to the student until the situation is resolved. Additionally, the University of Florida regulations provide a procedure for filing a formal grievance in Regulation 4.012: http://regulations.ufl.edu/regulations/uf-4-student-affairs

Cover Sheet: Request 17049

SUR 6XXX Marine geomatics

Info

Process	Course|New|Grad
Status	Pending at CALS - College of Agricultural and Life Sciences
Submitter	Jennifer Vogel alpha32605@ufl.edu
Created	2/8/2022 9:52:41 AM
Updated	2/8/2022 2:10:46 PM
Description of request	Request for a new combined ugrad/grad course in marine geomatics for the benefit of graduate students in Geomatics, Fisheries and Wildlife.

Actions

Step	Status	Group	User	Comment	Updated
Department	Approved	SFRC - Geomatics 60466000	Terrell Baker III		2/8/2022
Marine_Geomatics_Differentiation.docx Syllabus_SUR4934.docx Syllabus_SUR6934.docx					2/8/2022 2/8/2022 2/8/2022
College	Pending	CALS - College of Agricultural and Life Sciences			2/8/2022
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					

Original file: Cover sheet.pdf

Course|New for request 17049

Info

Request: SUR 6XXX Marine geomatics
Description of request: Request for a new combined ugrad/grad course in marine geomatics for the benefit of graduate students in Geomatics, Fisheries and Wildlife.
Submitter: Jennifer Vogel alpha32605@ufl.edu
Created: 2/8/2022 9:46:33 AM
Form version: 1

Responses

Recommended Prefix SUR
Course Level 6

Course Number XXX
Lab Code None
Category of Instruction Joint (Ugrad/Grad)
Course Title Marine Geomatics
Transcript Title Marine Geomatics
Degree Type Graduate

Delivery Method(s) Online
Co-Listing Yes
Co-Listing Explanation Student objectives, grade weighting and expectations for the assignments and online discussions based on readings are very different. The undergraduate section of the course usually has relatively simple tasks that are meant to teach new content, while the graduate section of the course usually has to contrast scientific articles and set them into the context of the material learned that week. Students are given latitude to explore specific content that is more relevant to them at both levels. I provided the instructions for the six discussions in Appendix A below to illustrate how different the assignments are. Based on this feedback, I also adjusted the weight of the final grade that the discussions are worth for the graduate level, and reduced the importance of the quizzes, which address student learning objectives that are lower on Bloom's taxonomy.
For the lab assignments, the learning objectives and expectations for assignments of Week 1 (Applications of Marine Geomatics) and Week 4 (Survey Design) are much higher for graduate students. In Week 4, in particular, graduate students are expected to design a hydrographic survey and ensure that different sensors are properly integrated. They also need to explain how this design meets different sets of standards. At the undergraduate level, students are only required to discuss which instruments they think would be most appropriate for a given survey and explain why. Expectations used to be discussed through course communication; to address this concern, the instructions and rubrics for each level will be made independent from one another.
Effective Term Earliest Available
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 3
Course Description An introduction to the technologies, concepts, and methods required to acquire, analyze, and manage geographic data used in seafloor mapping and imaging. Background on the capabilities and limitations of different data collection systems will be provided, as well as for the other types of sensors necessary to collect accurate information. Topics will include marine positioning,

Original file: Submitted form version 1.pdf

underwater acoustics, sonars, hydrographic standards, multibeam echosounder systems and hydrographic survey design.
Prerequisites N/A
Co-requisites N/A
Rationale and Placement in Curriculum The course is aimed primarily at graduate students from the Geomatics program, but also at students from the Fisheries & Aquatic Sciences Program and the Department of Wildlife Ecology and Conservation that have an interest in the techniques used to map and image the seafloor.
Course Objectives 1. Explain how sound propagates in water
2. Describe the use of ocean surveying and mapping instruments and data processing software
3. Integrate different sensors to build a proper ocean surveying system
4. Select the most appropriate suite of instruments and hydrographic standards for different purposes, including safe navigation
5. Design a hydrographic survey
6. Interpret and analyze written text
Course Textbook(s) and/or Other Assigned Reading There is no textbook for the course. Students are given an option to choose from a selection of readings each week. A sample reading discussion assignment from Week 1 is below:
Select one of the articles below and read it.
Drap et al. (2008) Underwater Cartography for Archaeology in the VENUS Project
Kuperman & Roux (2007) Underwater Acoustics
Lam & Yip (2008) Hydrographic Surveying and Mapping for the Coastal Construction of Hong Kong Disneyland
Mayer (2006): Frontiers in Seafloor Mapping and Visualization
Mayer et al. (2018) The Nippon Foundation-GEBCO Seabed 2030 Project: The Quest to See the World's Oceans Completely Mapped by 2030
Pickrill & Kostylev (2007): Habitat Mapping and National Seafloor Mapping Strategies in Canada
Wölfl et al. (2019): Seafloor Mapping - The Challenges of a Truly Global Ocean Bathymetry
Weekly Schedule of Topics Weeks Dates Topics
1 June 28th to July 4th

Course Introduction, Introduction to Remote Sensing for Ocean Mapping
2 July 5th to 11th

Instruments and Platforms for Ocean Mapping
3 July 12th to 18th

Multisensor Integration, Positioning
4 July 19th to July 25th

Survey Design, Hydrographic Standards
5 July 26th to August 1st

Data Processing, Overview of Software and Surveying Systems
6 August 2nd to 8th

Data Products, Management, and Interpretation
Grading Scheme Requirement % of final grade
Online Discussion based on Readings (6x)

7% each (35%)
Quizzes (5 best of 6, all 6 must be taken)

3% each (15%)
Labs (5 best of 6, all 6 must be completed) 10% each (50%)

Instructor(s) Vince LeCours, Ph.D
Attendance & Make-up Yes
Accomodations Yes
UF Grading Policies for assigning Grade Points Yes
Course Evaluation Policy Yes

Original file: Submitted form version 1.pdf

University of Florida
SUR 4934-6934 (3 credits) Differentiation
Marine Geomatics

SUR 4934 Objectives

1. *Explain* how sound propagates in water
2. *Understand* how different geomatics sensors complement each other to enable ocean mapping
3. *Describe* the use of ocean surveying and mapping instruments and data processing software
4. *Select* the most appropriate suite of instruments and hydrographic standards for different purposes, including safe navigation

SUR 6934 Objectives

1. Explain how sound propagates in water
2. Describe the use of ocean surveying and mapping instruments and data processing software
3. Integrate different sensors to build a proper ocean surveying system
4. Select the most appropriate suite of instruments and hydrographic standards for different purposes, including safe navigation
5. Design a hydrographic survey
6. Interpret and analyze written text

SUR 4934 Grade Weights

Requirement	% of final grade
Online Discussion based on Readings (6x)	5% each (25%)
Quizzes (5 best of 6, all 6 must be taken)	5% each (25%)
Labs (5 best of 6, all 6 must be completed)	10% each (50%)

SUR 6934 Grade Weights

Requirement	% of final grade
Online Discussion based on Readings (6x)	7% each (35%)
Quizzes (5 best of 6, all 6 must be taken)	3% each (15%)
Labs (5 best of 6, all 6 must be completed)	10% each (50%)

Assignment Differentiation: Sample assignment descriptions that show the assignments for the graduate section of the course are of higher level

The expectations for the online discussions based on readings are very different. The undergraduate section of the course usually has relatively simple tasks that are meant to teach new content, while the graduate section of the course usually has to contrast scientific articles and set them into the context of the material learned that week. Students are given latitude to explore specific content that is more relevant to them at both levels. I provided the instructions for the six discussions in Appendix A below to illustrate how different the assignments are. Based on this feedback, I also adjusted the weight of the final grade that the discussions are worth for the graduate level, and reduced the importance of the quizzes, which address student learning objectives that are lower on Bloom's taxonomy.

For the lab assignments, the learning objectives and expectations for assignments of Week 1 (Applications of Marine Geomatics) and Week 4 (Survey Design) are much higher for graduate students. In Week 4, in particular, graduate students are expected to design a hydrographic survey and ensure that different sensors are properly integrated. They also need to explain how this design meets different sets of standards. At the undergraduate level, students are only required to discuss which instruments they think would be most appropriate for a given survey and explain why. Expectations used to be discussed through course communication; to address this concern, the instructions and rubrics for each level will be made independent from one another.

Appendix A

Instructions – Weekly Discussions on Readings

Discussion - Week 1

If you're taking SUR 4934:

1. Review the module about *Netiquette*, or its corresponding section in the *syllabus*.
2. Access the official dictionary of the International Hydrographic Organization, the "*S-32 IHO Hydrographic Dictionary*".
3. Navigate to the words that start with the first letter of your first name. Find a word that you don't know or are not familiar with. Look at the definition in the dictionary, and if needed, use a search engine (*e.g.*, Google, Duck Duck Go, Ecosia) to find a definition of this term that is simple and clear enough for everyone to understand.
4. Repeat #3 for a word that starts with the first letter of your last name.
5. Go to *MarineCadastre.gov*, and spend some time exploring the website (Data, Maps, Uses, Tools, News, About).
6. In this discussion forum, within a same post, report on the two new words that you learned from the IHO dictionary (for example by providing the simplified definitions, contexts of use, or examples), and discuss some of the things that "surprised" you, or that you found really interesting from the "Marine Cadastre" website.
7. Comment on at least two other posts.

If you're taking SUR 6934:

1. Review the module about *Netiquette*, or its corresponding section in the *syllabus*.
2. Select one of the articles below and read it.
   - Drap *et al.* (2008) *Underwater Cartography for Archaeology in the VENUS Project*
   - Kuperman & Roux (2007) *Underwater Acoustics*
   - Lam & Yip (2008) *Hydrographic Surveying and Mapping for the Coastal Construction of Hong Kong Disneyland*
   - Mayer (2006): *Frontiers in Seafloor Mapping and Visualization*
   - Mayer *et al.* (2018) *The Nippon Foundation-GEBCO Seabed 2030 Project: The Quest to See the World's Oceans Completely Mapped by 2030*
   - Pickrill & Kostylev (2007): *Habitat Mapping and National Seafloor Mapping Strategies in Canada*
   - Wölfl *et al.* (2019): *Seafloor Mapping - The Challenges of a Truly Global Ocean Bathymetry*
3. In this discussion forum, within a same post, summarize the paper in a couple of sentences (*e.g.*, context, questions/objectives, why it matters), and discuss some of the things that "surprised" you, or that you found really interesting. In addition, consider discussing at minimum one of these:
   - How does the material presented in the paper relates to you (your interest/research/field of study/future career); could it be transferred into a context relevant to you?
   - Which figure do you think is the most important? Why?
   - List some of the concepts or terms that you did not understand on the initial reading of the article, do a quick research on those, and describe the results of your search (*e.g.*, definitions, examples, context).
4. Comment on at least two other posts (any posts, including those from SUR 4934 students).

Discussion - Week 2

Jun 29, 2021 at 12:21pm

36 51

Everyone:

This week, the discussion is in two parts. Consider writing your contribution in a Word document, one part at the time, and copy and paste it in the discussion forum for Week 2 when you are ready to post. or you can also write a couple of individual posts.

Part 1:

1. Read Dierssen & Théberge (2014).
2. Discuss some of the things that "surprised" you, or that you found really interesting. For example, you can talk about how the material presented in the paper relates to you (your interest/research/field of study/future career), whether it could be transferred into a context relevant to you, which figure you thought was the most important or interesting and why, etc.

Part 2:

1. Open Pydro Explorer. Browse and explore the different tools; some will have tools within tools (*e.g.*, Charlene). Find a tool that you either think you could use in your current or future professional career, or one that you just think is cool or that you did not expect to find in there.
2. In the discussion forum for Week 2, in the same post, indicate which tool you picked, provide a short description of what it does, provide an example of how you would use this tool in a given application, and discuss anything else that you find relevant (*e.g.*, why did you pick that particular tool, did you learn something from this tool, etc.).
3. Comment on at least *one* other post.

SUR 6934:

1. In addition to Parts 1 and 2 above, select one of the articles below and read it.
   - Brown *et al.* (2017): *Setting the Stage for Multi-Spectral Acoustic Backscatter Research*
   - Costa *et al.* (2009): *Comparative Evaluation fo Airborne LiDAR and Ship-based Multibeam SoNAR Bathymetry and Intensity for Mapping Coral Reef Ecosystems*
   - Lamarche & Lurton (2018): *Recommendations for Improved and Coherent Acquisition and Processing of Backscatter Data from Seafloor-Mapping Sonars*
   - Le Bas & Huvenne (2009): *Acquisition and Processing of Backscatter Data for Habitat Mapping - Comparison of Multibeam and Sidescan Systems*
   - Linklater *et al.* (2019): *Techniques for Classifying Seabed Morphology and Composition on a Subtropical-Temperate Continental Shelf*
2. In the discussion forum for Week 2, within a same post, summarize the paper in a couple of sentences (*e.g.*, context, questions/objectives, why it matters), and discuss some of the things that "surprised" you, or that you found really interesting. In addition, consider discussing at minimum one of these:
   - How does the material presented in the paper relates to you (your interest/research/field of study/future career); could it be transferred into a context relevant to you?
   - Which figure do you think is the most important? Why?
   - List some of the concepts or terms that you did not understand on the initial reading of the article, do a quick research on those, and describe the results of your search (*e.g.*, definitions, examples, context).

Discussion - Week 3

Jul 5, 2021 at 5:32pm

63 63

The rubric for the online discussions is available under the course's resources module, or *here*. Details about *Netiquette* can be found in the *syllabus*.

Everyone:

There was a lot of material to cover this week. In the discussion forum for Week 3, I want you to chat about the material covered. Is there something in particular that "surprised" you? Did you learn something new that you found pretty cool? Is there something in particular that relates to you (your interest/research/field of study/future career) or that could be transferred into a context relevant to you? Are there certain concepts that you're still not sure to understand? Can you find extra material online that explain them better? It's up to you; it's your space to interact with others about multisensor integration, ancillary sensors, and 4D positioning!

Once you are done, comment on at least two other posts.

SUR 6934:

1. In addition to above, select one of the articles below and read it.
   - Bisnath *et al.* (2012): Development of an Operational RTK GPS-equipped Buoy for Tidal Datum Determination
   - Calder *et al.* (2007): Application of High-precision Timing Systems to Distributed Survey Systems
   - Hughes Clarke (2003): A Reassessment of Vessel Coordinate Systems: What is it that we Are Really Aligning?
   - Parker & Mallace (2005): A Direct Comparison of the Motion Sensors' Performance from the 2005 Common Dataset
2. In the discussion forum for Week 3, within a same post, summarize the paper in a couple of sentences (*e.g.*, context, questions/objectives, why it matters), and discuss some of the things that "surprised" you, or that you found really interesting. In addition, consider discussing at minimum one of these:
   - How does the material presented in the paper relates to you (your interest/research/field of study/future career); could it be transferred into a context relevant to you?
   - Which figure do you think is the most important? Why?
   - List some of the concepts or terms that you did not understand on the initial reading of the article, do a quick research on those, and describe the results of your search (*e.g.*, definitions, examples, context).

Discussion - Week 4

Jul 12, 2021 at 2:32pm

The rubric for the online discussions is available under the course's resources module, or here. Details about Netiquette can be found in the syllabus.

Everyone:

This week, I want you to seek information about major organizations or agreements within the marine geomatics world. Do a quick research on one of the organizations/agreements listed below, and in the discussion forum for Week 4, introduce it to your colleagues (*e.g.*, what it is, how it came to be, major contributions, etc.). Make sure to highlight their contributions or roles associated with hydrography, marine geomatics, and ocean mapping. Once you are done, comment on at least two other posts, one of which should be from a SUR6934 discussion on standards.

-Brazilian Directorate of Hydrography and Navigation

-Canadian Hydrographic Service

-Center for Coastal and Ocean Mapping Joint Hydrographic Center

-Coastal and Marine Geology Program (USGS)

-Commission on the Limits of the Continental Shelf

-Cuban National Office of Hydrography and Geodesy

-European Marine Observation and Data Network

-French Naval Hydrographic and Oceanographic Service

-General Bathymetric Chart of the Oceans

-Intergovernmental Oceanographic Commission

-International Convention for the Safety of Life at Sea

-International Federation of Surveyors (4th commission on Hydrography)

-International Hydrographic Organization

-International Marine Contractors Association

-International Maritime Organization

-International Seabed Authority

-International Tribunal for the Law of the Sea

-Italian Hydrographic Institute

-National Institute of Water and Atmospheric Research

-National Ocean Service

-National Oceanic and Atmospheric Administration

-Naval Oceanographic Office

-Norwegian Mapping and Cadastre Authority

-Office of Coast Survey

-UK Hydrographic Office

-United Nations Convention on the Law of the Sea

-United States Hydrographic Office

-Any other organizations/committees/conventions/network that are relevant!

SUR 6934:

This week, in addition to the above, I'd like you to look into the specifics of hydrographic surveying in the United States. Look into NOAA's 2020 "Hydrographic Surveys Specifications and Deliverables", into NOAA's "Field Procedures Manual", or into USACE's "Hydrographic Engineer Manual" (you may need to download this one for best results), find a chapter/section/sub-section that you find interesting, and, in the discussion forum for Week 4, within a same post, summarize your section in a couple of sentences and discuss some of the things that "surprised" you, or that you found really interesting. Like usual, you can link to your interest/research/field of study/future career, highlight new terms, etc.

Discussion - Week 5

Jul 20, 2021 at 11:16am

62 62

The rubric for the online discussions is available under the course's resources module, or *here*. Details about *Netiquette* can be found in the *syllabus*.

Everyone:

This week, you explored different data processing software. In the discussion forum for Week 5, tell your colleagues which one(s) you would be more inclined to use/select if you were to make recommendations to your boss or if you were to buy licenses for your own business. Explain why, and comment on at least two other posts.

SUR 6934:

In addition to above, select one of the articles below and read it.

- Calder & Smith (2004): A Time Comparison of Computer-Assisted and Manual Bathymetric Processing
- Cutter et al. (2010): A comparison of bathymetry mapped with the Simrad ME70 multibeam echosounder operated in bathymetric and fisheries modes
- Lacharité et al. (2018): Multisource multibeam backscatter data: developing a strategy for the production of benthic habitat maps using semi-automated seafloor classification methods
- Malik et al. (2018): A framework to quantify uncertainties of seafloor backscatter from swath mapping echosounders
- Malik et al. (2019): Results from the First Phase of the Seafloor Backscatter Processing Software Inter-Comparison Project
- Masetti et al. (2017): HydrOffice
- Sowers et al. (2020): Standardized Geomorphic Classification of Seafloor Within the United States Atlantic Canyons and Continental Margin
- Tidey & Hulbe (2019): Sub-Antarctic Auckland Islands Seafloor Mapping Investigations Using Legacy Data
- Wang et al. (2015): A comparison of waveform processing algorithms for single-wavelength LiDAR bathymetry

In the discussion forum for Week 5, within a same post, summarize the paper in a couple of sentences (*e.g.*, context, questions/objectives, why it matters), and discuss some of the things that "surprised" you, or that you found really interesting. In addition, consider discussing at minimum one of these:

- How does the material presented in the paper relates to you (your interest/research/field of study/future career); could it be transferred into a context relevant to you?
- Which figure do you think is the most important? Why?
- List some of the concepts or terms that you did not understand on the initial reading of the article, do a quick research on those, and describe the results of your search (*e.g.*, definitions, examples, context).

Discussion - Week 6

Jul 29, 2021 at 9:16am

58 58

The rubric for the online discussions is available under the course's resources module, or *here*. Details about *Netiquette* can be found in the *syllabus*.

Everyone:

Throughout the duration of this course, I have posted a number of articles and reports for you to explore. Some of these papers were given as reading assignments to the SUR 6934 students. This week, you are given the opportunity to explore these papers. Select one of the publications within one of these modules at the bottom of the "Modules" page:

-Library for Assigned Readings

-US Army Corps of Engineers Resources

-NOAA Resources

-International Hydrographic Organization Resources

-Additional Resources

In this discussion forum, within a same post, summarize the publication in a couple of sentences (*e.g.*, context, questions/objectives, why it matters), and discuss some of the things that "surprised" you, or that you found really interesting. In addition, consider discussing at minimum one of these:

- How does the material presented in the paper relates to you (your interest/research/field of study/future career); could it be transferred into a context relevant to you?
- Which figure do you think is the most important? Why?
- List some of the concepts or terms that you did not understand on the initial reading of the article, do a quick research on those, and describe the results of your search (*e.g.*, definitions, examples, context).

Once you are done, comment on at least two other posts.

University of Florida
SUR 4934 (3 credits)
Marine Geomatics

Summer B 2021 Syllabus
Delivery Format: Online, asynchronous
Optional Live Meeting day: Thursday, 7:00 PM-8:15 PM
https://ufl.instructure.com/courses/428744

Instructor: Vincent Lecours, Ph.D.
Office: FAS Millhopper Facility, Room 12
Phone Number: (352) 273-3617
Email Address: vlecours@ufl.edu
Office Hours: Thur 3pm-5pm or by appt
Preferred Course Communications: email

Teaching Assistant: Michael Espriella
Office: FAS Millhopper Facility, Room 11
Phone Number: N/A
Email Address: michaelespriella@ufl.edu
Preferred Course Communications: email

Prerequisites
Junior or senior standing.

PURPOSE AND OUTCOME

Course Overview
An introduction to the technologies, concepts, and methods required to acquire, analyze, and manage geographic data used in seafloor mapping and imaging. Background on the capabilities and limitations of different data collection systems will be provided, as well as for the other types of sensors necessary to collect accurate information. Topics will include marine positioning, underwater acoustics, sonars, hydrographic standards, and hydrographic survey design. A particular emphasis is given to multibeam echosounder systems. The course is aimed primarily at undergraduate students from the Geomatics program, but also at students from the Fisheries & Aquatic Sciences Program and the Department of Wildlife Ecology and Conservation that have an interest in the techniques used to map and image the seafloor.

Student Learning Objectives
At the end of this course, students will be able to:

1. *Explain* how sound propagates in water
2. *Understand* how different geomatics sensors complement each other to enable ocean mapping
3. *Describe* the use of ocean surveying and mapping instruments and data processing software
4. *Select* the most appropriate suite of instruments and hydrographic standards for different purposes, including safe navigation

Instructional Methods
Course concepts will be introduced using real examples to demonstrate how marine geomatics is applied in the world. The course is entirely online, with asynchronous learning paired with synchronous discussion periods. This course has a lab component in which students will learn how to process bathymetric and backscatter data. The course provides opportunities for students to engage with other students and the instructor in various communication and interaction experiences.

DESCRIPTION OF COURSE CONTENT

Topical Outline/Course Schedule

This syllabus represents current plans and objectives for this course. As the semester progresses, changes may need to be made to accommodate timing, logistics, or enhance learning. Such changes, communicated clearly, are not unusual and should be expected.

Weeks	Dates	Topics
1	June 28th to July 4th	Course Introduction, Introduction to Remote Sensing for Ocean Mapping
2	July 5th to 11th	Instruments and Platforms for Ocean Mapping
3	July 12th to 18th	Multisensor Integration, Positioning
4	July 19th to July 25th	Survey Design, Hydrographic Standards
5	July 26th to August 1st	Data Processing, Overview of Software and Surveying Systems
6	August 2nd to 8th	Data Products, Management, and Interpretation

Course Materials and Technology

Because of its online nature, this course requires access to a computer or mobile device with a high-speed internet connection, a headset and/or microphone and speakers, and the latest version of a web browser. Canvas supports only the two most recent versions of any given browser (What browser am I using?). A webcam is suggested for the live discussions.

The course will use a variety of software, including open-source software that can be downloaded on any desktop computer and laptop.

Technical support is available through the UF Help Desk at:

- Learning-support@ufl.edu
- (352) 392-HELP - select option 2
- https://lss.at.ufl.edu/help.shtml

ACADEMIC REQUIREMENTS AND GRADING

Assignments and Exams

- Every week, students will be given a list of potential readings relevant to the weekly topics. Students will need to read the assigned documents and share discussion points on an online discussion forum. Students are also expected to interact with others in this forum. Students are expected to provide original and relevant contributions to achieve full marks. If more than one discussion is missed, each additional discussion missed will lead to a 5 points reduction in the point total. Discussions will be evaluated using a rubric.
- In lieu of a comprehensive final exam, six quizzes will be given to assess the students' understanding of each week's topics. The five highest grades of the six quizzes will be counted as part of the final grade.
- This course has a lab component during which the students will apply theoretical concepts in a practical GIS environment using real data. Six lab assignments will be graded, and the five highest grades of those assignments will count towards the final grade.
- All assignments will be submitted on the course website. Presentation of the assignments must be neat, logical, organized, and appropriately referenced. Poor presentation will be penalized up to a maximum of 20% of the value of assignments and exams.

Grading

Requirement	% of final grade
Online Discussion based on Readings (6x)	5% each (25%)
Quizzes (5 best of 6, all 6 must be taken)	5% each (25%)
Labs (5 best of 6, all 6 must be completed)	10% each (50%)

Points earned	93-100	90-92.99	87-89.99	83-86.99	80-82.99	77-79.99	73-76.99	70-72.99	67-69.99	63-66.99	60-62.99	Below 60
Letter Grade	A	A-	B+	B	B-	C+	C	C-	D+	D	D-	E

Letter Grade	A	A-	B+	B	B-	C+	C	C-	D+	D	D-	E	WF	I	NG	S-U
Grade Points	4.0	3.67	3.33	3.0	2.67	2.33	2.0	1.67	1.33	1.0	0.67	0.0	0.0	0.0	0.0	0.0

For greater detail on the meaning of letter grades and university policies related to them, see the Registrar's Grade Policy regulations at:
http://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx

Late Policy
Due dates are indicated in the calendar above. Any modifications to these dates will be announced by the instructor when assignments are given. A deduction of 10% will be made for each day that an assignment is late, with the first 10% being removed immediately after the due time.

Policy Related to Make-up Exams, Other Work, and Required Class Attendance
It is the responsibility of the student to access on-line lectures, readings, quizzes, and exams and to maintain satisfactory progress in the course. 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/ugrad/current/regulations/info/attendance.aspx

Computer or other hardware failures, except failure of the UF e-Learning system, will not excuse students for missing assignments. Any late submissions due to technical issues MUST be accompanied by the ticket number received from the Helpdesk when the problem was reported to them. The ticket number will document the time and date of the problem. You MUST e-mail your instructor within 24 hours of the technical difficulty if you wish to request consideration. For computer, software compatibility, or access problems call the HELP DESK phone number—352-392-HELP = 352- 392-4357 (option 2).

STUDENT EXPECTATIONS, ROLES, AND OPPORTUNITIES FOR INPUT

Expectations Regarding Course Behavior

You are expected to actively engage in the course throughout the semester. You must come to the online discussions (live or not) prepared by completing all out-of-class assignments. This preparation gives you the knowledge or practice needed to engage in higher levels of learning during the live discussion sessions. If you are not prepared, you may struggle to keep pace with the activities occurring in the course, and it is unlikely that you will reach the higher learning goals of the course. Your participation fosters a rich course experience for you and your peers that facilitates overall mastery of the course objectives.

In order to facilitate the creation of a functional learning community and out of respect for the instructor and the other students, it is expected that all cell phones be either set on silent mode or turned off, except when authorized by the instructor. Please mute your microphone when not speaking. Recording devices are strictly prohibited.

Netiquette Guide for Online Courses

It is important to recognize that the online classroom is in fact a classroom, and certain behaviors are expected when you communicate with both your peers and your instructors. All members of the class are expected to follow rules of common courtesy in all email messages, threaded discussions and chats. Failure to do so may result in loss of participation points and/or referral to the Dean of Students' Office. These guidelines for online behavior and interaction are known as netiquette.

Remember that your password is the only thing protecting you from pranks or more serious harm.

- Don't share your password with anyone .
- Change your password if you think someone else might know it.
- Always log out when you are finished using the system.

When communicating online, you should always:

- Treat your instructor and classmates with respect in email or any other communication.
- Use clear and concise language.
- Remember that all college level communication should have correct spelling and grammar (this includes discussion boards).
- Avoid slang terms such as "wassup?" and texting abbreviations such as "u" instead of "you."
- Use standard fonts such as Ariel, Calibri or Times new Roman and use a size 10 or 12 pt. font.
- Avoid using the caps lock feature AS IT CAN BE INTERPRETTED AS YELLING.
- Limit and possibly avoid the use of emoticons.
- Be cautious when using humor or sarcasm as tone is sometimes lost in an email or discussion post and your message might be taken seriously or sound offensive.
- Be careful with personal information (both yours and other's).
- Do not send confidential information via e-mail.

When you send an email to your instructor, teaching assistant, or classmates, you should:

- Use a descriptive subject line.
- Be brief.
- Avoid attachments unless you are sure your recipients can open them.
- Avoid HTML in favor of plain text.
- Sign your message with your name and return e-mail address.
- Think before you send the e-mail to more than one person. Does everyone really need to see your message?
- Be sure you REALLY want everyone to receive your response when you click, "reply all."

- Be sure that the message author intended for the information to be passed along before you click the "forward" button.

When posting on the Discussion Board in your online class, you should:

- Make posts that are on topic and within the scope of the course material.
- Take your posts seriously and review and edit your posts before sending.
- Be as brief as possible while still making a thorough comment.
- Always give proper credit when referencing or quoting another source.
- Be sure to read all messages in a thread before replying.
- Don't repeat someone else's post without adding something of your own to it.
- Avoid short, generic replies such as, "I agree." You should include why you agree or add to the previous point.
- Always be respectful of others' opinions even when they differ from your own.
- When you disagree with someone, you should express your differing opinion in a respectful, non-critical way.
- Do not make personal or insulting remarks.
- Be open-minded.

Opportunities for Input and Online Faculty Course Evaluation Process

Your comments are very valuable to the instructor. They will be used by the instructor to make specific improvements to the course (*e.g.*, assignments) and teaching style. The instructor will be providing opportunities throughout the semester for students to provide direct feedback on the course. However, students are encouraged to email the instructor at any time if they have concerns or comments to share with the instructor.

In addition, at approximately the mid-point of the semester, the School of Forest, Fisheries, and Geomatics Sciences might request anonymous feedback on student satisfaction on various aspects of this course. These surveys will be sent out through Canvas and are not required, but encouraged. This is not the UF Faculty Evaluation!

Finally, at the end of the semester, 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/.

Academic Integrity

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 academic misconduct or appropriate personnel. 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.

Please remember that cheating, lying, misrepresentation, or plagiarism in any form is unacceptable and inexcusable behavior. 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: http://www.dso.ufl.edu/sccr/process/student-conduct-honor-code. À

Inclusive Learning Environment
This course embraces the University of Florida's Non-Discrimination Policy, which reads,

> *The University shall actively promote equal opportunity policies and practices conforming to laws against discrimination. The University is committed to non-discrimination with respect to race, creed, color, religion, age, disability, sex, sexual orientation, gender identity and expression, marital status, national origin, political opinions or affiliations, genetic information and veteran status as protected under the Vietnam Era Veterans' Readjustment Assistance Act.*

If you have questions or concerns about your rights and responsibilities for inclusive learning environment, please see the instructor or refer to the Office of Multicultural & Diversity Affairs website: http://multicultural.ufl.edu.

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.

SUPPORT SERVICES

Accommodations 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 within the first week of class. The Dean of Students Office will provide documentation to the student who must then provide this documentation to the course instructor to receive accommodations. Please make sure you provide this letter to the instructor by the end of the second week of the course. The College is committed to providing reasonable accommodations to assist students in their coursework.

0001 Reid Hall, 352-392-8565, https://disability.ufl.edu/

Student Life, Wellness, and Counseling Help
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.

- The Counseling and Wellness Center (352-392-1575) offers a variety of support services such as psychological assessment and intervention and assistance for math and test anxiety. Visit their website for more information: http://www.counseling.ufl.edu. Online and in-person assistance is available.
- U Matter We Care website: http://www.umatter.ufl.edu/. If you are feeling overwhelmed or stressed, you can reach out for help through the U Matter We Care website, which is staffed by Dean of Students and Counseling Center personnel.
- The Student Health Care Center at Shands is a satellite clinic of the main Student Health Care Center located on Fletcher Drive on campus. Student Health at Shands offers a variety of clinical services. The clinic is located on the second floor of the Dental Tower in the Health Science Center. For more information, contact the clinic at 392-0627 or check out the website at: https://shcc.ufl.edu/
- Crisis intervention is always available 24/7 from the Alachua County Crisis Center (352-264-6789) http://www.alachuacounty.us/DEPTS/CSS/CRISISCENTER/Pages/CrisisCenter.aspx
- Career Connections Center http://career.ufl.edu/
- Other resources are available at http://www.distance.ufl.edu/getting-help for online students.

Do not wait until you reach a crisis to come in and talk with us. You are not alone, so do not be afraid to ask for assistance.

Student Complaint Process

The School of Forest, Fisheries, and Geomatics Sciences cares about your experience, and we will make every effort to address course concerns. We request that all of our online students complete a course satisfaction survey each semester, which is a time for you to voice your thoughts on how your course is being delivered.

If you have a more urgent concern, your first point of contact should be the SFFGS Academic Coordinator or the Graduate/Undergraduate Coordinator for the program offering the course. You may also submit a complaint directly to UF administration: http://www.distance.ufl.edu/student-complaint-process.

University of Florida
SUR 6934 (3 credits)
Marine Geomatics

Summer B 2021 Syllabus
Delivery Format: Online, asynchronous
Optional Live Meeting day: Thursday, 7:00 PM-8:15 PM
https://ufl.instructure.com/courses/428744

Instructor: Vincent Lecours, Ph.D.
Office: FAS Millhopper Facility, Room 12
Phone Number: (352) 273-3617
Email Address: vlecours@ufl.edu
Office Hours: Thur 3pm-5pm or by appt
Preferred Course Communications: email

Teaching Assistant: Michael Espriella
Office: FAS Millhopper Facility, Room 11
Phone Number: N/A
Email Address: michaelespriella@ufl.edu
Preferred Course Communications: email

Prerequisites
There are no prerequisites for this course.

PURPOSE AND OUTCOME

Course Overview
An introduction to the technologies, concepts, and methods required to acquire, analyze, and manage geographic data used in seafloor mapping and imaging. Background on the capabilities and limitations of different data collection systems will be provided, as well as for the other types of sensors necessary to collect accurate information. Topics will include marine positioning, underwater acoustics, sonars, hydrographic standards, and hydrographic survey design. A particular emphasis is given to multibeam echosounder systems. The course is aimed primarily at graduate students from the Geomatics program, but also at students from the Fisheries & Aquatic Sciences Program and the Department of Wildlife Ecology and Conservation that have an interest in the techniques used to map and image the seafloor.

Student Learning Objectives
At the end of this course, students will be able to:

1. *Explain* how sound propagates in water
2. *Describe* the use of ocean surveying and mapping instruments and data processing software
3. *Integrate* different sensors to build a proper ocean surveying system
4. *Select* the most appropriate suite of instruments and hydrographic standards for different purposes, including safe navigation
5. *Design* a hydrographic survey
6. *Interpret and analyze* written text

Instructional Methods
Course concepts will be introduced using real examples to demonstrate how marine geomatics is applied in the world. The course is entirely online, with asynchronous learning paired with synchronous discussion periods. This course has a lab component in which students will learn how to process bathymetric and backscatter data. The course provides opportunities for students to engage with other students and the instructor in various communication and interaction experiences.

DESCRIPTION OF COURSE CONTENT

Topical Outline/Course Schedule

This syllabus represents current plans and objectives for this course. As the semester progresses, changes may need to be made to accommodate timing, logistics, or enhance learning. Such changes, communicated clearly, are not unusual and should be expected.

Weeks	Dates	Topics
1	June 28th to July 4th	Course Introduction, Introduction to Remote Sensing for Ocean Mapping
2	July 5th to 11th	Instruments and Platforms for Ocean Mapping
3	July 12th to 18th	Multisensor Integration, Positioning
4	July 19th to July 25th	Survey Design, Hydrographic Standards
5	July 26th to August 1st	Data Processing, Overview of Software and Surveying Systems
6	August 2nd to 8th	Data Products, Management, and Interpretation

Course Materials and Technology

Because of its online nature, this course requires access to a computer or mobile device with a high-speed internet connection, a headset and/or microphone and speakers, and the latest version of a web browser. Canvas supports only the two most recent versions of any given browser (What browser am I using?). A webcam is suggested for the live discussions.

The course will use a variety of software, including open-source software that can be downloaded on any desktop computer and laptop.

Technical support is available through the UF Help Desk at:

- Learning-support@ufl.edu
- (352) 392-HELP - select option 2
- https://lss.at.ufl.edu/help.shtml

ACADEMIC REQUIREMENTS AND GRADING

Assignments and Exams

- Every week, students will be given a list of potential readings relevant to the weekly topics. Students will need to read the assigned documents and share discussion points on an online discussion forum. Students are also expected to interact with others in this forum. Students are expected to provide original and relevant contributions, and to contrast the readings with each other to achieve full marks. If more than one discussion is missed, each additional discussion missed will lead to a 7 points reduction in the point total. Discussions will be evaluated using a rubric.
- In lieu of a comprehensive final exam, six quizzes will be given to assess the students' understanding of each week's topics. The five highest grades of the six quizzes will be counted as part of the final grade.
- This course has a lab component during which the students will apply theoretical concepts in a practical GIS environment using real data. Six lab assignments will be graded, and the five highest grades of those assignments will count towards the final grade.

- All assignments will be submitted on the course website. Presentation of the assignments must be neat, logical, organized, and appropriately referenced. Poor presentation will be penalized up to a maximum of 20% of the value of assignments and exams.

Grading

Requirement	% of final grade
Online Discussion based on Readings (6x)	7% each (35%)
Quizzes (5 best of 6, all 6 must be taken)	3% each (15%)
Labs (5 best of 6, all 6 must be completed)	10% each (50%)

Points earned	93-100	90-92.99	87-89.99	83-86.99	80-82.99	77-79.99	73-76.99	70-72.99	67-69.99	63-66.99	60-62.99	Below 60
Letter Grade	A	A-	B+	B	B-	C+	C	C-	D+	D	D-	E

Letter Grade	A	A-	B+	B	B-	C+	C	C-	D+	D	D-	E	WF	I	NG	S-U
Grade Points	4.0	3.67	3.33	3.0	2.67	2.33	2.0	1.67	1.33	1.0	0.67	0.0	0.0	0.0	0.0	0.0

For greater detail on the meaning of letter grades and university policies related to them, see the Registrar's Grade Policy regulations at: https://gradcatalog.ufl.edu/graduate/regulations/

Late Policy

Due dates are indicated in the calendar above. Any modifications to these dates will be announced by the instructor when assignments are given. A deduction of 10% will be made for each day that an assignment is late, with the first 10% being removed immediately after the due time.

Policy Related to Make-up Exams, Other Work, and Required Class Attendance

It is the responsibility of the student to access on-line lectures, readings, quizzes, and exams and to maintain satisfactory progress in the course. Requirements for class attendance and make-up exams, assignments and other work are consistent with university policies that can be found at: https://gradcatalog.ufl.edu/graduate/regulations/

Computer or other hardware failures, except failure of the UF e-Learning system, will not excuse students for missing assignments. Any late submissions due to technical issues MUST be accompanied by the ticket number received from the Helpdesk when the problem was reported to them. The ticket number will document the time and date of the problem. You MUST e-mail your instructor within 24 hours of the technical difficulty if you wish to request consideration. For computer, software compatibility, or access problems call the HELP DESK phone number—352-392-HELP = 352- 392-4357 (option 2).

STUDENT EXPECTATIONS, ROLES, AND OPPORTUNITIES FOR INPUT

Expectations Regarding Course Behavior

You are expected to actively engage in the course throughout the semester. You must come to the online discussions (live or not) prepared by completing all out-of-class assignments. This preparation gives you the knowledge or practice needed to engage in higher levels of learning during the live discussion sessions. If you are not prepared, you may struggle to keep pace with the activities occurring in the course, and it is unlikely that you will reach the higher learning goals of the course. Your participation fosters a rich course experience for you and your peers that facilitates overall mastery of the course objectives.

In order to facilitate the creation of a functional learning community and out of respect for the instructor and the other students, it is expected that all cell phones be either set on silent mode or turned off, except when authorized by the instructor. Please mute your microphone when not speaking. Recording devices are strictly prohibited.

Netiquette Guide for Online Courses

It is important to recognize that the online classroom is in fact a classroom, and certain behaviors are expected when you communicate with both your peers and your instructors. All members of the class are expected to follow rules of common courtesy in all email messages, threaded discussions and chats. Failure to do so may result in loss of participation points and/or referral to the Dean of Students' Office. These guidelines for online behavior and interaction are known as netiquette.

Remember that your password is the only thing protecting you from pranks or more serious harm.

- Don't share your password with anyone.
- Change your password if you think someone else might know it.
- Always log out when you are finished using the system.

When communicating online, you should always:

- Treat your instructor and classmates with respect in email or any other communication.
- Use clear and concise language.
- Remember that all college level communication should have correct spelling and grammar (this includes discussion boards).
- Avoid slang terms such as "wassup?" and texting abbreviations such as "u" instead of "you."
- Use standard fonts such as Ariel, Calibri or Times new Roman and use a size 10 or 12 pt. font.
- Avoid using the caps lock feature AS IT CAN BE INTERPRETTED AS YELLING.
- Limit and possibly avoid the use of emoticons.
- Be cautious when using humor or sarcasm as tone is sometimes lost in an email or discussion post and your message might be taken seriously or sound offensive.
- Be careful with personal information (both yours and other's).
- Do not send confidential information via e-mail.

When you send an email to your instructor, teaching assistant, or classmates, you should:

- Use a descriptive subject line.
- Be brief.
- Avoid attachments unless you are sure your recipients can open them.
- Avoid HTML in favor of plain text.
- Sign your message with your name and return e-mail address.

- Think before you send the e-mail to more than one person. Does everyone really need to see your message?
- Be sure you REALLY want everyone to receive your response when you click, "reply all."
- Be sure that the message author intended for the information to be passed along before you click the "forward" button.

When posting on the Discussion Board in your online class, you should:

- Make posts that are on topic and within the scope of the course material.
- Take your posts seriously and review and edit your posts before sending.
- Be as brief as possible while still making a thorough comment.
- Always give proper credit when referencing or quoting another source.
- Be sure to read all messages in a thread before replying.
- Don't repeat someone else's post without adding something of your own to it.
- Avoid short, generic replies such as, "I agree." You should include why you agree or add to the previous point.
- Always be respectful of others' opinions even when they differ from your own.
- When you disagree with someone, you should express your differing opinion in a respectful, non-critical way.
- Do not make personal or insulting remarks.
- Be open-minded.

Opportunities for Input and Online Faculty Course Evaluation Process

Your comments are very valuable to the instructor. They will be used by the instructor to make specific improvements to the course (*e.g.*, assignments) and teaching style. The instructor will be providing opportunities throughout the semester for students to provide direct feedback on the course. However, students are encouraged to email the instructor at any time if they have concerns or comments to share with the instructor.

In addition, at approximately the mid-point of the semester, the School of Forest, Fisheries, and Geomatics Sciences might request anonymous feedback on student satisfaction on various aspects of this course. These surveys will be sent out through Canvas and are not required but encouraged. This is not the UF Faculty Evaluation!

Finally, at the end of the semester, 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/.

Academic Integrity

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 academic misconduct or appropriate personnel. 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.

Please remember that cheating, lying, misrepresentation, or plagiarism in any form is unacceptable and inexcusable behavior. 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: http://www.dso.ufl.edu/sccr/process/student-conduct-honor-code. À

Inclusive Learning Environment
This course embraces the University of Florida's Non-Discrimination Policy, which reads,

> *The University shall actively promote equal opportunity policies and practices conforming to laws against discrimination. The University is committed to non-discrimination with respect to race, creed, color, religion, age, disability, sex, sexual orientation, gender identity and expression, marital status, national origin, political opinions or affiliations, genetic information and veteran status as protected under the Vietnam Era Veterans' Readjustment Assistance Act.*

If you have questions or concerns about your rights and responsibilities for inclusive learning environment, please see the instructor or refer to the Office of Multicultural & Diversity Affairs website: http://multicultural.ufl.edu.

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.

SUPPORT SERVICES

Accommodations 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 within the first week of class. The Dean of Students Office will provide documentation to the student who must then provide this documentation to the course instructor to receive accommodations. Please make sure you provide this letter to the instructor by the end of the second week of the course. The College is committed to providing reasonable accommodations to assist students in their coursework.

0001 Reid Hall, 352-392-8565, https://disability.ufl.edu/

Student Life, Wellness, and Counseling Help
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.

- The Counseling and Wellness Center (352-392-1575) offers a variety of support services such as psychological assessment and intervention and assistance for math and test anxiety. Visit their website for more information: http://www.counseling.ufl.edu. Online and in-person assistance is available.
- U Matter We Care website: http://www.umatter.ufl.edu/. If you are feeling overwhelmed or stressed, you can reach out for help through the U Matter We Care website, which is staffed by Dean of Students and Counseling Center personnel.
- The Student Health Care Center at Shands is a satellite clinic of the main Student Health Care Center located on Fletcher Drive on campus. Student Health at Shands offers a variety of clinical services. The clinic is located on the second floor of the Dental Tower in the Health Science Center. For more information, contact the clinic at 392-0627 or check out the website at: https://shcc.ufl.edu/
- Crisis intervention is always available 24/7 from the Alachua County Crisis Center (352-264-6789) http://www.alachuacounty.us/DEPTS/CSS/CRISISCENTER/Pages/CrisisCenter.aspx
- Career Connections Center http://career.ufl.edu/
- Other resources are available at http://www.distance.ufl.edu/getting-help for online students.

Do not wait until you reach a crisis to come in and talk with us. You are not alone, so do not be afraid to ask for assistance.

Student Complaint Process

The School of Forest, Fisheries, and Geomatics Sciences cares about your experience, and we will make every effort to address course concerns. We request that all of our online students complete a course satisfaction survey each semester, which is a time for you to voice your thoughts on how your course is being delivered.

If you have a more urgent concern, your first point of contact should be the SFFGS Academic Coordinator or the Graduate/Undergraduate Coordinator for the program offering the course. You may also submit a complaint directly to UF administration: http://www.distance.ufl.edu/student-complaint-process.

Cover Sheet: Request 17054

SWS_6XXX_Fertilizer_Technology_&_Use

Info

Process	Course|New|Grad
Status	Pending at CALS - College of Agricultural and Life Sciences
Submitter	Michael Sisk mjsisk@ufl.edu
Created	2/9/2022 12:22:34 PM
Updated	2/21/2022 10:44:34 AM
Description of request	This is a brand new course being proposed by SWS. This course will be part of the curriculum for a new graduate certificate program in "Fertilizer Technology" that is currently being developed in the Soil and Water Sciences Department.

Actions

Step	Status	Group	User	Comment	Updated
Department	Approved	CALS - Soil and Water Science 60210000	Matthew Whiles		2/9/2022
SWS_6XXX_Fertilizer_Technology_&_Use_UCC_Syllabus_Checklist_2_7_22.pdf SWS_6XXX_Fertilizer_Technology_&_Use_CALS_CC_Checklist_2_7_22.pdf					2/9/2022 2/9/2022
College	Pending	CALS - College of Agricultural and Life Sciences			2/9/2022
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					

Original file: Cover sheet.pdf

Course|New for request 17054

Info

Request: SWS_6XXX_Fertilizer_Technology_&_Use
Description of request: This is a brand new course being proposed by SWS. This course will be part of the curriculum for a new graduate certificate program in "Fertilizer Technology" that is currently being developed in the Soil and Water Sciences Department.
Submitter: Michael Sisk mjsisk@ufl.edu
Created: 2/8/2022 9:02:58 AM
Form version: 1

Responses

Recommended Prefix SWS
Course Level 6

Course Number XXX
Lab Code None
Category of Instruction Intermediate
Course Title Fertilizer Technology and Use
Transcript Title Fertilizer Technology and Use
Degree Type Graduate

Delivery Method(s) Online
Co-Listing No

Effective Term Earliest Available
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 3
Course Description The course presents the basic concepts of fertilizer technology as tools for effective agricultural crop nutrient management. Provides information on a wide range of fertilizer technologies and application methods from national and internationally known researchers and industry experts. Detailed understanding of how to produce different fertilizer components and how to use them properly to improve plant use efficiency.
Prerequisites None
Co-requisites None
Rationale and Placement in Curriculum This is a brand new course being proposed by SWS. This course will be part of the curriculum for a new graduate certificate program in "Fertilizer Technology" that is currently being developed in the Soil and Water Sciences Department.

Course Objectives The course will summarize and present the basic concepts of fertilizer technology as tools for effective agricultural crop nutrient management. After completing this course, students will be able to describe how fertilizer materials are produced and formulated, choose appropriate fertilizer application methods, and calculate fertilizer rates to provide crop specific nutrient requirements.

- Discuss and summarize the sources and production processes of commercially available fertilizers
- Discuss different types of fertilizers produced by the industry today and specific precautions in the use of these crop nutrient sources
- Identify the use of fertilizer sources to improve plant nutrient availability and improved crop

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plant uptake efficiency
• Develop and apply knowledge on fertilizer rate calculations and economics of improved nutrient use efficiency

Course Textbook(s) and/or Other Assigned Reading REQUIRED BOOK:
Fertilizer Technology and Application (John J. Mortvedy, Larry S. Murphy, Roy H. Follett, 1999) ISBN 1-892829-03-7.

Handouts of research and extension journal articles on various topics

RECOMMENDED BOOKS: Additional texts that may be useful include:
Soil Fertility and Fertilizers (John L. Havlin, Samuel L. Tisdale, Werner L. Nelson James D. Beaton, 2013) ISBN-13: 978-0-13-305569-6
Plant Nutrition and Soil Fertility Manual (Jones, 2012), Soils and Soil Fertility (Troeh and Thompson, 2016) and Handbook of Plant Nutrition (Edited by Allen Barker and David Pilbeam, 2007)

Weekly Schedule of Topics Lectures TOPIC Lecture/Duration Quizzes/Exams

Introduction Module
1 Course introduction: Course scope; nutrient uptake and efficiency; historic overview; evolution of chemical fertilizers including soluble, slow/controlled release, and liquid forms Week 1

Fertilizer Component Module
2 Nitrogen Fertilizer Production I: N sources and production raw materials Week 2

3 Nitrogen Fertilizer Production II: Fertilizer production processes Week 2
4 Phosphorus Fertilizer Production: Sources, reactions in the soil, production methods Week 3
5 Potassium Fertilizer Production: Mined sources, production technology Week 3

6 Secondary Fertilizer Production: Source and production of Ca, Mg, and S Week 4
7 Micronutrient Fertilizer Production: Source and production of Fe, Mn, Zn, Si, B and others Week4
Fertilizer Formulation module
8 Solid Fertilizer Formulations: Effect of granulation, blending and chemical compatibility Week 5
9 Physical Properties of Granular Fertilizers: Effect of particle size/ segregation, bulk density, and moisture absorption in fertilizer application considerations Week 5 Quiz: Lectures 1-9
10 Fluid Fertilizers Formulations: Computability of macronutrients and micronutrients, salt index Week 6
11 Slow and Controlled Release Fertilizers: Discussion of coating technology, methods of release, and release rates Week6
Organic Fertilizer Module
12 Organic Fertilizer Availability and Efficiency: Consideration of manure types and sources, nutrient release rates, incorporation with soluble sources in fertilizer programs Week 7

13 Organic Fertilizers (continued): Use and efficiency of biofertilizers including non-manure sources that are mined or processed for use by organic producers Week 7
14 Review and discussion Week 8
Fertilizer Management Module Mid-term Exam: Lectures 1-14
15 Production Practices: Management of fertilizer source, rate, application timing, and placement known as the 4Rs management Week 8
15 Fertilizer formulations label law, testing, regulations, and Best Management Practices Week 9
16 Soil and Crop Considerations in Fertilizer Management: Selection of fertilizer formulations based on soil pH, leachability, and salinity and crop uptake parameters Week 9
17 Crop Specific Fertilizer Application Examples: Fertigation and common formulations for row, vegetable crops; controlled release fertilizers for perineal crops, effect of water quality and chemical compatibility on applying fertilizer through an irrigation system Week 10
Alternative Fertilizer Technology Module
18 Alternative Products in Agriculture: Use and efficiencies of soil amendments (including

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humates), microbial inhibitors, bacterial inoculants Week 10 Quiz: Lectures 14-18
20 Foliar Fertilizers: Uptake responses, sources, efficiency, application methods
Week 11
Fertilizer Rate Calculation Module
21 Granular Fertilizer Application Rate Calculations: Develop appropriate formulations and application rates Week 11
22 Liquid Fertilizer Injection Rate Calculations: Formulation of required nutrient components and application rates Week 12
23 Economics of Improved Fertilizer Use Efficiency: Evaluation of form, formulation, and nutrient use efficiency in cost of crop production Week 12
24 Class Project Presentations Week 13
Class Project Presentations Week 13
28 Review, Summary and Discussions Week 14
FINAL EXAM Week 14 Final, lectures 1-28

Grading Scheme Course grades will be determined as follows (%):
Graduate students

Evaluation endpoint	Frequency	% of total grade
Attendance	Weekly	10
Quizzes (total of 2 during term)	As announced	20
Term written report and oral presentation	1	40
Mid-term exam	1	15
Final exam	1	15

Instructor(s) Instructors: Kelly Morgan

Dr. Yuncong Li
Dr. Rao Mylavarapu

Guest Speakers: Staff of the International Fertilizer Development Center
Selected fertilizer industry experts

Attendance & Make-up Yes
Accomodations Yes
UF Grading Policies for assigning Grade Points Yes
Course Evaluation Policy Yes

Original file: Submitted form version 1.pdf

Dr. Hammond,

Thank you for comparing these two courses. I have done the same and came up with many of the same concussions. I also, think the two courses are complementary with enough overlap to reinforce major concepts. The course assignments for the two courses could be seen as similar, however, my intent was that the assignment for the SWS course be more in justifying the selection of fertilizer source materials to address soil related issues and environmental impacts rather than satisfying plant nutrient requirements. I will improve the description of the course assignment.

Kelly T. Morgan, Ph.D.
Professor
University of Florida
Soil and Water Sciences
(863) 289-1910 cell

****

Hello,

Thanks for sharing this. I've reviewed the syllabus and think the courses are nicely complementary. There is some overlap, and the term project seems to be highly similar in content (develop a nutrient management plan for crop of choice), so working together on differentiating these projects could be beneficial to students and allow them the opportunity to avoid repeating a major assignment (it is 40% of the proposed course's total grade, and ~20% of AGR6422C's total grade). However, the SWS course includes this as a written & oral presentation, while I presently only require this to be a written assignment (the oral presentation of the plan is a great idea!). Other than this, I see the key differences being that the focus of the proposed course is on fertilizer sources and production processes, while AGR6422C focuses primarily on vital role of each element (physiology/nutrition focus, instead of a fertilization focus). AGR6422C has modules on fertilization sources/production/application, but these are more broad/general introductions, while they take up more than ½ of the proposed SWS course's content. So, I think students could benefit from taking both courses without feeling like too much content was repeated. Both courses are asynchronous online classes with availability for synchronous interaction.

The attached PDF has notes but is length limited. Happy to discuss further if it's helpful! This is my first time doing an external consult on a course so, please let me know if more detail is needed.

Take care,

Bill

William Hammond, PhD (he/him)
Assistant Professor of Plant Ecophysiology
Agronomy Department | University of Florida
405.471.7203 | williamhammond@ufl.edu
web: https://ecophyslab.com

l file: Agronomy_External_Consult_SWS_6XXX_Fertilizer_Technology_&_Use_E-Mail_Correspondence_2_21_

External Consultation Results (departments with potential overlap or interest in proposed course, if any)

Department	Name and Title
Agronomy Department	Dr. Lynn Sollenberger, Professor and Graduate Coordinator
Phone Number	**E-mail**
(352) 273-3420	lesollen@ufl.edu

Comments

Dr. Sollenberger directed request for external consult to Dr. Kenworthy, who then had Dr. Hammond (AGR 6422C) course instructor review syllabus and provide feedback on proposed course and any overlap. Dr. Hammond's response is below, the form did not give him enough room for feedback so I included his e-mail in the approval system for reference and Dr. Morgan's response to the e-mail. Mike S.

Department	Name and Title
Agronomy Department	William Hammond, Assistant Professor of Plant Ecophysiology
Phone Number	**E-mail**
405-471-7203	williamhammond@ufl.edu

Comments

Overlap with AGR6422C: Environmental Crop Nutrition is primarily Lecture 15 - 23. The project presentation is similar in content to the "Nutrient Management Plan" assignment of environmental crop nutrition. AGR6422C does not require a textbook, so no overlap there. Overall, this course looks to add useful content for students, especially about the formulation and source material for fertilizers, which AGR6422C doesn't cover in depth. Key differences in AGR6422C are the coverage of each essential element and its physiological activity(a focus on plant nutrition vs. fertilization).

Department	Name and Title
Phone Number	**E-mail**

Comments

Original file: Agronomy_External_Consult_SWS_6XXX_Fertilizer_Technology_&_Use_Form_2_21_22.pdf

CALS Curriculum Committee
Submission Checklist

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/faculty-staff/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.

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

__X__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. Any other information you wish to include needs to be under a different heading such as background or additional 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-course-objectives.pdf). Do not use the words demonstrate or understand when listing learning objectives.

Original file: SWS_6XXX_Fertilizer_Technology_&_Use_CALS_CC_Checklist_2_7_22.pdf

__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 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://registrar.ufl.edu/pdf/uccconsult.pdf.

__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.

__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 is 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. Joel Brendemuhl (brendj@ufl.edu) for further instruction)

Original file: SWS_6XXX_Fertilizer_Technology_&_Use_CALS_CC_Checklist_2_7_22.pdf

Fertilizer Technology and Use

Course No: SWS6xxx

Credits: 3.0 hours Fall Semester Distance Education Mode

Instructors: Kelly Morgan

Dr. Yuncong Li

Dr. Rao Mylavarapu

Staff of the International Fertilizer Development Center

Selected fertilizer industry experts

Office: 2157 McCarty Hall A
Office phone: 352-294-3157
Email: conserv@ufl.edu

Office hours: Tuesdays and Thursday 9-11 am

Course location: This course will be both asynchronous (i.e., weekly lectures on Canvas) and synchronous (i.e., required online evening chat session on Wednesdays at 7pm – 8pm)

Meeting times: **Two-** Weekly lectures on Canvas; weekly chat session online

COURSE DESCRIPTION FOR GRADUATE CATALOG:

The course presents the basic concepts of fertilizer technology as tools for effective agricultural crop nutrient management. Provides information on a wide range of fertilizer technologies and application methods from national and internationally known researchers and industry experts. Detailed understanding of how to produce different fertilizer components and how to use them properly to improve plant use efficiency.

EXPANDED COURSE DESCRIPTION:

This course is designed to provide updated information on fertilizer production and use technology. Students of all agricultural production majors will benefit from the knowledge gained through this course in present and future employment in production agriculture and fertilizer sales and research. This team-taught course will provide information on a wide range of fertilizer technology and application methods from national and internationally known researchers and industry experts. Upon successfully completing this course, students will gain a broad, detailed understanding of how to produce different fertilizer components and how to use them properly to improve plant use efficiency. The course will culminate with calculations of various fertilizer rates for formulations discussed and economics associated with improved fertilizer management.

COURSE LEARNING OBJECTIVES: The course will summarize and present the basic concepts of fertilizer technology as tools for effective agricultural crop nutrient management. After completing this course,

Original file: SWS_6XXX_Fertilizer_Technology_&_Use_Syllabus_2_17_22.pdf

students will be able to describe how fertilizer materials are produced and formulated, choose appropriate fertilizer application methods, and calculate fertilizer rates to provide crop specific nutrient requirements.

- Discuss and summarize the sources and production processes of commercially available fertilizers
- Discuss different types of fertilizers produced by the industry today and specific precautions in the use of these crop nutrient sources
- Identify the use of fertilizer sources to improve plant nutrient availability and improved crop plant uptake efficiency
- Develop and apply knowledge on fertilizer rate calculations and economics of improved nutrient use efficiency
- Describe knowledge of fertilizer environmental and climate effects

DELIVERY METHOD: Online. Online lectures with once-a-week chat sessions
Online lectures (powerpoint presentations) and other course materials delivered through the Canvas E-Learning System.

PRE-REQUISITES/CO-REQUISITES:
None

COURSE SCHEDULE

Lectures	TOPIC	Lecture/Duration	Quizzes/Exams
	Introduction Module		
1	Course introduction: Course scope; nutrient uptake and efficiency; historic overview; evolution of chemical fertilizers including soluble, slow/controlled release, and liquid forms	Week 1	
	Fertilizer Component Module		
2	Nitrogen Fertilizer Production I: N sources and production raw materials	Week 2	
3	Nitrogen Fertilizer Production II: Fertilizer production processes	Week 2	
4	Phosphorus Fertilizer Production: Sources, reactions in the soil, production methods	Week 3	
5	Potassium Fertilizer Production: Mined sources, production technology	Week 3	
6	Secondary Fertilizer Production: Source and production of Ca, Mg, and S	Week 4	
7	Micronutrient Fertilizer Production: Source and production of Fe, Mn, Zn, Si, B and others	Week4	
	Fertilizer Formulation module		

Original file: SWS_6XXX_Fertilizer_Technology_&_Use_Syllabus_2_17_22.pdf

8	Solid Fertilizer Formulations: Effect of granulation, blending and chemical compatibility	Week 5	
9	Physical Properties of Granular Fertilizers: Effect of particle size/ segregation, bulk density, and moisture absorption in fertilizer application considerations	Week 5	Quiz: Lectures 1-9
10	Fluid Fertilizers Formulations: Computability of macronutrients and micronutrients, salt index	Week 6	
11	Slow and Controlled Release Fertilizers: Discussion of coating technology, methods of release, and release rates	Week6	
	Organic Fertilizer Module		
12	Organic Fertilizer Availability and Efficiency: Consideration of manure types and sources, nutrient release rates, incorporation with soluble sources in fertilizer programs	Week 7	
13	Organic Fertilizers (continued): Use and efficiency of biofertilizers including non-manure sources that are mined or processed for use by organic producers	Week 7	
14	Review and discussion	Week 8	
	Fertilizer Management Module		Mid-term Exam: Lectures 1-14
15	Production Practices: Management of fertilizer source, rate, application timing, and placement known as the 4Rs management	Week 8	
15	Fertilizer formulations label law, testing, regulations, and Best Management Practices	Week 9	
16	Soil and Crop Considerations in Fertilizer Management: Selection of fertilizer formulations based on soil pH, leachability, and salinity and crop uptake parameters	Week 9	
17	Crop Specific Fertilizer Application Examples: Fertigation and common formulations for row, vegetable crops; controlled release fertilizers for perineal crops, effect of water quality and	Week 10	

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	chemical compatibility on applying fertilizer through an irrigation system		
	Alternative Fertilizer Technology Module		
18	Alternative Products in Agriculture: Use and efficiencies of soil amendments (including humates), microbial inhibitors, bacterial inoculants	Week 10	Quiz: Lectures 14-18
20	Foliar Fertilizers: Uptake responses, sources, efficiency, application methods	Week 11	
	Fertilizer Rate Calculation Module		
21	Granular Fertilizer Application Rate Calculations: Develop appropriate formulations and application rates	Week 11	
22	Liquid Fertilizer Injection Rate Calculations: Formulation of required nutrient components and application rates	Week 12	
23	Economics of Improved Fertilizer Use Efficiency: Evaluation of form, formulation, and nutrient use efficiency in cost of crop production	Week 12	
24	Class Project Presentations	Week 13	
	Class Project Presentations	Week 13	
28	Review, Summary and Discussions	Week 14	
	FINAL EXAM	Week 14	Final, lectures 1-28

Class Presentation: Each student will be instructed on scope of class project to be presented at the end of the term. The project will consist of information on developing a crop fertilizer recommendation, a season-long fertilizer plan, formulation of fertilizers used in the fertilizer plan, calculation of fertilizer application rates, production practices used to limit environmental implications, and expected crop goals or outcomes of the fertilizer plan. be presented in written and oral format. Students will be evaluated on content, organization, material presented, and use of PowerPoint presentation.

REQUIRED BOOK:
Fertilizer Technology and Application (John J. Mortvedy, Larry S. Murphy, Roy H. Follett, 1999) ISBN 1-892829-03-7.
Handouts of research and extension journal articles on various topics

RECOMMENDED BOOKS: Additional texts that may be useful include:
Soil Fertility and Fertilizers (John L. Havlin, Samuel L. Tisdale, Werner L. Nelson James D. Beaton, 2013*)* ISBN-13: 978-0-13-305569-6
Plant Nutrition and Soil Fertility Manual (Jones, 2012), *Soils and Soil Fertility* (Troeh and Thompson, 2016) and Handbook of Plant Nutrition (Edited by Allen Barker and David Pilbeam, 2007)

STUDENT EVALUATION:

Original file: SWS_6XXX_Fertilizer_Technology_&_Use_Syllabus_2_17_22.pdf

1. Students are expected to attend lectures and be prepared to participate in all chat sessions. A portion of the grade is based on meaningful participation in the chat sessions, demonstrated student interest, and overall student dedication.

2. Assessments are based on exams, project report and participation. Three quizzes will be administered during the term. A written report is required describing a fertilizer recommendation of a crop chosen by the student. The report must provide amounts of both macro- and micronutrients amounts based on published recommendations , split applications, pH moderation requirements, and application methods. An oral report with illustrations will be provided at the end of the term. A comprehensive final example covering all materials discussed during the term will be administered at the end on the term.

3. Course grades will be determined as follows (%):

Graduate students

Evaluation endpoint	Frequency	% of total grade
Attendance	Weekly	10
Quizzes (total of 2 during term)	As announced	20
Term written report and oral presentation	1	40
Mid-term exam	1	15
Final exam	1	15

Grading Scale

A	93.0% and above	C	73.0-76.99%
A-	90.0-92.99%	C-	70.0-72.99%
B+	87.0-89.99%	D+	67.0-69.99%
B	83.0-86.99%	D	63.0-66.99%
B-	80.0-82.99%	D-	60.0-62.99%
C+	77.0-79.99%	E	Below 60.0

Grades and Grade Points

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

ATTENDANCE AND MAKE-UP WORK: Students should be ready to begin class as soon as the scheduled start time is reached (i.e. arrive early). 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/

PRIVACY STATEMENTS FOR ONLINE COURSES

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

ONLINE COURSE EVALUATION PROCESS: Student assessment of instruction is an important part of efforts to improve teaching and learning. At the end of the semester, students are expected to provide feedback on the quality of instruction in this course using a standard set of university and college criteria. 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/

ACADEMIC HONESTY: 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 academic misconduct to appropriate personnel. 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:

http://www.dso.ufl.edu/sccr/process/student-conduct-honor-code.

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.

SERVICES FOR STUENTS 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, https://disability.ufl.edu

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.

- University Counseling & Wellness Center, 3190 Radio Road, 352-392-1575, www.counseling.ufl.edu
  - Counseling Services
  - Groups and Workshops
  - Outreach and Consultation
  - Self-Help Library
  - Wellness Coaching

- U Matter We Care, www.umatter.ufl.edu/

- Career Connections Center, First Floor JWRU, 392-1601, https://career.ufl.edu/

- Student Success Initiative, http://studentsuccess.ufl.edu

Student Complaints:

- Residential Course: https://sccr.dso.ufl.edu/policies/student-honor-code-student-conduct-code/

- Online Course: http://www.distance.ufl.edu/student-complaint-process

Academic Resources

E-learning technical support

352-392-4357 (select option 2) or email to Learning-support@ufl.edu.
http://lss.at.ufl.edu/help.shtml.

Career Resource Center

Reitz union, 392-1601. Career assistance and counseling. http://www.crc.ufl.edu.

Library Support

http://cms.uflib.ufl.edu/ask. Various ways to receive assistance with respect to using the libraries or finding resources.

Teaching Center

Broward Hall, 392-2010 or 392-6420. General skills and tutoring. http://teachingcenter.ufl.edu.

Writing Studio

302 Tigert Hall, 846-1138. Help brainstorming, formatting, and writing papers.
http://writing.ufl.edu/writing-studio/.

Student Complaints

Campus: https://www.dso.ufl.edu/documents/UF_Complaints_Policy.pdf.

Original file: SWS_6XXX_Fertilizer_Technology_&_Use_Syllabus_2_17_22.pdf

On-Line Students: http://www.distance.ufl.edu/student-complaint-process.

Video Recording Policy
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.

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.
Add statements to video recording policy that was recently revised by UF for online teaching.

Original file: SWS_6XXX_Fertilizer_Technology_&_Use_Syllabus_2_17_22.pdf

UF UNIVERSITY of FLORIDA

UCC: Syllabus Checklist

All UCC1 forms and each UCC2 form that proposes a change in the course description or credit hours must include this checklist in addition to a complete syllabus. Check the box if the attached syllabus includes the indicated information.

Syllabus MUST contain the following information:

- ☑ Instructor contact information (and TA if applicable)
- ☑ Course objectives and/or goals
- ☑ A weekly course schedule of topics and assignments
- ☑ Required and recommended textbooks
- ☑ Methods by which students will be evaluated and their grades determined
- ☑ A statement related to class attendance, make-up exams and other work such as: "Requirements for class attendance and make-up exams, assignments, and other work in this course are consistent with university policies that can be found in the online catalog at: https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx."
- ☑ A statement related to accommodations for students with disabilities such as: "Students requesting classroom accommodation must first register with the Dean of Student Office. The Dean of Students Office will provide documentation to the student who must then provide this documentation to the instructor when requesting accommodation."
- ☑ Information on current UF grading policies for assigning grade points. This may be achieved by including a link to the appropriate undergraduate catalog web page: https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx
- ☑ A statement informing students of the online course evaluation process such as: "Students are expected to provide feedback on the quality of instruction in this course based on 10 criteria. These evaluations are conducted online at https://evaluations.ufl.edu. Evaluations are typically open during the last two or three weeks of the semester, but students will be given specific times when they are open. Summary results of these assessments are available to students at https://evaluations.ufl.edu.

It is recommended that syllabi contain the following information:

1. Critical dates for exams and other work
2. Class demeanor expected by the professor (e.g., tardiness, cell phone usage)
3. UF's honesty policy regarding cheating, plagiarism, etc. Suggested wording: 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 (http://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 obliged to report any condition that facilitates academic misconduct to appropriate personnel. If you have any questions or concerns, please consult with the instructor of TAs in this class.
4. Phone number and contact site for university counseling services and mental health services: 392-1575, http://www.counseling.ufl.edu/cwc/Default.aspx
   University Police Department: 392-1111 or 9-1-1 for emergencies.

The University's complete Syllabus Policy can be found at: http://www.aa.ufl.edu/Data/Sites/18/media/policies/syllabi_policy.pdf

Cover Sheet: Request 16326

FAS 6337C Fish Population Dynamics modify prerequisites

Info

Process	Course|Modify|Grad
Status	Pending at CALS - College of Agricultural and Life Sciences
Submitter	Jennifer Vogel alpha32605@ufl.edu
Created	6/28/2021 11:34:47 AM
Updated	2/10/2022 9:26:48 AM
Description of request	Update the FAS 6337C Fish Population Dynamics prerequisite to include STA 6166 or STA 6093 based on higher enrollments in STA 6093

Actions

Step	Status	Group	User	Comment	Updated
Department	Approved	SFRC - Fisheries, Aquatic Sciences, and Geomatics 60469000	Terrell Baker III		2/9/2022
No document changes					
College	Pending	CALS - College of Agricultural and Life Sciences			2/9/2022
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					

Original file: Cover sheet.pdf

Course|Modify for request 16326

Info

Request: FAS 6337C Fish Population Dynamics modify prerequisites
Description of request: Update the FAS 6337C Fish Population Dynamics prerequisite to include STA 6166 or STA 6093 based on higher enrollments in STA 6093
Submitter: Jennifer Vogel alpha32605@ufl.edu
Created: 10/14/2021 3:24:09 PM
Form version: 3

Responses

Current Prefix FAS
Course Level 6
Number 337
Lab Code C
Course Title FISH POPULATION DYNAMICS
Effective Term Earliest Available
Effective Year Earliest Available
Requested Action Other (selecting this option opens additional form fields below)
Change Course Prefix? No

Change Course Level? No

Change Course Number? No

Change Lab Code? No

Change Course Title? No

Change Transcript Title? No

Change Credit Hours? No

Change Variable Credit? No

Change S/U Only? No

Change Contact Type? No

Change Rotating Topic Designation? No

Change Repeatable Credit? No

Change Course Description? No

Change Prerequisites? Yes

Original file: Submitted form version 3.pdf

Current Prerequisites STA 6166
Proposed Prerequisites STA 6166 or STA 6093
Change Co-requisites? No

Rationale STA 6093 has much higher enrollment of FAS grad students than the current prerequisite of STA 6166.

Original file: Submitted form version 3.pdf

CALS Curriculum Committee
Submission Checklist

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/faculty-staff/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.

___x_ 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. Any other information you wish to include needs to be under a different heading such as background or additional 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-course-objectives.pdf). Do not use the words demonstrate or understand when listing learning objectives.

Original file: CALS CC Checklist - Req No 16326.pdf

__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.

__na__ Outside consultations are required if there is a possibility of the proposed course covering 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.

__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 is 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. Joel Brendemuhl (brendj@ufl.edu) for further instruction)

Original file: CALS CC Checklist - Req No 16326.pdf

FAS6337C – FISH POPULATION DYNAMICS

1 Course Overview

Course description:

Course will demonstrate the analysis of fish population data for management purposes. Methods for estimating fish population parameters (e.g., growth, recruitment, and mortality) will be conducted. You will predict yield and catch composition for recreational and commercial fisheries as well as assess effects of harvest restrictions for fisheries management problems. This course is intended for graduate students in SFFGS or other natural-resource departments. We will use R and Microsoft Excel in the course.

- 4 Credits
- Fall 2021
- Online http://elearning.ufl.edu/]

Course Prerequisites: STA 6166

Instructor(s):

Dr. Zach Siders
Fisheries and Aquatic Sciences School of Forest, Fisheries, and Geomatics Sciences
email: zsiders@ufl.edu
Main: 352-273-3644
Cell: 571-205-6826
Office: Dequine Bldg. 106
Office hours: Tues 4-5pm, Fridays 8-10:15 am

Dr. Mike S. Allen
Fisheries and Aquatic Sciences School of Forest, Fisheries, and Geomatics Sciences
email: msal@ufl.edu
Main: 352-273-3624
Cell: 352-258-3454
Office: Nature Coast Biological Station
Office hours: Fridays 8-10:15 am

Co-instructor or Teaching Assistant:

Teaching Assistant:
Trenton Aguilar
Graduate Research Assistant
Fisheries and Aquatic Sciences
School of Forest, Fisheries, and Geomatics Sciences email: trenton.aguilar@ufl.edu

Textbook(s) and/or readings: There is no required text for the course.

Recommended Reading List

Walters, C. J., and S. J. D. Martell. 2004. Fisheries management and ecology. Princeton University Press, Princeton, New Jersey.

Haddon, M. 2000. Modelling and Quantitative Methods in Fisheries. Chapman and Hall, London. ISBN 1-58488-177-1

Ricker, W. E. 1975. Computation and interpretation of biological statistics of fish populations. Bulletin 191 of the Fisheries Research Board of Canada

2 Learning Outcomes

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

- Demonstrate proficiency in basic parameter estimation and stock assessment of fish populations.
- Perform data analysis and interpretation for use for management.
- Analyze data and interpret the results to diagnose overfishing and explore how management policies can improve fisheries.

3 Course Logistics

Students may access lectures, assignments, readings, and supporting materials through the course Canvas site as they become available.

Technology Requirements:

- A computer or mobile device with high-speed internet connection.
- A webcam, headset and/or microphone, and speakers.
- Latest version of web browser. Canvas supports only the two most recent versions of any given browser.
- Installation of proctoring software may be required and will be provided if so.

Synchronous online sessions may be recorded. By sharing your video, screen, or audio during any synchronous online class sessions, you are consenting to being recorded for the benefit of students who cannot attend live as well as for class review during the current semester. If you have special circumstances or concerns about privacy, it is your responsibility to discuss it with your instructor.

3.1 Description of Assessments & Activities

Evaluation:

Your grade will be composed of two components: laboratory assignments and the mid-term exam; there is no final exam.

Component	Number	Part-worth	Note	Total
Lab assignments	10	8%	Lowest dropped	72%
Midterm exam	1	28%		28%

Assignments: The assignment, data, Excel sheet, and/or R code for all labs can be obtained from the UF eLearning page. Each laboratory will include a lab report that includes:

1. Your data analysis, including your R program and/or Excel sheet
2. Short answers to questions presented for each lab exercise.

There is an example lab report in the Assignment #1 module.

With most assignments, there is an interactive component to either assist students in understanding the material or to answer specific assignment questions. Each interactive module (in R Shiny) can be access from the Assignment page in UF eLearning or by navigating to the interactive welcome module.

Midterm exam: The midterm exam will consist of conducting the analyses learned from Weeks 1-8 on a simulated fish population and fishery as well as answering short answers. The purpose of the exam is to reinforce your analytical and inference skills generated in the first section of the course.

3.2 Grades & Grading Scale

For information on current UF policies for assigning grade points, see
Ugrad https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx
Grad https://gradcatalog.ufl.edu/graduate/regulations/

Grading Scale (%)
A 90-100
B+ 85-89.99
B 80-84.99
C+ 75-79.99
C 70-74.99
D+ 65-69.99
D 60-64.99
E < 60

4 Learning Content

Schedule Overview:

Each week, students can expect to spend time listening to lecture and laboratory analysis materials hosted at UF eLearning; the approximate hours for each is listed below in the weekly schedule breakdown. We will also have a 1–1.5 hour virtual discussion that will be scheduled at the start of the semester by poll sent to students. In addition to the weekly virtual recordings and discussions, students will have an assignment to complete based on that week's material. Each assignment will typically open at midnight each Monday and close the Wednesday of the following week at

11:59pm; giving students approximately 1.5 weeks per assignment. This is to allow students flexibility in turning in assignments but take care to not fall behind on the material. Students will have a mid-term exam on Week 9 (October 18–22, 2021). Further details will be provided but expect to spend a minimum of 2 days this week on the exam (average is 3 days).

Schedule Detail: Below is the lecture, lab, and assignment schedule for each week(s). The various content titles are provided along with the approximate time of the recording.

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1	Lab: Introduction to parameter estimation	1 h 40 m
1	Lab: Introduction to R	40 m
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2	***Date: August 30, 2021***	
2	Lecture: Growth	30 m
2	Lecture: Weight and size structure	35 m
2	Lecture/Lab: Analyzing size structure	20 m
2	Lab: Analyzing size structure in R	1h 20 m
2	Asmgt: Lab 1; ***due: September 8, 2021***	
3	***Date: September 6, 2021***	
4	***Date: September 13, 2021***	
3/4	Lecture: Somatic growth part 1 – growth models	30 m
3/4	Lecture: Somatic growth part 2 – Excel example	35 m
3/4	Lecture: Somatic growth part 3 – estimation challenges	31 m

3/4	Lab: Analyzing growth in Excel	55 m
3/4	Lab: Analyzing growth in R	1 h 22 m
3	Asmgt: Lab 2, part 1; ***due: September 15, 2021***	
4	Asmgt: Lab 2, part 2; ***due: September 22, 2021***	
5	***Date: September 20, 2021***	
5	Lecture: Mortality part 1 – Terms and conversions	23 m
5	Lecture: Mortality part 2 – Catch curve & estimators	37 m
5	Lecture: Mortality part 3 – Discrete fishery	20 m
5	Lecture: Mortality part 4 – Continuous fishery	20 m
5	Lecture: Mortality part 5 – Compensatory mortality	21 m
5	Lecture: Mortality part 6 – Direct estimation & surrogates	11 m
5	Lab: Estimating mortality in R	1 h 28 m
5	Asgmt: Lab 3; ***due: September 29, 2021***	
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6	Lab: Assessing sexual maturity	1 h
6	Asgmt: Lab 4; ***due: October 6, 2021***	
7	Date: ***October 1, 2021****	
7	Lecture: Yield-per-recruit part 1 – CPUE	20 m
7	Lecture: Yield-per-recruit part 2 – Use of regulations	30 m
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7	Lab: Yield-per-recruit models in Excel	1 h 20 m
7	Lab: Conditional formatting in Excel	14 m
7	Asgmt: Lab 5; ***due: October 13, 2021***	
8	***Date: October 11, 2021***	
8	Lecture: Recruitment part 1 – basics and models	42 m
8	Lecture: Recruitment part 2 – models and challenges	30 m
8	Lab: Fitting recruitment models	1 h 34 m
8	Asgmt: Lab 6; ***due: October 20, 2021***	
9	***Date: October 18, 2021***	
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10/11	***Date: October 25, 2021***	
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10/11	Lab: Stochastic Yield-per-recruit in Excel	1h 3 m
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14	Lecture/Lab: Angler Effort Dynamics	50 m
14	Asgmt: Lab 10; ***due December 8, 2021***	

*Opens early

**Extra time

5 Policies and Requirements

This course plan and syllabus are subject to change in response to student and instructor needs. Any changes will be clearly communicated in advance through Canvas.

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It is the responsibility of the student to access on-line lectures, readings, quizzes, and exams and to maintain satisfactory progress in the course. Requirements for class attendance and make-up exams, assignments and other work are consistent with university policies that can be found at: https://gradcatalog.ufl.edu/graduate/regulations/

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5.4 Academic Honesty Policy

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If you have questions or concerns about your rights and responsibilities for inclusive learning environment, please see the instructor or refer to the Office of Multicultural & Diversity Affairs website: http://multicultural.ufl.edu.

5.6 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, disability.ufl.edu

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FAS6337C – FISH POPULATION DYNAMICS

1 Course Overview

Course description:

Course will demonstrate the analysis of fish population data for management purposes. Methods for estimating fish population parameters (e.g., growth, recruitment, and mortality) will be conducted. You will predict yield and catch composition for recreational and commercial fisheries as well as assess effects of harvest restrictions for fisheries management problems. This course is intended for graduate students in SFFGS or other natural-resource departments. We will use R and Microsoft Excel in the course.

- 4 Credits
- Fall 2021
- Online http://elearning.ufl.edu/]

Course Prerequisites: STA 6166 or STA 6093

Instructor(s):

Dr. Zach Siders
Fisheries and Aquatic Sciences School of Forest, Fisheries, and Geomatics Sciences
email: zsiders@ufl.edu
Main: 352-273-3644
Cell: 571-205-6826
Office: Dequine Bldg. 106
Office hours: Tues 4-5pm, Fridays 8-10:15 am

Co-instructor or Teaching Assistant:

Teaching Assistant:
TBD
Graduate Research Assistant
Fisheries and Aquatic Sciences
School of Forest, Fisheries, and Geomatics Sciences email:

Textbook(s) and/or readings: There is no required text for the course.

Course Reading List

Walters, C. J., and S. J. D. Martell. 2004. Fisheries management and ecology. Princeton University Press, Princeton, New Jersey.

Haddon, M. 2000. Modelling and Quantitative Methods in Fisheries. Chapman and Hall, London. ISBN 1-58488-177-1

Ricker, W. E. 1975. Computation and interpretation of biological statistics of fish populations. Bulletin 191 of the Fisheries Research Board of Canada

2 Learning Outcomes

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

- Demonstrate proficiency in basic parameter estimation and stock assessment of fish populations.
- Perform data analysis and interpretation for use for management.
- Analyze data and interpret the results to diagnose overfishing and explore how management policies can improve fisheries.

3 Course Logistics

Students may access lectures, assignments, readings, and supporting materials through the course Canvas site as they become available.

Technology Requirements:

- A computer or mobile device with high-speed internet connection.
- A webcam, headset and/or microphone, and speakers.
- Latest version of web browser. Canvas supports only the two most recent versions of any given browser.
- Installation of proctoring software may be required and will be provided if so.

Synchronous online sessions may be recorded. By sharing your video, screen, or audio during any synchronous online class sessions, you are consenting to being recorded for the benefit of students who cannot attend live as well as for class review during the current semester. If you have special circumstances or concerns about privacy, it is your responsibility to discuss it with your instructor.

3.1 Description of Assessments & Activities

Evaluation:

Your grade will be composed of two components: laboratory assignments and the mid-term exam; there is no final exam.

Component	Number	Part-worth	Note	Total
Lab assignments	10	8%	Lowest dropped	72%
Midterm exam	1	28%		28%

Assignments: The assignment, data, Excel sheet, and/or R code for all labs can be obtained from the UF eLearning page. Each laboratory will include a lab report that includes:

1. Your data analysis, including your R program and/or Excel sheet
2. Short answers to questions presented for each lab exercise.

There is an example lab report in the Assignment #1 module.

With most assignments, there is an interactive component to either assist students in understanding the material or to answer specific assignment questions. Each interactive module (in R Shiny) can be access from the Assignment page in UF eLearning or by navigating to the interactive welcome module.

Midterm exam: The midterm exam will consist of conducting the analyses learned from Weeks 1-8 on a simulated fish population and fishery as well as answering short answers. The purpose of the exam is to reinforce your analytical and inference skills generated in the first section of the course.

3.2 Grades & Grading Scale

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Schedule Overview:

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11:59pm; giving students approximately 1.5 weeks per assignment. This is to allow students flexibility in turning in assignments but take care to not fall behind on the material. Students will have a mid-term exam on Week 9 (October 18–22, 2021). Further details will be provided but expect to spend a minimum of 2 days this week on the exam (average is 3 days).

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Cover Sheet: Request 17019

Modify Course Title for HOS 6991

Info

Process	Course|Modify|Grad
Status	Pending at CALS - College of Agricultural and Life Sciences
Submitter	Hector Perez heperez@ufl.edu
Created	1/31/2022 2:31:52 PM
Updated	1/31/2022 2:36:27 PM
Description of request	Modify course title of HOS 6991 from Evolution, Eco-physiology, and Global Importance of Seeds to Fundamentals of Seed Biology

Actions

Step	Status	Group	User	Comment	Updated
Department	Approved	CALS - Environmental Horticulture 60180000	Dean Kopsell		1/31/2022
syllabus_2022_HOS6991.docx					1/31/2022
College	Pending	CALS - College of Agricultural and Life Sciences			1/31/2022
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					

Original file: Cover sheet.pdf

Course|Modify for request 17019

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Request: Modify Course Title for HOS 6991
Description of request: Modify course title of HOS 6991 from Evolution, Eco-physiology, and Global Importance of Seeds to Fundamentals of Seed Biology
Submitter: Hector Perez heperez@ufl.edu
Created: 1/31/2022 2:11:36 PM
Form version: 1

Responses

Current Prefix HOS
Course Level 6
Number 991
Lab Code None
Course Title Evolution, Eco-Physiology and Global Importance of Seeds
Effective Term Summer
Effective Year 2022
Requested Action Other (selecting this option opens additional form fields below)
Change Course Prefix? No

Change Course Level? No

Change Course Number? No

Change Lab Code? No

Change Course Title? Yes
Current Course Title EvoEcoGlbImpSeeds
Proposed Course Title Fund. Seed Biology
Change Transcript Title? Yes
Current Transcript Title EvlEcoGlbImpSeeds
Proposed Transcript Title (30 char. max) Fundamentals of Seed Biology
Change Credit Hours? No

Change Variable Credit? No

Change S/U Only? No

Change Contact Type? No

Course Type Lecture

Change Rotating Topic Designation? No

Change Repeatable Credit? No

Change Course Description? Yes
Current Course Description Critical analysis of literature related to seed evolution; how seeds interact with biotic and abiotic environments to maintain viability and complete germination; and

Original file: Submitted form version 1.pdf

multiple roles of seeds in geo-political systems, economics and humanity. Students lead discussions throughout the semester and present a final synthesis project on a topic of interest.
Proposed Course Description (500 characters max) Students critically analyze pertinent seed biology literature, lead discussions, engage in student-centered mini-lectures, and complete a self-directed project throughout the semester to expand their seed biology knowledge.
Change Prerequisites? No

Change Co-requisites? No

Rationale To clarify that the course is a gateway for creating and expanding knowledge related to seeds rather than having a title that suggests an imposing dive into subjects that many students will have little to no experience with. The title may also serve to attract students from various disciplines within and outside CALS (e.g. new graduate plant breeding program).

Original file: Submitted form version 1.pdf

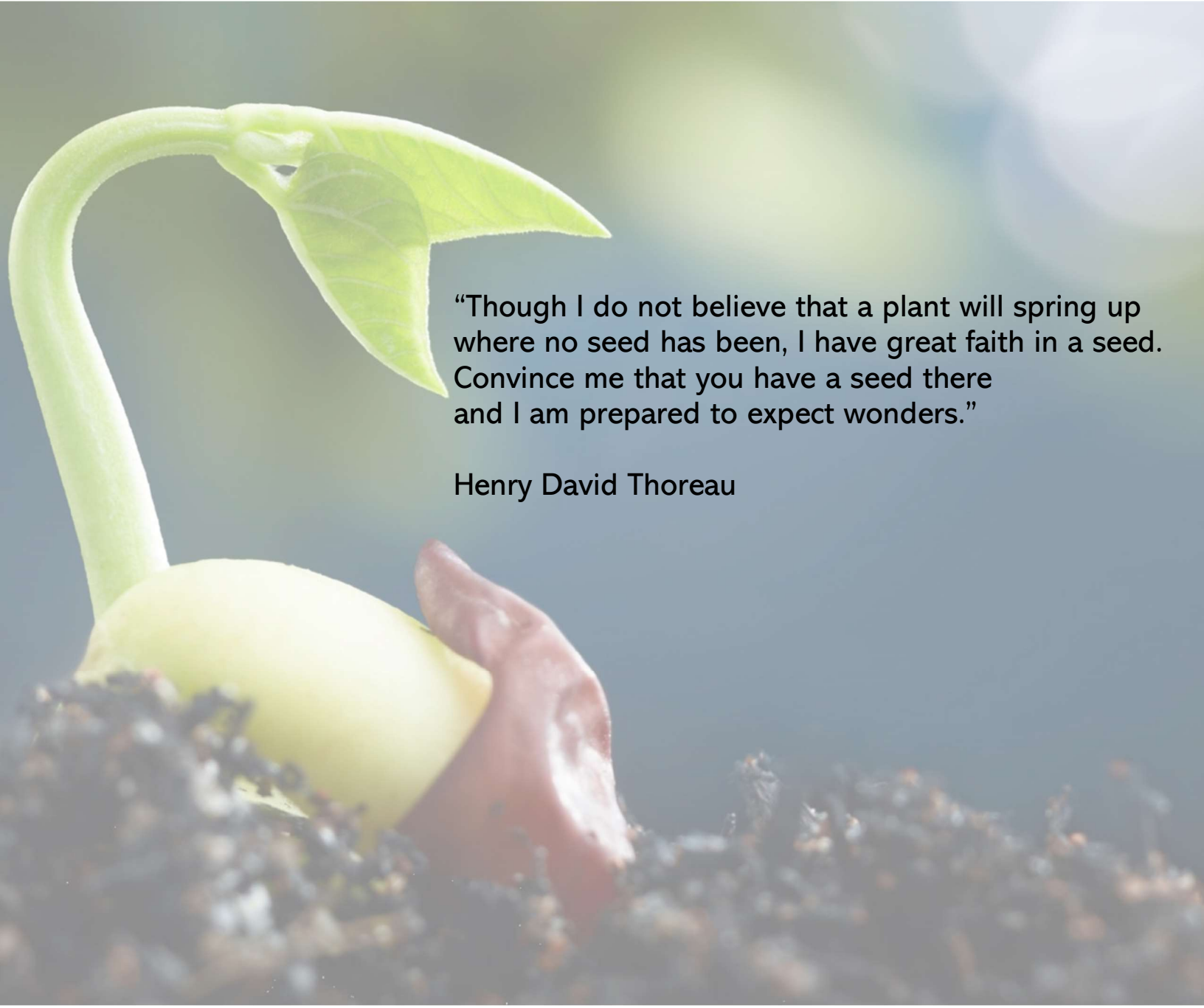


Fundamentals of Seed Biology
HOS 6991
4 credits

Synchronous – PSF 5 (Gainesville) and Zoom (RECs)

Tuesday/Thursday Periods 5 & 6 (2:00-4:45pm)

Summer 2022 Syllabus

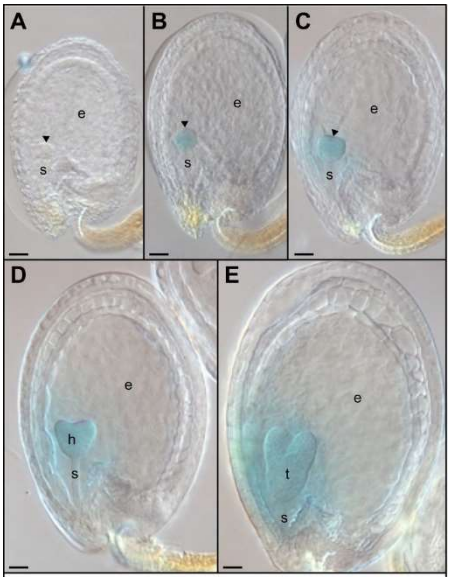


"Though I do not believe that a plant will spring up where no seed has been, I have great faith in a seed. Convince me that you have a seed there and I am prepared to expect wonders."

Henry David Thoreau



Courtesy Sam Noble Museum
CC BY-NC-ND 4.0 license



Embryo specific gene expression during development; Li et al. DOI: 10.1093/jxb/erv293; CC BY 3.0 license



Myrmecochory – seed dispersal by ants
Exhibited by over 3,000 plant species
Courtesy Don W. Hall

Course Description – Students critically analyze pertinent seed biology literature, lead discussions, engage in student-centered mini-lectures, and complete a self-directed project throughout the semester to expand their seed biology knowledge.

We begin by exploring the origins of seeds set against a geologic timescale. Subsequently, we examine the developmental physiology of modern seeds from molecular to whole organ perspectives. We then use an eco-physiological framework to consider how seeds make it into and respond to the environment as they transition to seedlings. We finish the course by evaluating how seeds sustain life on and possibly off Earth.

Instructor:	Dr. Héctor E. Pérez (heperez@ufl.edu; (p) 352-273-4503
Office hours:	T, TH before class (Fifield Hall); W 1pm-3pm (Bldg 0550); or by appointment.
E-Learning in Canvas:	Go to http://lss.at.ufl.edu/and enter your Gatorlink username and password into the boxes. Students must have an active GatorLink ID to access E-Learning. Students who do not have GatorLink IDs, who cannot remember their GatorLink login information, who experience difficulties with Canvas, or whose IDs do not work, should contact the GatorLink website http://gatorlink.ufl.edu or to the UF Computing Help Desk for assistance: Hub 132 or 392-HELP.
Required Text:	none

Course Goals - The goals of HOS 6991 are to explore and understand the evolutionary origins and adaptations of seeds, eco-physiological foundations of seed to seedling transitions, and how seeds influence life.

General Course Learning Objectives and Outcomes – By the end of the semester, the *conscientious* student should be able to:

- Discriminate major evolutionary trends leading to seeds
- Justify the importance of seed development to subsequent life stages and technology applications
- Compare and contrast various seed dispersal mechanisms
- Describe the importance of seed traits in relation to survival and persistence
- Distinguish seed dormancy, quiescence, and the germination process
- Explain the impact of climate change on dormancy and germination dynamics
- Evaluate seed science technologies for sustaining life on Earth and in outer space
- Critically analyze and discuss important seed science literature
- Create informative, compelling, and in-depth projects designed to teach others about seeds

General Course Expectations – We expect students participating in this professional learning society to:

- Arrive to class on time
- Be engaged by sharing their questions, perspectives, and ideas during and outside of class
- Convey superior work ethic and perform to high standards
- Practice their thinking within the framework of seed science
- Keep an open mind

Instructional Philosophy - My role as an instructor for graduate level courses is to act as a catalyst for new knowledge and understanding. I work cooperatively with students to guide their thinking when necessary and create an open learning atmosphere where: 1) calls for clarification of ideas and concepts are expected; 2) free expression of divergent viewpoints are necessary; and 3) robust interchange occurs between all members of the class. In short, I expect students to take full responsibility for their education. I will work hard to enhance your education by using a variety of teaching methods designed for actively engaging students in course concepts.

Attendance and Make-up Policy – Attendance is the student's responsibility. Your instructor uses various teaching methods during class. As a result, students obtain information and understanding of concepts beyond that provided in course readings. It is in your best interest to participate during every class period. If you miss class, then it is your responsibility to talk with other students to discuss what you missed in class.

- All deadlines outlined in the syllabus are firm and may only be changed at the discretion of the instructor
- Late assignments are not accepted
- Your instructor will consider cases of emergency, serious illness, bereavement, or activities that fall under the Twelve-Day Rule for make-up work. You must provide official documentation for all cases.

Requirements for class attendance and make-up exams, assignments and other work are consistent with UF policies found here: https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx

Assessments & Grading

Assessment	Points
Critical Analysis and Discussion Leadership #1	100
Critical Analysis and Discussion Leadership #2	100
Class Participation: share critique of readings, summary of sections, contribution to discussion, questions and comments raised, divergent viewpoints introduced	60
Think Big Synthesis Project	240
TOTAL	**500**

Grading Scale	Points	For more information on current UF policies for assigning grade points see:
A	≥ 465.00	
A-	464.99 –450.00	
B+	449.99 – 435.00	https://go.ufl.edu/vu7m7dv
B	434.99 – 415.00	
B-	414.99 – 400.00	https://go.ufl.edu/k4cn2ns
C+	399.99 – 385.00	
C	384.99 – 365.00	
C-	364.99 – 350.00	
D+	349.99 – 335.00	
D	334.99 – 315.00	
D-	314.99 – 300.00	
E	< 300.00	

Class Participation Tips

- Come to every class prepared with a critique of the assigned reading(s)
    - Use the Critical Thinking Template (see course website) as a guide for your prepared article critiques
    - Share your critique of readings with the class (Be prepared to summarize any section of an article. You may be called at random to provide your summaries)
- Engage fellow students with questions, requests for clarity, and further discussion
    - Ask thought-provoking questions and raise divergent viewpoints
- Ask the instructor for more information about the discussion topics

Critical Analysis and Discussion Leadership Description

Goal – For students to practice the habits of mind necessary to extract and build knowledge from scientific information in a collaborative framework.

What do I want students to be able to do by the end of this project?

- Apply rigorous standards of analysis that underpin critical thinking
- Build an awareness of how to elicit and encourage participation from peers
- Feel comfortable asking peers to provide insight

Objectives – Students will:

- Read and digest all assigned articles for the day
- Use the Critical Thinking Template (see course website) as guide for conducting discussions
- Engage students with questions, requests for clarity, and further discussion
- Select students at random to provide article section summaries
- Attempt to synthesize knowledge gained from current reading with previously explored concepts

Think Big Synthesis Project Description

Project Goal – To have students create then present projects that integrate seed knowledge into broader biological, technological, sociological, and/or economic contexts across geographic and temporal scales.

What do I want students to be able to do by the end of this project?

- Freely express their creativity while developing thought provoking projects to address important topics
- Display ability to synthesize multiple lines of evidence, reasoning, or perspectives from different disciplines
- Clearly communicate ideas to a diverse group of colleagues
- Think about seed related issues from multiple scales
- Justify their position on selected topics while educating others

Objectives – Students will:

- Work in groups
- Select a thought-provoking presentation medium
    - Remember you are trying to teach others about your selected topic(s) and create a lasting memory of your important topic(s) for your colleagues
    - Presentations can take many forms; students decide how and what they will present
        - For example, the presentation can be an artistic piece, oral presentation, role-play, round-table discussion, mini-workshop, active demonstrations, and participation, etc.
- Choose a seed themed topic(s) of interest
- Extend theme using knowledge and concepts from other areas
- Broaden project scope by incorporating multiple geographic (e.g., local to global) and temporal (past, current, and future thinking) scales
- Evaluate peers using multiple criteria rubrics

Electronic Device Policy – Using electronic communication devices and laptop or tablet computers during class is disruptive. Therefore, we prohibit the use of cellular telephones, messaging devices, and other electronic devices during class. In class, students are required to put phones and messaging devices on silent mode and turn off other devices. Please store all electronic devices, including computers, during class.

Academic Honesty – 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 academic misconduct to appropriate personnel. 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: http://www.dso.ufl.edu/sccr/process/student-conduct-honor-code.

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.

Campus Helping Resources – Students experiencing crisis or personal problems that interfere with their general well-being are encouraged to utilize the University's counseling resources. The Counseling Center and Student Mental Health provide confidential counseling services at no cost for currently enrolled students. Resources are available on campus for students having personal problems or lacking clear career and academic goals, which interfere with their academic performance.

- *University Counseling & Wellness Center, 3190 Radio Road, 352-392-1575,* **www.counseling.ufl.edu/cwc/ :** Counseling services, groups and workshops, outreach and consultation, self-help library, wellness coaching
- U Matter We Care (**www.umatter.ufl.edu/**)
- Student Success Initiative, **http://studentsuccess.ufl.edu**
- *Career Connections Center,* First Floor JWRU, 392-1601, **www.crc.ufl.edu/**

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. To register contact the Dean of Students Office, 352-392-5566, **www.dso.ufl.edu/drc/**

Online Course Evaluation Process – Student assessment of instruction is an important part of efforts to improve teaching and learning. The University of Florida expects students to provide feedback on the quality of instruction in this course using a standard set of university and college criteria at the end of the semester. Students access the following site to conduct evaluations: https://evaluations.ufl.edu. Evaluations are typically open for students to complete during the last two or three weeks of the semester. The university notifies

students of the specific times when evaluations open. Students can access summary results of these assessments at https://evaluations.ufl.edu/results.

Student Complaints:
Residential course: https://go.ufl.edu/oeui3vd

Student Privacy – There are federal laws protecting your privacy with regards to grades earned in courses and on individual assignments. See: Notification to Students of FERPA Rights

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.

COVID-19 Policy: We will have face-to-face instructional sessions to accomplish the student learning objectives of this course. In response to COVID-19, the following policies and requirements are in place to maintain your learning environment and to enhance the safety of our in-classroom interactions.

- You are expected to wear approved face coverings at all times during class and within buildings. Following and enforcing these policies and requirements are all of our responsibility. Failure to do so will lead to a report to the Office of Student Conduct and Conflict Resolution.
- This course has been assigned a physical classroom with enough capacity to maintain physical distancing (6 feet between individuals) requirements. Please utilize designated seats and maintain appropriate spacing between students. Please do not move desks or stations.
- Sanitizing supplies are available in the classroom if you wish to wipe down your desks prior to sitting down and at the end of the class.
- Follow your instructor's guidance on how to enter and exit the classroom. Practice physical distancing to the extent possible when entering and exiting the classroom.
- If you are experiencing COVID-19 symptoms (Click here for guidance from the CDC on symptoms of coronavirus), please use the UF Health screening system and follow the instructions on whether you are able to attend class. Click here for UF Health guidance on what to do if you have been exposed to or are experiencing Covid-19 symptoms.
    - Course materials will be provided to you with an excused absence, and you will be given a reasonable amount of time to make up work. Find more information in the university attendance policies.

HOS 6991 Course Schedule (Subject to change**)**

Week	Date	Concept Cluster	Assigned Materials
1	May 10	Course orientation; Activity – What is a seed? Why should we care? Primer on origins of seeds – 360 million years ago to now	none
1	May 12	Article discussions – Origin and Evolution of the Seed Habit	Taylor and Taylor, 2009; Linkies et al., 2010
2	May 17	Field trip – Florida Museum of Natural History Paleobotany Collection (access via Zoom for REC students not able to join live)	FLMNH Paleobotany website
2	May 19	Introduction to Seed Development: From Gametes to Seeds; In-class activity seed structures; Article discussion	Bewley et al., 2013
3	May 24	Article discussion – Genetic Control of Seed Development	Sreenivasulu and Wobus, 2013
3	May 26	Article discussion – Late Seed Maturation: A Crucial Phase	Leprince et al., 2017
4	May 31	Article discussion – Consequences of Seed Development I: The Desiccation Sensitivity Spectrum	Kermode and Finch-Savage, 2002; Wyse and Dickie, 2017
s4	Jun 2	Article discussion – Consequences of Seed Development II: Seed Dormancy **Discuss ideas for Synthesis Projects**	Baskin and Baskin, 2004
5	Jun 7	Article discussion – Consequences of Seed Development III: Seed Quality Variation During Development	Ellis et al. 2019
5	Jun 9	Article discussions – Apomixis an Unusual form of Seed Development	Hojsgaard and Hörandl, 2019; Scheben and Hojsgaard, 2020
6	Jun 14	Introduction to Seed Dispersal; In-class activity dispersal mechanisms	Midgley et al., 2015
6	Jun 16	Article discussion – The Ecology of Seed Dispersal **Present Draft Plan for Synthesis Projects**	Dickie and Stuppy, 2006; Traveset et al., 2014
7	Jun 21	Introduction to Seed Fates After Dispersal; Article discussion – Post-dispersal Hazards and Soil Seed Banks	Fenner and Thompson, 2005 (two assigned readings);
7	Jun 23	Article discussion – Ecophysiology of Seed Persistence	Long et al., 2015
8	Jun 28	Article discussion – Dormancy Alleviation	Bewley et al., 2013
8	Jun 30	Article discussion – Dormancy Cycling	Baskin and Baskin, 2014; Finch-Savage and Footitt, 2017
9	Jul 5	Article discussion – Defining seed germination	Bewley et al., 2013
9	Jul 7	Article discussion – Environmental ques of germination	Bewley et al., 2013
10	Jul 12	Article discussion – Influence of climate change on dormancy and germination	Walck et al., 2011; Footitt et al., 2020
10	Jul 14	Article discussion – Seed trait function ecology	Saatkamp et al., 2019
11	Jul 19	Introduction to Seeds Sustaining Life; Article discussion – Securing Life via Seed Storage	Hay and Probert, 2013; Walters, 2015
11	Jul 21	Article discussion – Seeds in Outer Space	Chandler et al., 2020; select another listed on Canvas
12	Jul 26	Synthesis Project Presentations	
12	Jul 28	Synthesis Project Presentations	

***See course website for specific reading objectives**

Cover Sheet: Request 17013

SWS_6136_Soil_Fertility

Info

Process	Course|Modify|Grad
Status	Pending at CALS - College of Agricultural and Life Sciences
Submitter	Michael Sisk mjsisk@ufl.edu
Created	1/28/2022 10:17:17 AM
Updated	2/18/2022 2:49:35 PM
Description of request	Modifications of course title, transcript title, overall course description, catalog course description, and prerequisites.

Actions

Step	Status	Group	User	Comment	Updated
Department	Approved	CALS - Soil and Water Science 60210000	Matthew Whiles		1/28/2022
SWS_6136_Soil_Fertility_CALS_CC_Checklist_1_27_22.pdf SWS_6136_Soil_Fertility_UCC_Syllabus_Checklist_1_28_22.pdf					1/28/2022 1/28/2022
College	Pending	CALS - College of Agricultural and Life Sciences			1/28/2022
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					

Original file: Cover sheet.pdf

Course|Modify for request 17013

Info

Request: SWS_6136_Soil_Fertility
Description of request: Modifications of course title, transcript title, overall course description, catalog course description, and prerequisites.
Submitter: Michael Sisk mjsisk@ufl.edu
Created: 2/1/2022 9:52:10 AM
Form version: 2

Responses

Current Prefix SWS
Course Level 6
Number 136
Lab Code None
Course Title Soil Fertility
Effective Term Earliest Available
Effective Year 2022
Requested Action Other (selecting this option opens additional form fields below)
Change Course Prefix? No

Change Course Level? No

Change Course Number? No

Change Lab Code? No

Change Course Title? Yes
Current Course Title Soil Fertility
Proposed Course Title Soil and Nutrient Diagnostics for Agricultural Production
Change Transcript Title? Yes
Current Transcript Title Soil Fertility
Proposed Transcript Title (30 char. max) Nutrients In Ag Production
Change Credit Hours? No

Change Variable Credit? No

Change S/U Only? No

Change Contact Type? No

Course Type Lecture

Change Rotating Topic Designation? No

Change Repeatable Credit? No

Change Course Description? Yes
Current Course Description Principles of advanced soil fertility, including soil chemical properties,

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crop management practices, plant nutritional requirements, soil fertility amendments, and physiological aspects of plant growth.
Proposed Course Description (500 characters max) Field nutrient management using basic soil fertility concepts with scientific diagnostic techniques in various soils and cropping systems will be discussed. Nutrient budgeting for effective agricultural best management practices for agricultural and environmental sustainability will be included.
Change Prerequisites? Yes
Current Prerequisites SWS 4116, 4213C, SWS 5050 or SWS 5406 or EES 4201.
Proposed Prerequisites None
Change Co-requisites? No

Rationale Needed to re-evaluate this course curriculum as we prepare to include in a new graduate certificate proposal in "Fertilizer Technology" that will be coming through the approval system in the future.

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COURSE SYLLABUS

SOIL FERTILITY

SOS 6136

3 Credits -- FALL SEMESTER 2005

2-3 Periods T R

INSTRUCTOR: **J.B. SARTAIN**

OFFICE: 414 Newell Hall, 392-7271, FAX 392-3399, E-MAIL jbs@mail.ifas.ufl.edu

OFFICE HOURS: 8-9 Monday - Friday, or anytime I am in the office without guests.

COURSE DESCRIPTION: Basic principles of advanced soil fertility will be covered. This will include soil chemical properties, crop management practices, plant nutritional requirements, plant nutrient uptake properties, soil fertility amendments, physiological aspects of plant growth, principles of soil fertility research, soil test methodology and fertilizer recommendations and principles of statistics used in soil fertility research.

PREREQUISITES: SOS 4116 or SOS 5116

TEXTBOOK: A. Soil Fertility and Fertilizers, Havlin, Beaton, Tisdale, and Nelson. 1999. 6th Ed
B. Class Lecture Notes published by University Copy Center
C. . Selected reference research publications.

COURSE OBJECTIVES: A. Describe some of the basic requirements for plant growth and development as they relate to soil properties
B. Describe the soil as a multi-phased medium for plant growth and distinguish it from an inert body by characterizing soil processes and their relationships to plant growth
C. Describe the methodologies employed in conducting soil fertility research.

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STUDENT EVALUATION: A. A mid-term exam (100 pts each) will be given. This exam is generally

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given without a time limit and essay in nature. A final comprehensive examination will be given at the end of the course (100 pts).

B. Up to 5 points (added to final overall average) can be obtained by developing a Power Point Presentation and presenting a class lecture on a mutually agreed subject within the course outline. These class lectures must be agreed upon early in the semester and presented in the proper sequence of the course outline.

C. An experimental problem is also assigned whereby the student is required to design, conduct, and analyze the results of an experimental problem. A written report (in the form of a scientific research paper) and an oral presentation are required on the experimental problem.

D. All components of the student evaluation are averaged on a weighted basis and letter grades are assigned according to the following scale:

100-90=A; 89-88=B^+; 87-80=B; 79-78=C^+; 77-70=C; 69-68=D^+; 67-60=D; and <60=E.

E. Evaluations will be weighted on the following scale: 1st Exam=30% Final Exam=40%; Experimental Problem=30%.

ACADEMIC DISHONESTY: As a result of completing the registration form at the University of Florida, every student has signed the following statement: " I understand that the University of Florida expects students to be honest in all academic work. I agree to adhere to this commitment to academic honesty and understand that my failure to comply with this commitment may result in disciplinary action up to and including expulsion from the University."

UF COUNSELING SERVICES: Resources are available on-campus for students having personal problems or lacking clear career and academic goals which interfere with their academic performance. These resources include:

1. University Counseling Center, 301 Peabody Hall, 392-1575, Personal and career counseling;
2. Student Mental Health,Student Health Care Center,392-1171, Personal counseling;
3. Sexual Assault Recovery Services (SARS), Student Health Care Center, 392-1161, Sexual assault counseling; and
4. Career Resource Center, Reitz Union, 392-1601, Career development assistance and counseling.

COURSE OUTLINE:

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I. Plant Growth Relationships
   A. Factors affecting growth
      1. Genetic factors
      2. Environmental factors

   B. Methods of Growth Measurement

II. Basic Soil-Plant Relationships
   A. Cation exchange

   B. Anion exchange

   C. Movement of ions from soils to roots

   D. Ion uptake and ionic balance

III. Soil Acidity and Liming
   A. Soil pH and Aluminum

   B. Aluminum saturation and toxicity

   C. Influence of soil exchange capacity

   D. Methods of determining soil exchange capacity

   E. Effects of liming on nutrient availability

IV. SOIL NITROGEN
   A. Organic matter

   B. Nitrogen transformations in soils
      1. Mineralization
      2. Denitrification

   C. Volatile loss of nitrogen

   D. Leaching loss of nitrogen

   E. Modeling nitrogen loss

   F. Nitrogen recovery

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G. Isotopic procedures employed
H. Response to applied N sources

********** **MID-TERM EXAMINATION** **********

V. SOIL PHOSPHORUS
A. Forms of soil P

B. Soil mineralogy factors influencing soil P availability

C. Methods used to investigate forms of soil P

D. Fixation and retention of soil P

E. Comparison of P fertilizer sources

VI. SOIL POTASSIUM, SULFUR AND MICRONUTRIENTS
A. Soil forms and soil factors which influence their availability

B. Plant uptake efficiency as related to applied form and soil conditions

VII. SOIL TESTING AND INTERPRETATIONS
A. Soil testing methods

B. Lime requirement methods

VIII. BASIC STATISTICAL PRINCIPLES OF EXPERIMENTAL PROCEDURE

IX. ORAL REPORTS ON EXPERIMENTAL PROJECTS

X. ****** **FINAL COMPREHENSIVE EXAMINATION** ******

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CALS Curriculum Committee
Submission Checklist

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/faculty-staff/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.

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

__X__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. Any other information you wish to include needs to be under a different heading such as background or additional 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-course-objectives.pdf). Do not use the words demonstrate or understand when listing learning objectives.

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__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 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://registrar.ufl.edu/pdf/uccconsult.pdf.

__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.

__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 is 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. Joel Brendemuhl (brendj@ufl.edu) for further instruction)

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SOIL & NUTRIENT DIAGNOSTICS FOR AGRICULTURAL PRODUCTION

Course No: SWS 6136

Credits: 3.0 hours Summer Semester Distance Education Mode

Instructor: Rao Mylavarapu
Office: 171 McCarty Hall A
Office phone: 352-294-3113
Email: raom@ufl.edu

Office hours: Tuesdays, 2-4pm or Email for online appointment

Course location: Online

Meeting times: This course will be both asynchronous (i.e., weekly lectures on Canvas) and synchronous (i.e., online evening chat session on Tuesdays at 6pm)

COURSE DESCRIPTION:

Field nutrient management using basic soil fertility concepts with scientific diagnostic techniques in various soils and cropping systems will be discussed. Nutrient budgeting for effective agricultural best management practices for agricultural and environmental sustainability will be included.

ADDITIONAL INFORMATION:

This course is designed to serve as a capstone course in soil fertility and field nutrient management for graduate students from all majors summarizing basic soil fertility concepts in various soils and cropping systems. Examples and digital illustrations and animations will be used to provide a practicum for various agronomic and horticultural crop production systems to achieve agricultural and environmental sustainability. Scientific methods for prediction and diagnosis to include soil testing, NIR and MIR techniques, remote sensing of soil nutrient concentrations availabilities in the natural systems to plant systems will be discussed. Negative impacts on the environment from excess nutrient applications and possible field mitigation methods will be identified. Discussions on the 4-Rs approach of management and agricultural best management practices will be included.

COURSE LEARNING OBJECTIVES: The course will summarize and present the basic soil fertility concepts as tools for effective soil and nutrient management applications in the field. By the end of the course the students will be able to-

- Distinguish the simple and the complex interactions among individual nutrients and sources with basic soil parameters leading to plant nutrient uptake efficiencies
- Determine the specificity of different field and lab diagnostic methods to different soil and nutrient parameters and interpret soil nutrient levels and their corresponding plant availabilities
- Identify tools for nutrient assessments, nutrient budgets and loss mitigations in the agricultural fields with different management options
- Design field management plans for soils, nutrients and crops through hands-on practicum work and report-writing

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DELIVERY METHOD: Online. Online lectures with once-a-week chat session
Online lectures (powerpoint presentations) and other course materials delivered through the Canvas E-Learning System.

PRE-REQUISITES/CO-REQUISITES:
None

COURSE SCHEDULE

CLASSES	TOPIC	Lecture/Duration		Weeks
1	Introduction & Scope	1		1
2	Roles of Soil & Plant Nutrients in Agriculture	2		
3	Review of Soil Physical and Chemical Properties	3		2
4	Popular N Sources and Management	4		
5	Popular P and K Formulations and Management	5		3
6	Secondary and Micronutrient Sources and Management	6		
7	Properties of Standard Nutrient formulations	7		4
8	Review and EXAM	9		
9	Introduction to Field Soil Management & Techniques	10		5
	Field Nutrient Management for Agronomic Crops		EXAM I	
10	Field Nutrient Management for Horticultural Crops and Landscapes	11		6
11	Agricultural Soils of Florida	12		
N/A	UF Summer Break (June 20th – June 24th)	N/A		7
12	Predictive and Diagnostic Tools for Agriculture	13		8
13	Soil Testing, Interpretation and Nutrient Recommendations	14		
14	REVIEW	15		9
15	MID-TERM	16		
16	Soil Testing- Methods, Calibration and Field Validation	17		10
17	Nutrient diagnostics using NIR and MIR techniques and remote sensing	18		
18	Soil pH, Lime Requirement and Management	19		11
19	Organic and Waste Nutrient Sources & Management	20		
20	Choosing Nutrient Sources for Nutrient Planning	21		
21	Fertilizers, Formulations and Calculations	22	EXAM II	12

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22	**Fertilization Philosophies and Management, FL Fertilizer & Lime Laws**	**23**		
23	**Nutrient Budgeting and Environmental Impacts**	**24**		
24	**4Rs- Concept and Applications**	**25**		**12**
25	**Agricultural BMPs, Development, Implementation & Monitoring**	**26**		**12**
26	**Field and Lab- Practicum**	**1 weeks**		**13**
27	**Review, Summary and Discussions**	**27**		**13**
28	**PROJECT PRESENTATIONS**	**28**		**13**
	FINAL EXAM			

REQUIRED BOOK:
Soil Fertility and Fertilizers (John L. Havlin, Samuel L. Tisdale, Werner L. Nelson James D. Beaton, 2013*)*
ISBN-13: 978-0-13-305569-6
Handouts of research and extension journal articles on various topics

RECOMMENDED BOOKS: Additional texts that may be useful include: *Plant Nutrition and Soil Fertility Manual* (Jones, 2012), *Soils and Soil Fertility* (Troeh and Thompson, 2016) and *Soils in our Environment* (Gardiner and Miller, 2007).

STUDENT EVALUATION:
1. You are expected to attend and be prepared to participate in all chat sessions. A portion of the grade is based on meaningful participation in the chat sessions, demonstrated student interest, and overall student dedication.

2. Assessments are based on exams, project report and participation.

3. Course grades will be determined as follows (%):
Graduate students

Evaluation endpoint	Frequency	% of total grade
Exams, Mid-term and assignments	As announced	40
Practicum-Project and Report- (individual project work is assigned and appropriate soil test reports are provided to students; students will identify the tests, analytical procedures and instrumentation, interpretation and methods, recommendations reported and combine them with the nutrient sources and respective management learnt in the classes, and align them with the provided site-specific field characteristics, select suitable crop(s) and develop a comprehensive soil, nutrient and crop management plan for the season chosen; provide a discussion and summary on estimated yields, environmental impacts and overall sustainability)	1	40
Final exam	1	20

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Grading Scale

A	93.0% and above	C	73.0-76.99%
A-	90.0-92.99%	C-	70.0-72.99%
B+	87.0-89.99%	D+	67.0-69.99%
B	83.0-86.99%	D	63.0-66.99%
B-	80.0-82.99%	D-	60.0-62.99%
C+	77.0-79.99%	E	Below 60.0

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

ATTENDANCE AND MAKE-UP WORK. Attendance is required. Class attendance, make-up exams, assignments and other work will follow UF policies found at: https://catalog.ufl.edu/UGRD/academic-regulations/attendance-policies/

PRIVACY STATEMENTS FOR ONLINE COURSES
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

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

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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.

ONLINE COURSE EVALUATION PROCESS: Student assessment of instruction is an important part of efforts to improve teaching and learning. At the end of the semester, students are expected to provide feedback on the quality of instruction in this course using a standard set of university and college criteria. 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/

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/.

ACADEMIC HONESTY: 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 academic misconduct to appropriate personnel. 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:

http://www.dso.ufl.edu/sccr/process/student-conduct-honor-code.

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.

SERVICES FOR STUENTS 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, https://disability.ufl.edu

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.

- University Counseling & Wellness Center, 3190 Radio Road, 352-392-1575, www.counseling.ufl.edu
  - Counseling Services
  - Groups and Workshops
  - Outreach and Consultation
  - Self-Help Library
  - Wellness Coaching

- U Matter We Care, www.umatter.ufl.edu/

- Career Connections Center, First Floor JWRU, 392-1601, https://career.ufl.edu/

- Student Success Initiative, http://studentsuccess.ufl.edu

Student Complaints:
- Residential Course: https://sccr.dso.ufl.edu/policies/student-honor-code-student-conduct-code/

- Online Course: http://www.distance.ufl.edu/student-complaint-process

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

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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

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UF UNIVERSITY of FLORIDA

UCC: Syllabus Checklist

All UCC1 forms and each UCC2 form that proposes a change in the course description or credit hours must include this checklist in addition to a complete syllabus. Check the box if the attached syllabus includes the indicated information.

Syllabus MUST contain the following information:

- ☑ Instructor contact information (and TA if applicable)
- ☑ Course objectives and/or goals
- ☑ A weekly course schedule of topics and assignments
- ☐ Required and recommended textbooks
- ☑ Methods by which students will be evaluated and their grades determined
- ☑ A statement related to class attendance, make-up exams and other work such as: "Requirements for class attendance and make-up exams, assignments, and other work in this course are consistent with university policies that can be found in the online catalog at: https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx."
- ☑ A statement related to accommodations for students with disabilities such as: "Students requesting classroom accommodation must first register with the Dean of Student Office. The Dean of Students Office will provide documentation to the student who must then provide this documentation to the instructor when requesting accommodation."
- ☑ Information on current UF grading policies for assigning grade points. This may be achieved by including a link to the appropriate undergraduate catalog web page: https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx
- ☑ A statement informing students of the online course evaluation process such as: "Students are expected to provide feedback on the quality of instruction in this course based on 10 criteria. These evaluations are conducted online at https://evaluations.ufl.edu. Evaluations are typically open during the last two or three weeks of the semester, but students will be given specific times when they are open. Summary results of these assessments are available to students at https://evaluations.ufl.edu.

It is recommended that syllabi contain the following information:

1. Critical dates for exams and other work
2. Class demeanor expected by the professor (e.g., tardiness, cell phone usage)
3. UF's honesty policy regarding cheating, plagiarism, etc. Suggested wording: 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 (http://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 obliged to report any condition that facilitates academic misconduct to appropriate personnel. If you have any questions or concerns, please consult with the instructor of TAs in this class.
4. Phone number and contact site for university counseling services and mental health services: 392-1575, http://www.counseling.ufl.edu/cwc/Default.aspx
   University Police Department: 392-1111 or 9-1-1 for emergencies.

The University's complete Syllabus Policy can be found at: http://www.aa.ufl.edu/Data/Sites/18/media/policies/syllabi_policy.pdf

SWS 6136 – Soil fertility (3 credits)
Fall 2019

Course description

Principles of advanced soil fertility, including soil chemical properties, crop management practices, plant nutritional requirements, soil fertility amendments, and physiological aspects of plant growth.

Prerequisites: SWS 5050 – Soils for Environmental Professionals or instructor consent.

Instructor

Gabriel Maltais-Landry
Assistant Professor, Soil and Water Sciences Department
Email: maltaislandryg@ufl.edu
Office: G149 McCarty Hall A
Telephone: 352-294-3159
Office hours: by appointment

Course meeting times

Tuesday Period 2-3, Thursday period 3, McCarty B G108. Attendance from RECs via zoom on these periods is also possible.

Course objectives

At the end of this class, students will be able to:

1. Describe nutrient cycles and interactions among them, and how nutrients affect plant growth;
2. Describe how soil fertility is measured and how nutrient input recommendations are made;
3. Identify how different nutrient inputs and different nutrient management approaches affect soil fertility and plant growth;
4. Illustrate how soil fertility management is a critical component of sustainability, including soil health and best management practices (BMPs);
5. Apply key principles of soil fertility management to the thesis/dissertation study system.

Textbook

There is no textbook required for this class; all reading material will be provided. The following textbook is recommended as a good reference to cover the corresponding content before lectures and activities focusing on a specific topic.

Soil Fertility and Fertilizers (8th Ed.) by John Havlin et al. 2013; ISBN 013503373X, Pearson.

Course format

The first period on Tuesday and the Thursday (8:30-9:20) will be allocated to lectures on nutrient cycling, soil fertility, and nutrient management. The second period on Tuesday (9:35-10:25) will typically be allocated to discussions on a specific topic, most often a review paper from the scientific literature, or other in-class activities.

Discussions. Seven papers will be posted on canvas at the beginning of the semester. Before the discussion period assigned to each paper, students will have to submit one post/question on the canvas discussion board *prior* to the in-person discussion. Following the in-person discussion, students will have to submit a 350 words (maximum) written summary of the discussion on canvas by the end of that week (except for the week of Thanksgiving when the summary is due the following Tuesday).

Quantitative activities. A full period will be used for students to get hands-on experience with different aspects of soil fertility (e.g., how to interpret a soil test). Students will have to turn in a brief report by the end of each period.

Semester-long paper. Students will write a paper focusing on soil fertility and nutrient management in their system of study. Within the first month of class, students will submit an outline of their paper to ensure they are on the right track. The final paper must be submitted before Thanksgiving break.

Exams. There will be one mid-term exam that will focus on the cycles and management of nitrogen, phosphorus and potassium. This exam will consist in a combination of multiple choices, short answers, and long answers. The final exam will cover materials from all the class and consist of a few essay questions.

Class attendance

Students must attend lectures and in-class activities in person (required for on-campus student) or via zoom (for REC students). Prior notification of absences (e.g., field work, conference) is required.

Make-Up Policy

Students need to request a permission to take a make-up exam before missing the exam, otherwise the student will be assigned the grade 0. The final exam will take place during the period allocated for finals, not in class (date and time TBA).

Late assignments will get a 20% deduction for each late day, up to 2 days. If the assignment is submitted on or after the 3rd day of original submission, the student will be assigned the grade 0.

Please refer the official University policy for additional details:
https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx.

Grading system

Grade breakdown

Mid-term exam (N, P, K cycles and management)	15%
Cumulative final exam	20%
Semester-long paper 1. Outline (due 9/20) 2. Final paper (due 11/26)	20% 5% 15%
Discussions (7 during the semester) 1. Pre-discussion questions 2. Post-discussion summaries 3. Participation to discussions	33% 7% 21% 5%
Quantitative in-class activities (4 during the semester)	12%

Grade scale

A	94 - 100
A-	90 - 93.9
B+	86 - 89.9
B	82 - 85.9
B-	78 - 81.9
C+	75 - 77.9
C	72 - 74.9
C-	69 - 71.9
D+	65 - 68.9
D	60 - 64.9
E	< 55

For information on current UF policies for assigning grade points, see: https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx.

Additional information

Online Course Evaluation Process

Student assessment of instruction is an important part of efforts to improve teaching and learning. At the end of the semester, students are expected to provide feedback on the quality of instruction in this course using a standard set of university and college criteria. These evaluations are conducted online at https://evaluations.ufl.edu. Evaluations are typically open for students to complete during the last two or three weeks of the semester; students will be notified of the specific times when they are open. Summary results of these assessments are available to students at https://evaluations.ufl.edu/results.

There will be time allocated in class to complete online evaluations on the last day of class (Dec. 3).

Academic Honesty

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. **All assignments for this class are individual assignments.** Furthermore, as part of your obligation to uphold the Honor Code, you should report any condition that facilitates academic misconduct to appropriate personnel. 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://sccr.dso.ufl.edu/process/student-honor-code/.

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.

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, www.dso.ufl.edu/drc/.

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.

1. *University Counseling & Wellness Center, 3190 Radio Road, 352-392-1575,* **www.counseling.ufl.edu/cwc/**
   - Counseling Services
   - Groups and Workshops
   - Outreach and Consultation
   - Self-Help Library
   - Training Programs
   - Community Provider Database

2. U Matter We Care, **www.umatter.ufl.edu/**

3. *Career Resource Center,* First Floor JWRU, 392-1601, **www.crc.ufl.edu/**

Student complaints

For a residential course, students who want to file an official complaint can do so through this link: https://www.dso.ufl.edu/documents/UF_Complaints_policy.pdf

Tentative schedule

Date	Topic	In-class activity (Tuesdays, period 3)
Aug. 20	Introduction and class logistics	Lecture - Review of crop physiology
Aug. 22	Review of crop nutrition	
Aug. 27	Review of key soil properties	Lecture – Review of key soil properties
Aug. 29	Review of soil acidity and liming	
Sept. 3	N cycle: fixation, mineralization, nitrification	Discussion #1: N stable isotopes
Sept. 5	N losses: leaching, volatilization, denitrification	
Sept. 10	N fertilizers	Discussion #2: N fertilizers
Sept. 12	N in organic amendments	
Sept. 17	N cycling through residues, livestock	Discussion #3: N credits from legumes
Sept. 19	P cycle and soil reactions	
Sept. 24	P biological cycling	Discussion #4: Soil P quantification methods
Sept. 26	P fertilizers	
Oct. 1	P inputs through organic amendments	Quantitative activity #1: P & organic amendments
Oct. 3	K cycle	
Oct. 8	K inputs and management	Quantitative activity #2: Mineralization curves
Oct. 10	Sulfur	
Oct. 15	**Mid-term exam: N, P, K cycles and management**	
Oct. 17	Calcium and magnesium	
Oct. 22	Micronutrients	Mid-term exam review
Oct. 24	Nutrient management and the 4Rs	
Oct. 29	The 5th R: water management	Discussion #5: 4Rs
Oct. 31	Soil and tissue testing methods	
Nov. 5	Fertility trials and input recommendations	Quantitative activity #3: Soil tests and fertility trials
Nov. 7	Emerging soil and tissue testing methods	
Nov. 12	Nutrient-use efficiency, nutrient budgets	Quantitative activity #4: NUE and nutrient budgets
Nov. 14	Best management practices (BMPs)	
Nov. 19	Soil organic matter (SOM)	Discussion #6: New paradigms in SOM
Nov. 21	Soil fertility and soil health	
Nov. 26	Nutrient management in organic systems	Discussion #7: Organic vs. conventional
Nov. 28	**Thanksgiving break**	
Dec. 3	Review session for final exam	
TBA	**Final exam**	

Cover Sheet: Request 16589

FAS4932 Spatial Sciences for Marine Environmental Characterization

Info

Process	Course|New|Ugrad/Pro
Status	Pending at CALS - College of Agricultural and Life Sciences
Submitter	Jennifer Vogel alpha32605@ufl.edu
Created	9/30/2021 2:58:56 PM
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Description of request	Undergraduate Portion of combined FAS4932/6932 Spatial Sciences for Marine Environmental Characterization

Actions

Step	Status	Group	User	Comment	Updated
Department	Approved	SFRC - Fisheries, Aquatic Sciences, and Geomatics 60469000	Terrell Baker III		2/8/2022
Differentiation summary Spatial for Marine Env Characteristics.docx Syllabus_FAS4932_Lecours_Fall2021.docx Syllabus_FAS6932_Lecours_Fall2021.docx					2/8/2022 2/8/2022 2/8/2022
College	Pending	CALS - College of Agricultural and Life Sciences			2/8/2022
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					

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Course|New for request 16589

Info

Request: FAS4932 Spatial Sciences for Marine Environmental Characterization
Description of request: Undergraduate Portion of combined FAS4932/6932 Spatial Sciences for Marine Environmental Characterization
Submitter: Jennifer Vogel alpha32605@ufl.edu
Created: 10/14/2021 2:38:43 PM
Form version: 2

Responses

Recommended Prefix FAS
Course Level 4

Course Number xxx
Category of Instruction Joint (Ugrad/Grad)
Lab Code None
Course Title Spatial Sciences for Marine Environmental Characterization
Transcript Title SPAT SCIENCES/MAR ENV
Degree Type Baccalaureate

Delivery Method(s) Online
Co-Listing Yes
Co-Listing Explanation Graduate students will be asked to prepare and give a lecture on the different classifiers and species distribution models that can be used in habitat mapping. This includes two formative assignments worth 10% each.
Effective Term Earliest Available
Effective Year Earliest Available
Rotating Topic? No
Repeatable Credit? No

Amount of Credit 4

S/U Only? No
Contact Type Regularly Scheduled
Course Type Lecture
Weekly Contact Hours 4
Course Description An introduction to the geospatial technologies, concepts and methods required to acquire, analyze and manage geographic data used in a context of marine habitat mapping. Emphasis is given to the understanding and appreciation of maps as a mean of communication between stakeholders with different backgrounds and expertise.

Prerequisites Junior standing
Co-requisites na
Rationale and Placement in Curriculum This course provides an interdisciplinary perspective on the study of marine environments. It involves concepts from biology, ecology, geomorphology, oceanography and the spatial sciences. It is meant to bridge the Geomatics Program with the Fisheries and Aquatic Sciences Program by complementing existing courses in those programs (e.g., SUR4934 – Marine Geomatics). The course is aimed at upper-level undergraduate students from both programs, at students from the Department of Wildlife Ecology and Conservation, and any others with an interest in using the spatial sciences to map and study the marine environment.
Course Objectives The overall goal of this course is to improve spatial awareness and map literacy in students. Upon successful completion of the course, students will be able to:
Undergraduate
-Identify and apply data collection techniques relevant to marine habitat mapping
-Explain the different components of marine habitats and how they can be quantified and situated in a geographic context

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-Prepare different types of spatial data for their inclusion in a habitat mapping workflow
-Produce habitat maps in different contexts
Graduate
-Identify and apply data collection techniques relevant to marine habitat mapping
-Explain the different components of marine habitats and how they can be quantified and situated in a geographic context
-Prepare different types of spatial data for their inclusion in a habitat mapping workflow
-Evaluate, critically, spatial data and mapping outcomes in given contexts
-Design a suitable habitat mapping project for a given purpose
Course Textbook(s) and/or Other Assigned Reading Recommended readings: “How to lie with maps, 3rd edition”, by Mark Monmonier. 256 p

Required readings
Brown, C.J., Smith, S.J., Lawton, P., and J.T. Anderson (2011) Benthic habitat mapping: a review of progress towards improved understanding of the spatial ecology of the seafloor using acoustic techniques. Estuarine, Coastal and Shelf Science, 92, 502-520.

Costa, B.M., Battista, T.A., and S.J. Pittman (2009) Comparative evaluation of airborne LiDAR and ship-based multibeam SoNAR bathymetry and intensity for mapping coral reef ecosystem. Remote Sensing of Environment, 113, 1082-1100.

Greene, G.H., Bizarro, J.J., Tilden, J.E., Lopez, H.L., and M.D. Erdey (2005) The benefits and pitfalls of geographic information systems in marine benthic habitat mapping. In: Wright, D.J. and A.J. Scholz (eds.) Place matters: Geospatial tools for marine science, conservation, and management in the Pacific northwest, pp. 34–46. Corvallis: Oregon State University Press.

Knudby, A., LeDrew, E., and A. Brenning (2010) Predictive mapping of reef fish species richness, diversity and biomass in Zanzibar using IKONOS imagery and machine-learning techniques. Remote Sensing of Environment, 114(6), 1230-1241.

McArthur, M.A., Brooke, B.P., Przeslawski, R., Ryan, D.A., Lucieer, V.L., Nichol, S., McCallum, A.W., Mellin, C., Cresswell, I.D., and L.C. Radke (2010) On the use of abiotic surrogates to describe marine benthic biodiversity. Estuarine, Coastal and Shelf Science, 88, 21-32.

Wilson, M.F.J., O’Connell, B., Brown, C., Guinan, J.C., and A.J. Grehan (2007) Multiscale terrain analysis of multibeam bathymetry data for habitat mapping on the continental slope. Marine Geodesy, 30, 3-35.
Weekly Schedule of Topics Week 1
9/2 (Lab) Course Introduction,
Introduction to Spatial Sciences
9/3
Introduction to Marine Habitat Mapping,
Spatial Data Characteristics, Geodatabases
Costa et al. (2009) OR
Knudby et al. (2010)
Week 2
9/9 (Lab) Introduction to GIS
9/10 Remote Sensing Summary #1
Week 3
9/16 (Lab) Quiz #1
9/17
Cartography
Brown et al. (2011) OR
McArthur et al. (2010)
Week 4
9/23 (Lab) Quiz #2
9/24 Surrogacy,
Habitat Mapping Approaches
Greene et al. (2005) OR
Wilson et al. (2007) Summary #2
Week 5
9/30 (Lab) Lab #1,

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Quiz #3
10/1
Fitness-for-use,
Geomorphometry
Summary #3
Week 6
10/7 (Lab) Lab #2,
Quiz #4
10/8 Classifiers, Species Distribution Models,
Spatial Analysis of Marine Environments
Week 7
10/14 (Lab) Lab #3,
Quiz #5
10/15 Visit of the Map Library and Field Trip
Week 8
10/21 (Lab) Project Planning Lab #4
10/22 Peer-Review, Science Communication,
Proposal Preparation
Week 9
10/28 (Lab) Proposal Preparation
10/29 Proposal Presentation Speed Talk
Week 10
11/4 (Lab) Team Work
11/5 Communicating with Maps,
Stakeholders Involvement
Week 11
11/11
(No Class)
11/12
Team Work
Week 12
11/18 (Lab) Report Part #1
11/19
Week 13
11/25
(No Class)
11/26
(No Class) Report Part #2
Week 14
12/2 (Lab) Team Work 12/3
Week15
12/9 (Lab) Project Presentation
Final
Presentation,
Final Report
Grading Scheme Undergrad
Reading Summaries

3x5% each (15%)
Quizzes 4 best of 5 5% each (20%)
Labs 3 best of 4 5% each (15%)
Lecture n/a
2-Pages Project Proposal n/a
Lightning Talk

10%
Final Report

30%
Final Presentation

n/a

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Grad
Reading Summaries

2 best of 3x 5% each (10%)
Quizzes 4 best of 5 2.5% each (10%)
Labs 3 best of 4 5% each (15%)
Lecture 10%
2-Pages Project Proposal 10%
Lightning Talk

5%
Final Report

30%
Final Presentation

10%

Grading Scale (%)
A 93-100
A- 90-92.99
B+ 87-89.99
B 83-86.99
B- 80-82.99
C+ 77-79.99
C- 73-76.99
C 70-72.99
D+ 67-69.99
D 63-66.99
D- 60-62.99
E < 60
Instructor(s) Dr. Vincent LeCours
Attendance & Make-up Yes
Accomodations Yes
UF Grading Policies for assigning Grade Points Yes
Course Evaluation Policy Yes

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Differentiation Summary" FAS4932/6932 Spatial Sciences for Marine Environmental Characterization

FAS4932 Undergraduate Objectives

- *Identify* and *apply* data collection techniques relevant to marine habitat mapping
-*Explain* the different components of marine habitats and how they can be quantified and situated in a geographic context
-*Prepare* different types of spatial data for their inclusion in a habitat mapping workflow
-*Produce* habitat maps in different contexts

FAS6932 Graduate Objectives

- *Identify and apply* data collection techniques relevant to marine habitat mapping
-*Explain* the different components of marine habitats and how they can be quantified and situated in a geographic context
-*Prepare* different types of spatial data for their inclusion in a habitat mapping workflow
-*Evaluate*, critically, spatial data and mapping outcomes in given contexts
-*Design* a suitable habitat mapping project for a given purpose

FAS4932 Undergraduate Grading

Requirement	**% of final grade**
Reading Summaries (2 best of 3)	5% each (10%)
Quizzes (4 best of 5)	5% each (20%)
Labs (3 best of 4)	5% each (15%)
Lightning Talk (Individual)	10%
Final Report (Team)	30%
Final Presentation (Team)	15%

FAS6932 Graduate Grading

Requirement	**% of final grade**
Reading Summaries (2 best of 3)	5% each (10%)
Quizzes (4 best of 5)	2.5% each (10%)
Labs (3 best of 4)	5% each (15%)
Lecture	10%
2-Pages Project Proposal	10%
Lightning Talk (Individual)	5%
Final Report (Team)	30%
Final Presentation (Team)	10%

Graduate students will be asked to coordinate and give a lecture on the different classifiers and species distribution models that can be used in habitat mapping. This includes two formative assignments worth 10% each.

As part of the project proposal, graduate students will also be asked to provide constructive review of their colleagues' work.

University of Florida
FAS 4932 (4 credits)
Spatial Sciences for Marine Environmental Characterization
Fall 2021 Syllabus
Delivery Format: Synchronous face-to-face (COVID-dependent)
Lab day: Wednesday, 1:55 PM-4:55 PM (McCarthy B 3086)
Lecture day: Thursday, 9:35 AM-11:30 AM (TBD)
https://ufl.instructure.com/courses/435300

Instructor: Vincent Lecours, Ph.D.
Office: FAS Millhopper Facility, Room 12
Phone Number: (352) 273-3617
Email Address: vlecours@ufl.edu
Office Hours: Thur 3pm-5pm or by appt
Preferred Course Communications: email

Teaching Assistant: Alison Atchia
Office: FAS Millhopper Facility, Room 11
Email Address: Alison.Atchia@ufl.edu
Preferred Course Communications: email

Prerequisites

Junior or senior standing.

PURPOSE AND OUTCOME

Course Overview

An introduction to the geospatial technologies, concepts and methods required to acquire, analyze and manage geographic data used in a context of marine habitat mapping. The fields of cartography, remote sensing, and geographic information systems (GIS) will be reviewed, and students will be introduced to quantitative methods relevant to the study of marine geomorphology and biology and how they combine to provide a spatial representation of marine habitats. Emphasis is given to the understanding and appreciation of maps as a mean of communication between stakeholders with different backgrounds and expertise.

Relation to Program Outcomes

This course provides an interdisciplinary perspective on the study of marine environments. It involves concepts from biology, ecology, geomorphology, oceanography and the spatial sciences. It is meant to bridge the Geomatics Program with the Fisheries and Aquatic Sciences Program by complementing existing courses in those programs (*e.g.*, SUR6934 – Marine Geomatics, FAS6932 – Spatial Ecology and Modeling). The course is aimed at graduate students from both programs, at students from the Department of Wildlife Ecology and Conservation, and any others with an interest in using the spatial sciences to map and study the marine environment.

Overall Course Goals

In this course, students will…

1. *Learn* about marine habitats and what defines them
2. *Improve* their spatial awareness and geographic literacy
3. *Improve* their digital literacy and fluency
4. *Cultivate* critical thinking

5. *Develop* cooperative attitude
6. *Develop* oral and written communication skills

Upon successful completion of the course, students will be able to (see page 11 for a full list of student learning objectives):

- *Identify* and *apply* data collection techniques relevant to marine habitat mapping
-*Explain* the different components of marine habitats and how they can be quantified and situated in a geographic context
-*Prepare* different types of spatial data for their inclusion in a habitat mapping workflow
-*Produce* habitat maps in different contexts

Instructional Methods

Course concepts will be introduced using real examples to demonstrate how spatial sciences can assist in answering marine sciences questions. This course has a lab and field-based components in which students will learn how to collect spatial data and to perform GIS-based marine environmental characterization. The in-class time will be focused on discussions and building skillsets like spatial critical thinking and science communication. A series of assignments and in-class tasks will provide students with the opportunity to use spatial data and maps for both interpretation and analysis.

DESCRIPTION OF COURSE CONTENT

Topical Outline/Course Schedule (subject to change)

This course plan and syllabus are subject to change in response to student and instructor needs. Any changes will be clearly communicated in advance through Canvas.

Week	Date	Topic	Readings	Assignments
1	8/25	Course Introduction, Introduction to Spatial Sciences		
	8/26	Introduction to Marine Habitat Mapping, Spatial Data Characteristics, Geodatabases	Costa *et al.* (2009) OR Knudby *et al.* (2010)	
2	9/1	Introduction to GIS		
	9/2	Remote Sensing		Summary #1
3	9/8			Quiz #1
	9/9	Cartography	Brown *et al.* (2011) OR McArthur *et al.* (2010)	
4	9/15			Quiz #2
	9/16	Surrogacy, Habitat Mapping Approaches	Greene *et al.* (2005) OR Wilson *et al.* (2007)	Summary #2
5	9/22			Lab #1, Quiz #3
	9/23	Fitness-for-use, Geomorphometry		Summary #3
6	9/29			Lab #2, Quiz #4
	9/30	Classifiers, Species Distribution Models, Spatial Analysis of Marine Environments		
7	10/6			Lab #3, Quiz #5
	10/7	Visit of the Map Library and Field Trip		
8	10/13	Project Planning		Lab #4
	10/14	Science Communication		

Week	Date	Topic	Readings	Assignments
9	10/20	Proposal Preparation		
	10/21	Proposal Presentation		Speed Talk
10	10/27	Team Work		Work Plan
	10/28	Communicating with Maps		
11	11/3	Team Work		Report #1
	11/4			
12	11/10	Stakeholders Involvement		Paper Part #1, Report #2
	11/11	No Class (Veteran's Day)		
13	11/17	Team Work		Report #3
	11/18			Paper Part #2
14	11/24	No Class (Thanksgiving)		
	11/25			
15	12/1	Team Work		Report #4
	12/2			
16	12/8	Project Presentation		Final Presentation, Final Paper

COURSE LOGISTICS

Format

This course includes face-to-face sessions. During all face-to-face activities, the following public health and safety protocols are recommended for all students, instructors, and teaching assistants:



Bring and wear a face mask at all times.



Wash hands (>20 sec) before and during class.



Maintain responsible physical distancing at six feet.



If you feel sick or have symptoms, stay home.

If you are experiencing COVID-19 symptoms please use the UF Health screening system and follow the instructions on whether you are able to attend class. Course materials will be provided to you with an excused absence, and you will be given a reasonable amount of time to make up work.

Canvas and Zoom

Students may access lectures, assignments, readings, and supporting materials through the course Canvas site as they become available.

Technology Requirements:

- A computer or mobile device with high-speed internet connection.
- A webcam, headset and/or microphone, and speakers.
- Latest version of web browser. Canvas supports only the two most recent versions of any given browser.

- Installation of proctoring software may be required and will be provided if so.

Synchronous online sessions may be recorded. By sharing your video, screen, or audio during any synchronous online class sessions, you are consenting to being recorded for the benefit of students who cannot attend live as well as for class review during the current semester. If you have special circumstances or concerns about privacy, it is your responsibility to discuss it with your instructor.

Course Materials and Technology

Recommended readings: "How to lie with maps, 3rd edition", by Mark Monmonier. 256 p.

The course will use a variety of GIS software, including open-source software that can be downloaded on any desktop computer and laptop, and the commercial ESRI ArcGIS Desktop software. ArcGIS is available by getting a license from the UF GeoPlan Center (https://www.geoplan.ufl.edu/licensed_software.shtml), in the UF computer labs (https://labs.at.ufl.edu/; note that the labs may be reserved for classes), or remotely from the UFApps (https://info.apps.ufl.edu/).

For issues with technical difficulties for e-learning in Canvas, please post your question to the Technical Help Discussion in your course, or contact the UF Help Desk at:

- Learning-support@ufl.edu | (352) 392-HELP - select option 2 | http://elearning.ufl.edu
- Library Help Desk support http://cms.uflib.ufl.edu/ask
- SFFGS Academic Hub https://ufl.instructure.com/courses/303721

ACADEMIC REQUIREMENTS AND GRADING

Assignments and Exams

- Readings will be provided throughout the semester. Students are expected to write a short summary of their assigned readings in preparation for class discussion. Three opportunities will be provided to write such summary; students must submit at least two summaries over the course of the semester. If a student submits more than two summaries, those with the highest grades will be counted as part of the final grade.
- In lieu of comprehensive mid-term and final exams, five quizzes will be given to assess the students' understanding of remote sensing, cartographic and GIS concepts, in addition to their ability to describe data collection and analytical techniques relevant to marine habitat mapping and explain the different components of marine habitats and how they can be quantified and situated in a geographic context. The four highest grades of the five quizzes will be counted as part of the final grade.
- This course has a lab component during which the students will apply theoretical concepts in a practical, GIS environment using real data. Four of the lab assignments will be graded, and the three highest grades of those assignments will count towards the final grade.
- A team project will be assigned in the second half of the semester. Students will be asked to propose a habitat mapping project of their choice, which has to include the production of habitat maps using different approaches seen in class, in addition to at least one spatial analysis. Students will collectively select the project(s) among those proposed to be completed in multidisciplinary teams. The maps that will be produced will be used to assess their ability to prepare different types of spatial data for their inclusion in a habitat mapping workflow. The evaluation of the project will be based on an oral (two presentations, 25% of the overall grade) and a written component (one term paper, 30% of the overall grade). The final paper will be

submitted in sections, on which students will receive feedback and have the opportunity to get back partial grades if the feedback is integrated into the final version of the report. A portion of the final grade for the paper will be based on weekly reports and discussions with the instructor, and on team contribution. The instructor and TA will assist in the production of the term paper; attendance in person to teamwork is mandatory, and the instructor will be available at least five hours a week to work with the teams.

- All assignments will be submitted on the course website. Presentation of the assignments must be neat, logical, organized and appropriately referenced. Poor presentation will be penalized up to a maximum of 20% of the value of assignments and exams.

Grading

Requirement	**% of final grade**
Reading Summaries (2 best of 3)	5% each (10%)
Quizzes (4 best of 5)	5% each (20%)
Labs (3 best of 4)	5% each (15%)
Lightning Talk (Individual)	10%
Final Report (Team)	30%
Final Presentation (Team)	15%

Points earned	**93-100**	**90-92.99**	**87-89.99**	**83-86.99**	**80-82.99**	**77-79.99**	**73-76.99**	**70-72.99**	**67-69.99**	**63-66.99**	**60-62.99**	**Below 60**
Letter Grade	A	A-	B+	B	B-	C+	C	C-	D+	D	D-	E

Letter Grade	**A**	**A-**	**B+**	**B**	**B-**	**C+**	**C**	**C-**	**D+**	**D**	**D-**	**E**	**WF**	**I**	**NG**	**S-U**
Grade Points	4.0	3.67	3.33	3.0	2.67	2.33	2.0	1.67	1.33	1.0	0.67	0.0	0.0	0.0	0.0	0.0

For greater detail on the meaning of letter grades and university policies related to them, see the Registrar's Grade Policy regulations at:
http://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx

Late Policy

Due dates are indicated in the calendar above. Any modifications to these dates will be announced by the instructor when assignments are given. A deduction of 10% will be made for each day that an assignment is late, with the first 10% being removed immediately after the due time.

Policy Related to Make-up Exams, Other Work, and Required Class Attendance

It is the responsibility of the student to access on-line lectures, readings, quizzes, and exams and to maintain satisfactory progress in the course. 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/ugrad/current/regulations/info/attendance.aspx

Computer or other hardware failures, except failure of the UF e-Learning system, will not excuse students for missing assignments. Any late submissions due to technical issues MUST be accompanied by the ticket number received from the Helpdesk when the problem was reported to them. The ticket number will document the time and date of the problem. You MUST e-mail your instructor within 24 hours of the technical difficulty if you wish to request consideration. For computer, software compatibility, or access problems call the HELP DESK phone number—352-392-HELP = 352- 392-4357 (option 2).

STUDENT EXPECTATIONS, ROLES, AND OPPORTUNITIES FOR INPUT

Expectations Regarding Course Behavior

You are expected to actively engage in the course throughout the semester. You must come to the online discussions (live or not) prepared by completing all out-of-class assignments. This preparation gives you the knowledge or practice needed to engage in higher levels of learning during the live discussion sessions. If you are not prepared, you may struggle to keep pace with the activities occurring in the course, and it is unlikely that you will reach the higher learning goals of the course. Your participation fosters a rich course experience for you and your peers that facilitates overall mastery of the course objectives.

In order to facilitate the creation of a functional learning community and out of respect for the instructor and the other students, it is expected that all cell phones be either set on silent mode or turned off, except when authorized by the instructor. Please mute your microphone when not speaking. Recording devices are strictly prohibited.

Just as in any professional environment, meaningful and constructive dialogue is expected in this class and requires a degree of mutual respect, willingness to listen, and tolerance of opposing points of view. Respect for individual differences and alternative viewpoints will be maintained in this class at all times. All members of the class are expected to follow rules of common courtesy, decency, and civility in all interactions. Failure to do so will not be tolerated and may result in loss of participation points and/or referral to the Dean of Students' Office.

Netiquette Guide for Online Courses

It is important to recognize that the online classroom is in fact a classroom, and certain behaviors are expected when you communicate with both your peers and your instructors. All members of the class are expected to follow rules of common courtesy in all email messages, threaded discussions and chats. Failure to do so may result in loss of participation points and/or referral to the Dean of Students' Office. These guidelines for online behavior and interaction are known as netiquette.

Remember that your password is the only thing protecting you from pranks or more serious harm.

- Don't share your password with anyone.
- Change your password if you think someone else might know it.
- Always log out when you are finished using the system.

When communicating online, you should always:

- Treat your instructor and classmates with respect in email or any other communication.
- Use clear and concise language.
- Remember that all college level communication should have correct spelling and grammar (this includes discussion boards).

- Avoid slang terms such as “wassup?” and texting abbreviations such as “u” instead of “you.”
- Use standard fonts such as Ariel, Calibri or Times new Roman and use a size 10 or 12 pt. font.
- Avoid using the caps lock feature AS IT CAN BE INTERPRETTED AS YELLING.
- Limit and possibly avoid the use of emoticons.
- Be cautious when using humor or sarcasm as tone is sometimes lost in an email or discussion post and your message might be taken seriously or sound offensive.
- Be careful with personal information (both yours and other’s).
- Do not send confidential information via e-mail.

When you send an email to your instructor, teaching assistant, or classmates, you should:

- Use a descriptive subject line.
- Be brief.
- Avoid attachments unless you are sure your recipients can open them.
- Avoid HTML in favor of plain text.
- Sign your message with your name and return e-mail address.
- Think before you send the e-mail to more than one person. Does everyone really need to see your message?
- Be sure you REALLY want everyone to receive your response when you click, “reply all.”
- Be sure that the message author intended for the information to be passed along before you click the “forward” button.

When posting on the Discussion Board in your online class, you should:

- Make posts that are on topic and within the scope of the course material.
- Take your posts seriously and review and edit your posts before sending.
- Be as brief as possible while still making a thorough comment.
- Always give proper credit when referencing or quoting another source.
- Be sure to read all messages in a thread before replying.
- Don’t repeat someone else’s post without adding something of your own to it.
- Avoid short, generic replies such as, “I agree.” You should include why you agree or add to the previous point.
- Always be respectful of others’ opinions even when they differ from your own.
- When you disagree with someone, you should express your differing opinion in a respectful, non-critical way.
- Do not make personal or insulting remarks.
- Be open-minded.

Policy for 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.

Opportunities for Input and Online Faculty Course Evaluation Process

Your comments are very valuable to the instructor. They will be used by the instructor to make specific improvements to the course (*e.g.*, assignments) and teaching style. The instructor will be providing opportunities throughout the semester for students to provide direct feedback on the course. However, students are encouraged to email the instructor at any time if they have concerns or comments to share with the instructor.

In addition, at approximately the mid-point of the semester, the School of Forest, Fisheries, and Geomatics Sciences will request anonymous feedback on student satisfaction on various aspects of this course. These surveys will be sent out through Canvas and are not required but encouraged. This is not the UF Faculty Evaluation!

Finally, at the end of the semester, 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/.

Academic Integrity

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 them 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 academic misconduct or appropriate personnel. 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.

Please remember cheating, lying, misrepresentation, or plagiarism in any form is unacceptable and inexcusable behavior. 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: http://www.dso.ufl.edu/sccr/process/student-conduct-honor-code.

Inclusive Learning Environment

This course embraces the University of Florida's Non-Discrimination Policy, which reads,

> *The University shall actively promote equal opportunity policies and practices conforming to laws against discrimination. The University is committed to non-discrimination with respect to race, creed, color, religion, age, disability, sex, sexual orientation, gender identity and expression, marital status, national origin, political opinions or affiliations, genetic information and veteran status as protected under the Vietnam Era Veterans' Readjustment Assistance Act.*

If you have questions or concerns about your rights and responsibilities for inclusive learning environment, please see the instructor or refer to the Office of Multicultural & Diversity Affairs website: http://multicultural.ufl.edu.

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.

SUPPORT SERVICES

Accommodations 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 within the first week of class. The Dean of Students Office will provide documentation to the student who must then provide this documentation to the instructor of the course to receive accommodations. Please make sure you provide this letter to the instructor by the end of the second week of the course. The College is committed to providing reasonable accommodations to assist students in their coursework.
0001 Reid Hall, 352-392-8565, https://disability.ufl.edu/

Student Life, Wellness, and Counseling Help

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.

- The Counseling and Wellness Center (352-392-1575) offers a variety of support services such as psychological assessment and intervention and assistance for math and test anxiety. Visit

their web site for more information: http://www.counseling.ufl.edu. Online and in person assistance is available.

- U Matter We Care website: http://www.umatter.ufl.edu/. If you are feeling overwhelmed or stressed, you can reach out for help through the U Matter We Care website, which is staffed by Dean of Students and Counseling Center personnel.
- The Student Health Care Center at Shands is a satellite clinic of the main Student Health Care Center located on Fletcher Drive on campus. Student Health at Shands offers a variety of clinical services. The clinic is located on the second floor of the Dental Tower in the Health Science Center. For more information, contact the clinic at 392-0627 or check out the website at: https://shcc.ufl.edu/
- Crisis intervention is always available 24/7 from the Alachua County Crisis Center (352-264-6789) http://www.alachuacounty.us/DEPTS/CSS/CRISISCENTER/Pages/CrisisCenter.aspx
- Career Connections Center http://career.ufl.edu/
- Other resources are available at http://www.distance.ufl.edu/getting-help for online students.

Do not wait until you reach a crisis to come in and talk with us. You are not alone so do not be afraid to ask for assistance.

Student Complaint Process

The School of Forest, Fisheries, and Geomatics Sciences cares about your experience and we will make every effort to address course concerns. We request that all of our online students complete a course satisfaction survey each semester, which is a time for you to voice your thoughts on how your course is being delivered. You can also submit feedback anytime.

If you have a more urgent concern, your first point of contact should be the SFFGS Academic Coordinator or the Graduate/Undergraduate Coordinator for the program offering the course. You may also submit a complaint directly to UF administration: https://sccr.dso.ufl.edu/policies/student-honor-code-student-conduct-code/.

READING LIST

Brown, C.J., Smith, S.J., Lawton, P., and J.T. Anderson (2011) Benthic habitat mapping: a review of progress towards improved understanding of the spatial ecology of the seafloor using acoustic techniques. *Estuarine, Coastal and Shelf Science*, 92, 502-520.

Costa, B.M., Battista, T.A., and S.J. Pittman (2009) Comparative evaluation of airborne LiDAR and ship-based multibeam SoNAR bathymetry and intensity for mapping coral reef ecosystem. *Remote Sensing of Environment*, 113, 1082-1100.

Greene, G.H., Bizarro, J.J., Tilden, J.E., Lopez, H.L., and M.D. Erdey (2005) The benefits and pitfalls of geographic information systems in marine benthic habitat mapping. *In*: Wright, D.J. and A.J. Scholz (eds.) *Place matters: Geospatial tools for marine science, conservation, and management in the Pacific northwest*, pp. 34–46. Corvallis: Oregon State University Press.

Knudby, A., LeDrew, E., and A. Brenning (2010) Predictive mapping of reef fish species richness, diversity and biomass in Zanzibar using IKONOS imagery and machine-learning techniques. *Remote Sensing of Environment*, 114(6), 1230-1241.

McArthur, M.A., Brooke, B.P., Przeslawski, R., Ryan, D.A., Lucieer, V.L., Nichol, S., McCallum, A.W., Mellin, C., Cresswell, I.D., and L.C. Radke (2010) On the use of abiotic surrogates to describe marine benthic biodiversity. *Estuarine, Coastal and Shelf Science*, 88, 21-32.

Wilson, M.F.J., O'Connell, B., Brown, C., Guinan, J.C., and A.J. Grehan (2007) Multiscale terrain analysis of multibeam bathymetry data for habitat mapping on the continental slope. *Marine Geodesy*, 30, 3-35.

Student Learning Outcomes

Classes	Student Learning Objectives	Course Goals					
		1	2	3	4	5	6
Lab 1	Describe spatial sciences		✓				
	Explain how maps can be used to communicate		✓				
	Compare different mapping outcomes		✓				
	Identify sources of differences in mapping outcomes		✓				
Lecture 1	Define habitats and marine habitat mapping	✓					
	Explain the different components of marine habitats	✓					
	Recognize different types of spatial data		✓				
Lab 2	Memorize the different components of a GIS			✓			
	Manipulate spatial data in GIS		✓	✓			
Lecture 2	Summarize a piece of the scientific literature	✓	✓		✓		✓
	Define remote sensing		✓				
	Contrast optical and acoustic remote sensing		✓				
	Define wavelength, frequency, and wave velocity		✓				
	Explain the electromagnetic spectrum and its relevance to habitat mapping	✓	✓				
	Contrast different types of sensors and platforms		✓				
	Describe data collection techniques relevant to marine habitat mapping	✓	✓				
Lab 3	Locate satellite imagery and bathymetric data		✓	✓			
	Manipulate satellite imagery and bathymetric data		✓	✓			
Lecture 3	Summarize a piece of the scientific literature	✓	✓		✓		✓
	Recognize different types of maps		✓				
	Memorize different cartographic concepts, norms, and conventions		✓				
	Explain geographic reference systems and map projections		✓				
Lab 4	Prepare different types of spatial data for their inclusion in a habitat mapping workflow	✓	✓	✓			
	Design different types of maps		✓	✓			
Lecture 4	Summarize a piece of the scientific literature	✓	✓		✓		✓
	Define surrogacy	✓					
	Recognize potential surrogates of species/habitat distributions	✓					
	Contrast the different approaches to habitat mapping	✓					
Lab 5	Locate different types of data for habitat mapping	✓	✓	✓			
	Apply unsupervised and supervised approaches to habitat mapping	✓	✓	✓			
Lecture 5	Summarize a piece of the scientific literature	✓	✓		✓		✓
	Describe issues of data quality relevant to habitat mapping	✓	✓				
	Describe the concept of fitness-for-use	✓	✓		✓		
	Explain what is geomorphometry and its relevance for marine habitat mapping	✓	✓				

Lab 6	Locate bathymetric data			✓			
	Manipulate bathymetric data to derive a suite of terrain attributes		✓	✓			
	Apply an unsupervised approach to habitat characterization		✓	✓			
	Design a multi-paneled map		✓	✓			
Lecture 6	Summarize a piece of the scientific literature	✓	✓		✓		✓
	Remember different unsupervised and supervised approaches to habitat mapping		✓		✓	✓	✓
	Contrast different types of additional spatial analyses that can be performed from habitat maps (*e.g.*, seascape analyses, hotspot analyses, connectivity analyses)	✓	✓				
Lab 7	Evaluate different types of additional spatial analyses that can be performed from habitat maps	✓	✓	✓	✓		
Lab 8	Locate existing spatial data and their associated metadata	✓	✓	✓			
	Evaluate, critically, spatial data for a given context	✓	✓		✓		
Lecture 8	Design a suitable habitat mapping project for a given purpose	✓	✓		✓		✓
Lab 9	Design a suitable habitat mapping project for a given purpose	✓	✓		✓		✓
	Design a locational map with environmental data		✓	✓			
	Defend a project idea orally and efficiently (speed talk)						✓
Labs 10-14	Cooperate to complete a habitat mapping project	✓	✓	✓		✓	
	Design habitat maps	✓	✓	✓		✓	
	Assemble a scientific article	✓	✓	✓		✓	✓
Lectures 10-14	Cooperate to complete a habitat mapping project	✓	✓	✓		✓	
	Design habitat maps	✓	✓	✓		✓	
	Assemble a scientific article	✓	✓	✓		✓	✓
Lab 15	Defend a habitat mapping project orally						✓
	Defend a habitat mapping project on paper						✓

University of Florida
FAS 6932 (4 credits)
Spatial Sciences for Marine Environmental Characterization
Fall 2021 Syllabus
Delivery Format: Synchronous face-to-face (COVID-dependent)
Lab day: Wednesday, 1:55 PM-4:55 PM (McCarthy B 3086)
Lecture day: Thursday, 9:35 AM-11:30 AM (TBD)
https://ufl.instructure.com/courses/435300

Instructor: Vincent Lecours, Ph.D.
Office: FAS Millhopper Facility, Room 12
Phone Number: (352) 273-3617
Email Address: vlecours@ufl.edu
Office Hours: Thur 3pm-5pm or by appt
Preferred Course Communications: email

Teaching Assistant: Alison Atchia
Office: FAS Millhopper Facility, Room 11
Email Address: Alison.Atchia@ufl.edu
Preferred Course Communications: email

Prerequisites

There are no prerequisites for this course.

PURPOSE AND OUTCOME

Course Overview

An introduction to the geospatial technologies, concepts and methods required to acquire, analyze and manage geographic data used in a context of marine habitat mapping. The fields of cartography, remote sensing, and geographic information systems (GIS) will be reviewed, and students will be introduced to quantitative methods relevant to the study of marine geomorphology and biology and how they combine to provide a spatial representation of marine habitats. Emphasis is given to the understanding and appreciation of maps as a mean of communication between stakeholders with different backgrounds and expertise.

Relation to Program Outcomes

This course provides an interdisciplinary perspective on the study of marine environments. It involves concepts from biology, ecology, geomorphology, oceanography and the spatial sciences. It is meant to bridge the Geomatics Program with the Fisheries and Aquatic Sciences Program by complementing existing courses in those programs (*e.g.*, SUR6934 – Marine Geomatics, FAS6932 – Spatial Ecology and Modeling). The course is aimed at graduate students from both programs, at students from the Department of Wildlife Ecology and Conservation, and any others with an interest in using the spatial sciences to map and study the marine environment.

Overall Course Goals

In this course, students will…

1. *Learn* about marine habitats and what defines them
2. *Improve* their spatial awareness and geographic literacy
3. *Improve* their digital literacy and fluency
4. *Cultivate* critical thinking

5. *Develop* cooperative attitude and leadership skills
6. *Develop* oral and written communication skills

Upon successful completion of the course, students will be able to (see page 10 for a full list of student learning objectives):

- *Identify and apply* data collection techniques relevant to marine habitat mapping
-*Explain* the different components of marine habitats and how they can be quantified and situated in a geographic context
-*Prepare* different types of spatial data for their inclusion in a habitat mapping workflow
-*Evaluate*, critically, spatial data and mapping outcomes in given contexts
-*Design* a suitable habitat mapping project for a given purpose

Instructional Methods

Course concepts will be introduced using real examples to demonstrate how spatial sciences can assist in answering marine sciences questions. This course has a lab and field-based components in which students will learn how to collect spatial data and to perform GIS-based marine environmental characterization. The in-class time will be focused on discussions and building skillsets like spatial critical thinking and science communication. A series of assignments and in-class tasks will provide students with the opportunity to use spatial data and maps for both interpretation and analysis.

DESCRIPTION OF COURSE CONTENT

Topical Outline/Course Schedule (subject to change)

This course plan and syllabus are subject to change in response to student and instructor needs. Any changes will be clearly communicated in advance through Canvas.

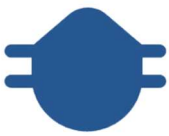
Week	Date	Topic	Readings	Assignments
1	8/25	Course Introduction, Introduction to Spatial Sciences		
	8/26	Introduction to Marine Habitat Mapping, Spatial Data Characteristics, Geodatabases	Costa *et al.* (2009), Knudby *et al.* (2010)	
2	9/1	Introduction to GIS		
	9/2	Remote Sensing		Summary #1
3	9/8			Quiz #1
	9/9	Cartography	Brown *et al.* (2011), McArthur *et al.* (2010)	
4	9/15			Quiz #2
	9/16	Surrogacy, Habitat Mapping Approaches	Greene *et al.* (2005), Wilson *et al.* (2007)	Summary #2
5	9/22			Lab #1, Quiz #3
	9/23	Fitness-for-use, Geomorphometry		Summary #3
6	9/29			Lab #2, Quiz #4
	9/30	Classifiers, Species Distribution Models, Spatial Analysis of Marine Environments		Lecture
7	10/6			Lab #3, Quiz #5
	10/7	Visit of the Map Library and Field Trip		
8	10/13	Project Planning		Lab #4

Week	Date	Topic	Readings	Assignments
	10/14	Peer-Review, Science Communication		
9	**10/20**	Proposal Preparation		
	10/21	Proposal Presentation		Speed Talk, Proposal
10	**10/27**	Team Work		Work Plan
	10/28	Communicating with Maps		
11	**11/3**	Team Work		Report #1
	11/4			Peer-Review
12	**11/10**	Stakeholders Involvement		Paper Part #1, Report #2
	11/11	No Class (Veteran's Day)		
13	**11/17**	Team Work		Report #3
	11/18			Paper Part #2
14	**11/24**	No Class (Thanksgiving)		
	11/25			
15	**12/1**	Team Work		Report #4
	12/2			
16	**12/8**	Project Presentation		Final Presentation, Final Paper

COURSE LOGISTICS

Format

This course includes face-to-face sessions. During all face-to-face activities, the following public health and safety protocols are recommended for all students, instructors, and teaching assistants:



Bring and wear a face mask at all times.



Wash hands (>20 sec) before and during class.



Maintain responsible physical distancing at six feet.



If you feel sick or have symptoms, stay home.

If you are experiencing COVID-19 symptoms please use the UF Health screening system and follow the instructions on whether you are able to attend class. Course materials will be provided to you with an excused absence, and you will be given a reasonable amount of time to make up work.

Canvas and Zoom

Students may access lectures, assignments, readings, and supporting materials through the course Canvas site as they become available.

Technology Requirements:

- A computer or mobile device with high-speed internet connection.
- A webcam, headset and/or microphone, and speakers.

- Latest version of web browser. Canvas supports only the two most recent versions of any given browser.
- Installation of proctoring software may be required and will be provided if so.

Synchronous online sessions may be recorded. By sharing your video, screen, or audio during any synchronous online class sessions, you are consenting to being recorded for the benefit of students who cannot attend live as well as for class review during the current semester. If you have special circumstances or concerns about privacy, it is your responsibility to discuss it with your instructor.

Course Materials and Technology

Recommended readings: "How to lie with maps, 3rd edition", by Mark Monmonier. 256 p.

The course will use a variety of GIS software, including open-source software that can be downloaded on any desktop computer and laptop, and the commercial ESRI ArcGIS Desktop software. ArcGIS is available by getting a license from the UF GeoPlan Center (https://www.geoplan.ufl.edu/licensed_software.shtml), in the UF computer labs (https://labs.at.ufl.edu/; note that the labs may be reserved for classes), or remotely from the UFApps (https://info.apps.ufl.edu/).

For issues with technical difficulties for e-learning in Canvas, please post your question to the Technical Help Discussion in your course, or contact the UF Help Desk at:

- Learning-support@ufl.edu | (352) 392-HELP - select option 2 | http://elearning.ufl.edu
- Library Help Desk support http://cms.uflib.ufl.edu/ask
- SFFGS Academic Hub https://ufl.instructure.com/courses/303721

ACADEMIC REQUIREMENTS AND GRADING

Assignments and Exams

- Readings will be provided throughout the semester. Students are expected to write a short summary of each reading and to contrast the readings, in preparation for class discussion. Three opportunities will be provided to write such summary; students must submit at least two summaries over the course of the semester. If a student submits more than two summaries, those with the highest grades will be counted as part of the final grade.
- In lieu of comprehensive mid-term and final exams, five quizzes will be given to assess the students' understanding of remote sensing, cartographic and GIS concepts, in addition to their ability to describe data collection and analytical techniques relevant to marine habitat mapping and explain the different components of marine habitats and how they can be quantified and situated in a geographic context. The four highest grades of the five quizzes will be counted as part of the final grade.
- This course has a lab component during which the students will apply theoretical concepts in a practical, GIS environment using real data. Four of the lab assignments will be graded, and the three highest grades of those assignments will count towards the final grade.
- Graduate students will be asked to coordinate and give a lecture on the different classifiers and species distribution models that can be used in habitat mapping. Their presentation will be worth 10% of their final grade.
- A team project will be assigned in the second half of the semester. Students will be asked to conduct a habitat mapping project in order to assess their ability to prepare different types of spatial data for their inclusion in a habitat mapping workflow, critically evaluate spatial data

and mapping outcomes, and design a proper habitat mapping project. The evaluation of the project will be based on an oral (two presentations, 15% of the overall grade) and a written component (two papers, 40% of the overall grade). The final paper will be submitted in sections, on which students will receive feedback and have the opportunity to get back partial grades if the feedback is integrated into the final version of the report. A portion of the final grade for the paper will be based on weekly reports and discussions with the instructor, and on team contribution. The instructor and TA will assist in the production of the term paper; attendance in person to teamwork is mandatory, and the instructor will be available at least five hours a week to work with the teams. As part of the project written proposal, students will also be asked to provide constructive review of their colleagues' work.

- All assignments will be submitted on the course website. Presentation of the assignments must be neat, logical, organized and appropriately referenced. Poor presentation will be penalized up to a maximum of 20% of the value of assignments and exams.

Grading

Requirement	**% of final grade**
Reading Summaries (2 best of 3)	5% each (10%)
Quizzes (4 best of 5)	2.5% each (10%)
Labs (3 best of 4)	5% each (15%)
Lecture	10%
2-Pages Project Proposal	10%
Lightning Talk (Individual)	5%
Final Report (Team)	30%
Final Presentation (Team)	10%

Points earned	**93-100**	**90-92.99**	**87-89.99**	**83-86.99**	**80-82.99**	**77-79.99**	**73-76.99**	**70-72.99**	**67-69.99**	**63-66.99**	**60-62.99**	**Below 60**
Letter Grade	A	A-	B+	B	B-	C+	C	C-	D+	D	D-	E

Letter Grade	**A**	**A-**	**B+**	**B**	**B-**	**C+**	**C**	**C-**	**D+**	**D**	**D-**	**E**	**WF**	**I**	**NG**	**S-U**
Grade Points	4.0	3.67	3.33	3.0	2.67	2.33	2.0	1.67	1.33	1.0	0.67	0.0	0.0	0.0	0.0	0.0

For greater detail on the meaning of letter grades and university policies related to them, see the Graduate Catalog's Grade Policy regulations at: https://gradcatalog.ufl.edu/graduate/regulations/

Late Policy

Due dates are indicated in the calendar above. Any modifications to these dates will be announced by the instructor when assignments are given. A deduction of 10% will be made for each day that an assignment is late, with the first 10% being removed immediately after the due time.

Policy Related to Make-up Exams, Other Work, and Required Class Attendance

It is the responsibility of the student to access on-line lectures, readings, quizzes, and exams and to maintain satisfactory progress in the course. Requirements for class attendance and make-up exams, assignments and other work are consistent with university policies that can be found at: https://gradcatalog.ufl.edu/graduate/regulations/

Computer or other hardware failures, except failure of the UF e-Learning system, will not excuse students for missing assignments. Any late submissions due to technical issues MUST be accompanied by the ticket number received from the Helpdesk when the problem was reported to them. The ticket number will document the time and date of the problem. You MUST e-mail your instructor within 24 hours of the technical difficulty if you wish to request consideration. For computer, software compatibility, or access problems call the HELP DESK phone number—352-392-HELP = 352- 392-4357 (option 2).

STUDENT EXPECTATIONS, ROLES, AND OPPORTUNITIES FOR INPUT

Expectations Regarding Course Behavior

You are expected to actively engage in the course throughout the semester. You must come to the online discussions (live or not) prepared by completing all out-of-class assignments. This preparation gives you the knowledge or practice needed to engage in higher levels of learning during the live discussion sessions. If you are not prepared, you may struggle to keep pace with the activities occurring in the course, and it is unlikely that you will reach the higher learning goals of the course. Your participation fosters a rich course experience for you and your peers that facilitates overall mastery of the course objectives.

In order to facilitate the creation of a functional learning community and out of respect for the instructor and the other students, it is expected that all cell phones be either set on silent mode or turned off, except when authorized by the instructor. Please mute your microphone when not speaking. Recording devices are strictly prohibited.

Just as in any professional environment, meaningful and constructive dialogue is expected in this class and requires a degree of mutual respect, willingness to listen, and tolerance of opposing points of view. Respect for individual differences and alternative viewpoints will be maintained in this class at all times. All members of the class are expected to follow rules of common courtesy, decency, and civility in all interactions. Failure to do so will not be tolerated and may result in loss of participation points and/or referral to the Dean of Students' Office.

Netiquette Guide for Online Courses

It is important to recognize that the online classroom is in fact a classroom, and certain behaviors are expected when you communicate with both your peers and your instructors. All members of the class are expected to follow rules of common courtesy in all email messages, threaded discussions and chats. Failure to do so may result in loss of participation points and/or referral to the Dean of Students' Office. These guidelines for online behavior and interaction are known as netiquette.

Remember that your password is the only thing protecting you from pranks or more serious harm.

- Don't share your password with anyone .
- Change your password if you think someone else might know it.
- Always log out when you are finished using the system.

When communicating online, you should always:

- Treat your instructor and classmates with respect in email or any other communication.
- Use clear and concise language.
- Remember that all college level communication should have correct spelling and grammar (this includes discussion boards).
- Avoid slang terms such as "wassup?" and texting abbreviations such as "u" instead of "you."
- Use standard fonts such as Ariel, Calibri or Times new Roman and use a size 10 or 12 pt. font.
- Avoid using the caps lock feature AS IT CAN BE INTERPRETTED AS YELLING.
- Limit and possibly avoid the use of emoticons.
- Be cautious when using humor or sarcasm as tone is sometimes lost in an email or discussion post and your message might be taken seriously or sound offensive.
- Be careful with personal information (both yours and other's).
- Do not send confidential information via e-mail.

When you send an email to your instructor, teaching assistant, or classmates, you should:

- Use a descriptive subject line.
- Be brief.
- Avoid attachments unless you are sure your recipients can open them.
- Avoid HTML in favor of plain text.
- Sign your message with your name and return e-mail address.
- Think before you send the e-mail to more than one person. Does everyone really need to see your message?
- Be sure you REALLY want everyone to receive your response when you click, "reply all."
- Be sure that the message author intended for the information to be passed along before you click the "forward" button.

When posting on the Discussion Board in your online class, you should:

- Make posts that are on topic and within the scope of the course material.
- Take your posts seriously and review and edit your posts before sending.
- Be as brief as possible while still making a thorough comment.
- Always give proper credit when referencing or quoting another source.
- Be sure to read all messages in a thread before replying.
- Don't repeat someone else's post without adding something of your own to it.
- Avoid short, generic replies such as, "I agree." You should include why you agree or add to the previous point.
- Always be respectful of others' opinions even when they differ from your own.
- When you disagree with someone, you should express your differing opinion in a respectful, non-critical way.
- Do not make personal or insulting remarks.
- Be open-minded.

Policy for 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.

Opportunities for Input and Online Faculty Course Evaluation Process

Your comments are very valuable to the instructor. They will be used by the instructor to make specific improvements to the course (*e.g.*, assignments) and teaching style. The instructor will be providing opportunities throughout the semester for students to provide direct feedback on the course. However, students are encouraged to email the instructor at any time if they have concerns or comments to share with the instructor.

In addition, at approximately the mid-point of the semester, the School of Forest, Fisheries, and Geomatics Sciences will request anonymous feedback on student satisfaction on various aspects of this course. These surveys will be sent out through Canvas and are not required, but encouraged. This is not the UF Faculty Evaluation!

Finally, at the end of the semester, 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/.

Academic Integrity

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 them 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 academic misconduct or appropriate personnel. 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.

Please remember cheating, lying, misrepresentation, or plagiarism in any form is unacceptable and inexcusable behavior. 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: http://www.dso.ufl.edu/sccr/process/student-conduct-honor-code.

Inclusive Learning Environment

This course embraces the University of Florida's Non-Discrimination Policy, which reads,

> *The University shall actively promote equal opportunity policies and practices conforming to laws against discrimination. The University is committed to non-discrimination with respect to race, creed, color, religion, age, disability, sex, sexual orientation, gender identity and expression, marital status, national origin, political opinions or affiliations, genetic information and veteran status as protected under the Vietnam Era Veterans' Readjustment Assistance Act.*

If you have questions or concerns about your rights and responsibilities for inclusive learning environment, please see the instructor or refer to the Office of Multicultural & Diversity Affairs website: http://multicultural.ufl.edu.

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.

SUPPORT SERVICES

Accommodations 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 within the first week of class. The Dean of Students Office will provide documentation to the student who must then provide this documentation to the instructor of the course to receive accommodations. Please make sure you provide this letter to the instructor by the end of the second week of the course. The College is committed to providing reasonable accommodations to assist students in their coursework.
0001 Reid Hall, 352-392-8565, https://disability.ufl.edu/

Student Life, Wellness, and Counseling Help

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.

- The Counseling and Wellness Center (352-392-1575) offers a variety of support services such as psychological assessment and intervention and assistance for math and test anxiety. Visit their web site for more information: http://www.counseling.ufl.edu. Online and in person assistance is available.
- U Matter We Care website: http://www.umatter.ufl.edu/. If you are feeling overwhelmed or stressed, you can reach out for help through the U Matter We Care website, which is staffed by Dean of Students and Counseling Center personnel.
- The Student Health Care Center at Shands is a satellite clinic of the main Student Health Care Center located on Fletcher Drive on campus. Student Health at Shands offers a variety of clinical services. The clinic is located on the second floor of the Dental Tower in the Health Science Center. For more information, contact the clinic at 392-0627 or check out the website at: https://shcc.ufl.edu/
- Crisis intervention is always available 24/7 from the Alachua County Crisis Center (352-264-6789) http://www.alachuacounty.us/DEPTS/CSS/CRISISCENTER/Pages/CrisisCenter.aspx
- Career Connections Center http://career.ufl.edu/
- Other resources are available at http://www.distance.ufl.edu/getting-help for online students.

Do not wait until you reach a crisis to come in and talk with us. You are not alone so do not be afraid to ask for assistance.

Student Complaint Process

The School of Forest, Fisheries, and Geomatics Sciences cares about your experience and we will make every effort to address course concerns. We request that all of our online students complete a course satisfaction survey each semester, which is a time for you to voice your thoughts on how your course is being delivered. You can also submit feedback anytime.

If you have a more urgent concern, your first point of contact should be the SFFGS Academic Coordinator or the Graduate/Undergraduate Coordinator for the program offering the course. You may also submit a complaint directly to UF administration: https://sccr.dso.ufl.edu/policies/student-honor-code-student-conduct-code/.

READING LIST

Brown, C.J., Smith, S.J., Lawton, P., and J.T. Anderson (2011) Benthic habitat mapping: a review of progress towards improved understanding of the spatial ecology of the seafloor using acoustic techniques. *Estuarine, Coastal and Shelf Science*, 92, 502-520.

Costa, B.M., Battista, T.A., and S.J. Pittman (2009) Comparative evaluation of airborne LiDAR and ship-based multibeam SoNAR bathymetry and intensity for mapping coral reef ecosystem. *Remote Sensing of Environment*, 113, 1082-1100.

Greene, G.H., Bizarro, J.J., Tilden, J.E., Lopez, H.L., and M.D. Erdey (2005) The benefits and pitfalls of geographic information systems in marine benthic habitat mapping. *In*: Wright, D.J. and A.J. Scholz (eds.) *Place matters: Geospatial tools for marine science, conservation, and management in the Pacific northwest*, pp. 34–46. Corvallis: Oregon State University Press.

Knudby, A., LeDrew, E., and A. Brenning (2010) Predictive mapping of reef fish species richness, diversity and biomass in Zanzibar using IKONOS imagery and machine-learning techniques. *Remote Sensing of Environment*, 114(6), 1230-1241.

McArthur, M.A., Brooke, B.P., Przeslawski, R., Ryan, D.A., Lucieer, V.L., Nichol, S., McCallum, A.W., Mellin, C., Cresswell, I.D., and L.C. Radke (2010) On the use of abiotic surrogates to describe marine benthic biodiversity. *Estuarine, Coastal and Shelf Science*, 88, 21-32.

Wilson, M.F.J., O'Connell, B., Brown, C., Guinan, J.C., and A.J. Grehan (2007) Multiscale terrain analysis of multibeam bathymetry data for habitat mapping on the continental slope. *Marine Geodesy*, 30, 3-35.

Student Learning Outcomes

Classes	Student Learning Objectives	Course Goals					
		1	2	3	4	5	6
Lab 1	Describe spatial sciences		✓				
	Explain how maps can be used to communicate		✓				
	Compare different mapping outcomes		✓				
	Identify sources of differences in mapping outcomes		✓				
Lecture 1	Define habitats and marine habitat mapping	✓					
	Explain the different components of marine habitats	✓					
	Recognize different types of spatial data		✓				
Lab 2	Memorize the different components of a GIS			✓			
	Manipulate spatial data in GIS		✓	✓			
Lecture 2	Summarize and contrast two pieces of the scientific literature	✓	✓		✓		✓
	Define remote sensing		✓				
	Contrast optical and acoustic remote sensing		✓				
	Define wavelength, frequency, and wave velocity		✓				
	Explain the electromagnetic spectrum and its relevance to habitat mapping	✓	✓				
	Contrast different types of sensors and platforms		✓				
	Describe data collection techniques relevant to marine habitat mapping	✓	✓				
Lab 3	Locate satellite imagery and bathymetric data		✓	✓			
	Manipulate satellite imagery and bathymetric data		✓	✓			
Lecture 3	Summarize and contrast two pieces of the scientific literature	✓	✓		✓		✓
	Recognize different types of maps		✓				
	Memorize different cartographic concepts, norms, and conventions		✓				
	Explain geographic reference systems and map projections		✓				
Lab 4	Prepare different types of spatial data for their inclusion in a habitat mapping workflow	✓	✓	✓			
	Design different types of maps		✓	✓			
Lecture 4	Summarize and contrast two pieces of the scientific literature	✓	✓		✓		✓
	Define surrogacy	✓					
	Recognize potential surrogates of species/habitat distributions	✓					
	Contrast the different approaches to habitat mapping	✓					
Lab 5	Locate different types of data for habitat mapping	✓	✓	✓			
	Apply unsupervised and supervised approaches to habitat mapping	✓	✓	✓			
Lecture 5	Summarize and contrast two pieces of the scientific literature	✓	✓		✓		✓

	Describe issues of data quality relevant to habitat mapping	✓	✓				
	Describe the concept of fitness-for-use	✓	✓		✓		
	Explain what is geomorphometry and its relevance for marine habitat mapping	✓	✓				
Lab 6	Locate bathymetric data			✓			
	Manipulate bathymetric data to derive a suite of terrain attributes		✓	✓			
	Apply an unsupervised approach to habitat characterization		✓	✓			
	Design a multi-paneled map		✓	✓			
Lecture 6	Summarize and contrast two pieces of the scientific literature	✓	✓		✓		✓
	Summarize different unsupervised and supervised approaches to habitat mapping		✓		✓	✓	✓
	Contrast different types of additional spatial analyses that can be performed from habitat maps (*e.g.*, seascape analyses, hotspot analyses, connectivity analyses)	✓	✓				
Lab 7	Evaluate different types of additional spatial analyses that can be performed from habitat maps	✓	✓	✓	✓		
Lab 8	Locate existing spatial data and their associated metadata	✓	✓	✓			
	Evaluate, critically, spatial data for a given context	✓	✓		✓		
Lecture 8	Design a suitable habitat mapping project for a given purpose	✓	✓		✓		✓
Lab 9	Design a suitable habitat mapping project for a given purpose	✓	✓		✓		✓
	Design a locational map with environmental data		✓	✓			
Lecture 9	Critique (peer-review) other students' research idea				✓		✓
	Defend a project idea on paper	✓	✓				✓
	Defend a project idea orally and efficiently (speed talk)						✓
Lab 10-14	Cooperate to complete a habitat mapping project	✓	✓	✓		✓	
	Coordinate a team to complete a habitat mapping project	✓	✓	✓		✓	
	Design habitat maps	✓	✓	✓		✓	
	Assemble a scientific article	✓	✓	✓		✓	✓
Lectures 10-14	Cooperate to complete a habitat mapping project	✓	✓	✓		✓	
	Coordinate a team to complete a habitat mapping project	✓	✓	✓		✓	
	Design habitat maps	✓	✓	✓		✓	
	Assemble a scientific article	✓	✓	✓		✓	✓
Lab 15	Cooperate to complete a habitat mapping project	✓	✓	✓		✓	
	Coordinate a team to complete a habitat mapping project	✓	✓	✓		✓	
Lecture 15	Defend a habitat mapping project orally						✓
	Defend a habitat mapping project on paper						✓

Cover Sheet: Request 17070

HOS3XXX - Breeding and Production of Medicinal Plants

Info

Process	Course|New|Ugrad/Pro
Status	Pending at CALS - College of Agricultural and Life Sciences
Submitter	Gerardo Nunez Villegas g.nunez@ufl.edu
Created	2/11/2022 1:25:41 PM
Updated	2/11/2022 7:45:58 PM
Description of request	This is a new course request

Actions

Step	Status	Group	User	Comment	Updated
Department	Approved	CALS - Horticultural Sciences 60230000	Christopher Gunter		2/11/2022
CALS CC Checklist_GN.pdf Syllabus - HOS3XXX - Medicinal Plants - For CALS CC.pdf					2/11/2022 2/11/2022
College	Pending	CALS - College of Agricultural and Life Sciences			2/11/2022
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					

Original file: Cover sheet.pdf

Course|New for request 17070

Info

Request: HOS3XXX - Breeding and Production of Medicinal Plants
Description of request: This is a new course request
Submitter: Gerardo Nunez Villegas g.nunez@ufl.edu
Created: 2/27/2020 2:40:01 PM
Form version: 1

Responses

Recommended Prefix HOS
Course Level 3
Course Number XXX
Category of Instruction Intermediate
Lab Code C
Course Title Breeding and Production of Medicinal Plants and Herbs
Transcript Title Breed. Prod. Medicinal Plants
Degree Type Baccalaureate

Delivery Method(s) On-Campus
Co-Listing No

Effective Term Earliest Available
Effective Year Earliest Available
Rotating Topic? No
Repeatable Credit? No

Amount of Credit 2

S/U Only? No
Contact Type Regularly Scheduled
Weekly Contact Hours 2
Course Description This course focuses on current and emerging breeding and cultivation practices used to produce high–value medicinal plants and herbs. Additionally, this course provides a critical analysis of health effects and therapeutic claims of plant-derived physiologically-active products.
Prerequisites AGR 3303
Co-requisites N/A
Rationale and Placement in Curriculum This advanced undergraduate course focuses on a commodity group (medicinal plants and herbs) that is increasingly popular. There are no advanced undergraduate horticulture courses that focus on this topic.
Course Objectives Upon successful completion of this course, students will be able to:

- Discuss botany, history and future perspectives of medicinal plants and herbs
- Explain breeding strategies for medicinal plants
- Compare anecdotal and traditional medicine claims of efficacy against scientific literature
- Explain in general terms how hydroponic systems, soilless media, supplemental lighting, and CO2 enrichment are used to produce high-value crops
- Discuss how physiological stress factors can be used to optimize secondary metabolite production
- Appraise the importance of the medicinal plant niche in horticulture

Course Textbook(s) and/or Other Assigned Reading The following textbooks are recommended for the course. Links to peer-reviewed reading materials will be made available via canvas.

- Ball Redbook Volume 2, Jim Nau (Ed) 2011, 18th Edition. ISBN 978-1-883052-68-3
- Wicked plants: The Weed that Killed Lincoln's Mother and Other Botanical Atrocities, Amy Stewart, 2009, 1st edition. ISBN 978-1565126831

Weekly Schedule of Topics Week 1. Class introduction
Week 2. Botany and Central Dogma. Historical uses of Plants as medicines
Week 3. Medicinal Plants and Human Health
Week 4. Plant based medicines, Present and Future. Omics and metabolic engineering

Original file: Submitted form version 1.pdf

Week 5. Review of genetics. Domestication
Week 6. Breeding methods. Breeder's equation.
Week 7. Breeding for therapeutic compounds: anti-inflammatories, anti-microbials, antioxidants, psychoactives
Week 8. Cannabis breeding. Overview of environmental effects on plant secondary metabolism.
Week 9. Growth and defense tradeoffs in secondary metabolism. Light effects.
Week10. No Class Spring Break
Week 11. Temperature effects. CO2 effects
Week 12. Water effects. Nutritional effects
Week 13. Plant hormones in horticulture. Plant propagation
Week 14. Basics of insect pest management. A Guide to harvesting medicinal plants: Developmental stages of medicinal plants.
Week 15. Methods of harvesting medicinal plants. Postharvest technologies and uses
Week 16. Important medicinal plant – postharvest technologies and uses. Team Presentations

Grading Scheme 1. Weekly quizzes
26 points

Every week on Wednesday during class, a quiz will be available in Canvas. Quizzes will consist of multiple choice and short answer questions. Each quiz will be worth 2 points, and there will be 13 quizzes during the semester. Each quiz will be timed to 5 minutes, and it can only be taken once. Make up quizzes will be provided in accordance with the attendance policy described above.

2. Medicinal plant case study
40 points

Students will make groups and each group will consist of 2~3 students. Each group will select one medicinal plant from the provided list and once the species is taken, it will be removed from the list. Each student will turn in case study reports with the selected species individually (not as a group) at the end of each module. First, students will write a general description for their medicinal plants including the scientific name, its history, any known bioactive compounds, and impact on human health. Following they will compose a breeding strategy to improve the medicinal attributes of this crop. Then, students will write a production of medicinal plants and herbs. Finally, students will write a harvest manual and observation reports on the time and method of collection for two different medicinal plants. There will be four partial submissions for this case study. Each partial submission will be worth 10 points. Additional guidelines, due dates, and grading rubrics for each submission will be provided via Canvas.

3. Presentation
34 points

The objective of this assignment is to synthesize the information gathered in the medicinal plant case study from each module to present the selected medicinal crop in the class. Each team will prepare a 5-minute presentation where they introduce historical, biochemistry, breeding, production, and postharvest aspects of their medicinal crop. On April 20 (Wed), the last class, the teams will present their case studies in the class and all of the team members are expected to participate in the presentation. Additional guidelines and grading rubrics for the presentation will be provided via Canvas.

Instructor(s) Dr. Jeongim Kim (Section 1, coordinator)
Horticultural Sciences Department, Fifield Hall #1111 jkim6@ufl.edu ;office) 273-4779
Office Hour: Monday 2:30 pm -3:30 pm

Dr. Marcio Resende (Section 2)
Horticultural Sciences Department, Fifield Hall #2135 mrescende@ufl.edu ;office) 273-4772
Office Hour: Monday 2:30 pm -3:30 pm

Ms. Mallory Morgan (Section 3)
School of Forest, Fisheries and Genomics Sciences, UFGI 320 mallory.morgan@ufl.edu
Office Hour: Monday 2:30 pm -3:30 pm

Dr. Tie Liu (Section 4)
Horticultural Sciences Department, Fifield Hall #1213 tieliu@ufl.edu ;office) 846-2638
Office Hour: Tuesday 3 pm -4 pm

Original file: Submitted form version 1.pdf

Attendance & Make-up Yes
Accomodations Yes
UF Grading Policies for assigning Grade Points Yes
Course Evaluation Policy Yes

Original file: Submitted form version 1.pdf

CALS Curriculum Committee
Submission Checklist

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.

__GN__ 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/.

__GN__ 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/faculty-staff/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.

__GN__ The course description on the UCC form and in the syllabus must match. Any other information you wish to include needs to be under a different heading such as background or additional information.

__GN__ 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-course-objectives.pdf). Do not use the words demonstrate or understand when listing learning objectives.

Original file: CALS CC Checklist_GN.pdf

__GN__ 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.

__GN__ Outside consultations are required if there is a possibility of the proposed course covering 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/.

__GN__ 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.

__N/A__ 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.

___GN_ 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 is included in the CALS Syllabus Statements. For the approval process the college suggests a less is more view when it comes to this policy.

__GN__ 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. Joel Brendemuhl (brendj@ufl.edu) for further instruction)

Original file: CALS CC Checklist_GN.pdf

HOS3XXX – Breeding and Production of Medicinal Plants and Herbs

CREDIT HOURS: 2
PREREQUISITE: AGR 3303 or equivalent
MEETING TIMES AND LOCATION: Monday and Wednesday 9th period (4:05pm – 4:55pm)
PSF#4 in person

INSTRUCTORS:

Dr. Jeongim Kim (Section 1, coordinator)
Horticultural Sciences Department, Fifield Hall #1111 jkim6@ufl.edu ;office) 273-4779
Office Hour: Monday 2:30 pm -3:30 pm

Dr. Marcio Resende (Section 2)
Horticultural Sciences Department, Fifield Hall #2135 mrescende@ufl.edu ;office) 273-4772
Office Hour: Monday 2:30 pm -3:30 pm

Ms. Mallory Morgan (Section 3)
School of Forest, Fisheries and Genomics Sciences, UFGI 320 mallory.morgan@ufl.edu
Office Hour: Monday 2:30 pm -3:30 pm

Dr. Tie Liu (Section 4)
Horticultural Sciences Department, Fifield Hall #1213 tieliu@ufl.edu ;office) 846-2638
Office Hour: Tuesday 3 pm -4 pm

COURSE DESCRIPTION

This course focuses on current and emerging breeding and cultivation practices used to produce high–value medicinal plants and herbs. Additionally, this course provides a critical analysis of health effects and therapeutic claims of plant-derived physiologically-active products.

MODE of DELIVERY

This course consists of four modules. Each module will be delivered in person and synchronously online via videoconferencing for students who cannot attend the class due to the pandemic. Students will need internet access and are expected to log on prior to the scheduled class times. Students who are not cleared for campus should participate to the extent their health allows online, and then return to the face-to-face section when cleared.
Our online 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.

Course is organized through Canvas

Original file: Syllabus - HOS3XXX - Medicinal Plants - For CALS CC.pdf

Join Zoom Meeting for the 1st module
https://ufl.zoom.us/j/97896779076?pwd=ZzRJVStyQVEyNG1ic1dEejF3N1RHZz09
Meeting ID: 978 9677 9076
Passcode: 656735
Join Zoom Meeting for the 2nd module
https://ufl.zoom.us/j/97612434774?pwd=angyeGZBSC9aeXQyUFF3NjFuMnlpUT09
Meeting ID: 976 1243 4774
Passcode: 016128
Join Zoom Meeting for the 3rd module
https://ufl.zoom.us/j/7966289910
Meeting ID: 796 628 9910
Passcode: Require authentication to join: UFL Participants Only *.ufl.edu

Join Zoom Meeting for the 4th module
https://ufl.zoom.us/j/92866211835?pwd=U2hReVhtSEF2ZllFVitRTWhFNmY0UT09
Meeting ID: 928 6621 1835
Passcode: Require authentication to join: UFL Participants Only *.ufl.edu

COVID Response Statements
We will have face-to-face instructional sessions to accomplish the student learning objectives of this course. In response to COVID-19, the following policies and requirements are in place to maintain your learning environment and to enhance the safety of our in-classroom interactions.

- You are required to wear approved face coverings at all times during class and within buildings. Following and enforcing these policies and requirements are all of our responsibility. Failure to do so will lead to a report to the Office of Student Conduct and Conflict Resolution.
- This course has been assigned a physical classroom with enough capacity to maintain physical distancing (6 feet between individuals) requirements. Please utilize designated seats and maintain appropriate spacing between students. Please do not move desks or stations.
- Sanitizing supplies are available in the classroom if you wish to wipe down your desks prior to sitting down and at the end of the class.
- Follow the instructor's guidance on how to enter and exit the classroom. Practice physical distancing to the extent possible when entering and exiting the classroom.
- If you are experiencing COVID-19 symptoms (Click here for guidance from the CDC on symptoms of coronavirus), please use the UF Health screening system and follow the instructions on whether you are able to attend class. Click here for UF Health guidance on what to do if you have been exposed to or are experiencing Covid-19 symptoms.
- Course materials will be provided to you with an excused absence, and you will be given a reasonable amount of time to make up work. Find more information in the university attendance policies.

LEARNING OBJECTIVES
Upon successful completion of this course, students will be able to:

- Discuss botany, history and future perspectives of medicinal plants and herbs
- Explain breeding strategies for medicinal plants
- Compare anecdotal and traditional medicine claims of efficacy against scientific literature
- Explain in general terms how hydroponic systems, soilless media, supplemental lighting, and CO_2

enrichment are used to produce high-value crops
- Discuss how physiological stress factors can be used to optimize secondary metabolite production
- Appraise the importance of the medicinal plant niche in horticulture

COURSE MATERIALS

Textbook

The following textbooks are recommended for the course. Links to peer-reviewed reading materials will be made available via canvas.

- *Ball Redbook Volume 2*, Jim Nau (Ed) 2011, 18th Edition. ISBN 978-1-883052-68-3
- *Wicked plants: The Weed that Killed Lincoln's Mother and Other Botanical Atrocities*, Amy Stewart, 2009, 1st edition. ISBN 978-1565126831

COURSE WEBSITE

This course has a comprehensive mini-site in the Canvas platform. Take time to familiarize yourself with the "Start Here", "Syllabus", "Course Materials", and "Grades" tabs in the navigation menu. Digital copies of this syllabus, and other learning materials can be found there.

- *E-Learning in Canvas*, www.elearning.ufl.edu

TECHNOLOGY

Students will need to have access to a laptop computer or tablet to complete the weekly quizzes. Additionally, students will need to have access to a video camera to record their presentation videos. Most cellular phone cameras are adequate for this task.

GRADES and GRADES POINTS

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

COURSE GRADE

1. Weekly quizzes 26 points

Every week on Wednesday during class, a quiz will be available in Canvas. Quizzes will consist of multiple choice and short answer questions. Each quiz will be worth 2 points, and there will be 13 quizzes during the semester. Each quiz will be timed to 5 minutes, and it can only be taken once. Make up quizzes will be provided in accordance with the attendance policy described above.

2. Medicinal plant case study 40 points

Students will make groups and each group will consist of 2~3 students. Each group will select one medicinal plant from the provided list and once the species is taken, it will be removed from the list. Each student will turn in case study reports with the selected species individually (not as a group) at the end of each module. First, students will write a general description for their medicinal plants including the scientific name, its history, any known bioactive compounds, and impact on human health. Following they will compose a breeding strategy to improve the medicinal attributes of this crop. Then, students will write a production of medicinal plants and herbs. Finally, students will write a harvest manual and observation reports on the time and method of collection for two different medicinal plants. There will be four partial submissions for this case study. Each partial submission will be worth 10 points. Additional guidelines, due dates, and grading rubrics for each submission will be provided via Canvas.

Original file: Syllabus - HOS3XXX - Medicinal Plants - For CALS CC.pdf

3. Presentation **34 points**

The objective of this assignment is to synthesize the information gathered in the medicinal plant case study from each module to present the selected medicinal crop in the class. Each team will prepare a 5-minute presentation where they introduce historical, biochemistry, breeding, production, and postharvest aspects of their medicinal crop. On April 20 (Wed), the last class, the teams will present their case studies in the class and all of the team members are expected to participate in the presentation. Additional guidelines and grading rubrics for the presentation will be provided via Canvas.

GRADING SCALE

A	=	95 - 100 points	C	=	< 77 - 73 points
A-	=	< 95 - 90 points	C-	=	< 73 - 70 points
B+	=	< 90 - 87 points	D+	=	< 70 - 67 points
B	=	< 87 - 83 points	D	=	< 67 - 63 points
B-	=	< 83 - 80 points	D-	=	< 63 - 60 points
C+	=	< 80 - 77 points	E	=	<60 points

ATTENDANCE and MAKE-UP WORK

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:

- *UF Attendance policy*, https://catalog.ufl.edu/UGRD/academic-regulations/attendance-policies/

ONLINE COURSE EVALUATION PROCESS

Student assessment of instruction is an important part of efforts to improve teaching and learning. At the end of the semester, students are expected to provide feedback on the quality of instruction in this course using a standard set of university and college criteria. 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/.

ACADEMIC HONESTY

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 academic misconduct to appropriate personnel. 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

Original file: Syllabus - HOS3XXX - Medicinal Plants - For CALS CC.pdf

consideration of disciplinary action. For more information regarding the Student Honor Code, please see: http://www.dso.ufl.edu/sccr/process/student-conduct-honor-code.

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 when appropriate.

SERRVICES 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

- *Disability Resource Center*, 0001 Reid Hall, (352) 392-8565, https://disability.ufl.edu/

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.

- University Counseling & Wellness Center, 3190 Radio Road, 352-392-1575, www.counseling.ufl.edu

Counseling Services Groups and Workshops Outreach and Consultation Self-Help Library Wellness Coaching

- U Matter We Care, www.umatter.ufl.edu/
- Career Connections Center, First Floor JWRU, 392-1601, https://career.ufl.edu/.
- Student Success Initiative, http://studentsuccess.ufl.edu.

STUDENT COMNPLAINTS

You can file and resolve any complaints about your experience in this course in the following site:

- Residential Course: https://sccr.dso.ufl.edu/policies/student-honor-code-studentconduct-code/.
- Online Course: http://www.distance.ufl.edu/student-complaint-proces

ACAMDEMIC RESOURCES

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

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.

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STUDENT 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.
Policies regarding student in-class recordings are detailed here http://aa.ufl.edu/policies/in-class-recording/.

Breeding and Production of Medicinal Plants and Herbs

2 CREDITS

Week	Date	Lecture Topics	Activity-Project
Kim/Resende/Morgan/Liu	Jan 5 (Wed)	Class introduction	
Week 2 Kim	Jan 10 (Mon)	Botany and Central Dogma	
	Jan 12 (Wed)	Historical uses of Plants as medicines	Quiz 1
Week 3 Kim	Jan 17 (Mon)	No Class	Holiday
	Jan 19 (Wed)	Medicinal Plants and Human Health	Quiz2

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Week 4 Kim	Jan 24 (Mon)	Plant based medicines, Present and Future	
	Jan 26 (Wed)	Omics and metabolic engineering	Quiz3
Week 5 Resende	Jan 31(Mon)	Review of genetics	
	Feb 2(Wed)	Domestication	Quiz4
Week 6 Resende	Feb 7(Mon)	Breeding methods	
	Feb 9 (Wed)	Breeder's equation	Quiz5
Week 7 Resende	Feb 14 (Mon)	Breeding for therapeutic compounds: anti-inflammatories, anti-microbials, antioxidants, psychoactives;	
	Feb 16(Wed)	Invited speaker	Quiz6
Week8 Resende	Feb 21(Mon)	*Cannabis breeding*	
Morgan	Feb 23(Wed)	Overview of environmental effects on plant secondary metabolism	Quiz7
Week 9 Morgan	Feb 28 (Mon)	Growth and defense tradeoffs in secondary metabolism	
	Mar 2 (Wed)	Light effects	Quiz 8
Week10 Morgan	Mar 7 (Mon)	No Class	Spring Break
	Mar 9 (Wed)	No Class	Spring Break
Week 11 Morgan	Mar 14(Mon)	Temperature effects	
	Mar 16 (Wed)	CO_2 effects	Quiz 9
Week 12 Morgan	Mar 21 (Mon)	Water effects	
	Mar 23(Wed)	Nutritional effects	Quiz 10
Week 13 Morgan	Mar 28 (Mon)	Plant hormones in horticulture	
	Mar 30 (Wed)	Plant propagation	Quiz 11

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Week 14 Morgan	Apr 4 (Mon)	Basics of insect pest management	
Liu	Apr 6 (Wed)	A Guide to harvesting medicinal plants: Developmental stages of medicinal plants	
Week 15 Liu	Apr11 (Mon)	Methods of harvesting medicinal plants	Quiz 12
	Apr13 (Wed)	Important medicinal plant – postharvest technologies and uses (Part 1)	
Week 16 Liu	Apr 18(Mon)	Important medicinal plant – postharvest technologies and uses (Part 2)	Quiz 13
Kim/Resende/Morgan/Liu	Apr 20(Wed)	Team Presentation	Presentation

Original file: Syllabus - HOS3XXX - Medicinal Plants - For CALS CC.pdf

Cover Sheet: Request 17083

ORH2XXXC: Introduction to Medicinal Plants

Info

Process	Course|New|Ugrad/Pro
Status	Pending at CALS - College of Agricultural and Life Sciences
Submitter	Satya Swathi Nadakuduti s.nadakuduti@ufl.edu
Created	2/14/2022 10:22:55 AM
Updated	2/21/2022 9:05:23 AM
Description of request	“Introduction to medicinal plants” surveys series of plants across the globe used in traditional and modern medicines and/or diets to improve human health. We will focus on aspects related to ethnobotany and chemistry at a basic level for non-experts and discuss about the scientific evidence and research underlying some of the plant-derived drugs. We will also learn about basics of plant metabolism, botany, nomenclature and taxonomy of medicinal plants and various guest lectures on medicinal plant research at University of Florida. The class will be structured to include lectures, interactive classroom discussions, experiencing live plants we are studying about, propagating selected medicinal plants and making simple herbal preparations. Our learning experience will conclude with a tour of medicinal plants around UF main campus, research greenhouses, gardens in UF/IFAS.

Actions

Step	Status	Group	User	Comment	Updated
Department	Approved	CALS - Environmental Horticulture 60180000	Dean Kopsell		2/14/2022
CALS_Sumssion checklist_ORH2XXXC.pdf					2/14/2022
College	Pending	CALS - College of Agricultural and Life Sciences			2/14/2022
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					

Original file: Cover sheet.pdf

Course|New for request 17083

Info

Request: ORH2XXXC: Introduction to Medicinal Plants
Description of request: “Introduction to medicinal plants” surveys series of plants across the globe used in traditional and modern medicines and/or diets to improve human health. We will focus on aspects related to ethnobotany and chemistry at a basic level for non-experts and discuss about the scientific evidence and research underlying some of the plant-derived drugs. We will also learn about basics of plant metabolism, botany, nomenclature and taxonomy of medicinal plants and various guest lectures on medicinal plant research at University of Florida. The class will be structured to include lectures, interactive classroom discussions, experiencing live plants we are studying about, propagating selected medicinal plants and making simple herbal preparations. Our learning experience will conclude with a tour of medicinal plants around UF main campus, research greenhouses, gardens in UF/IFAS.

Submitter: Satya Swathi Nadakuduti s.nadakuduti@ufl.edu
Created: 2/14/2022 10:47:44 AM
Form version: 2

Responses

Recommended Prefix ORH
Course Level 2

Course Number XXX
Lab Code C
Category of Instruction Introductory
Course Title Introduction to Medicinal Plants
Transcript Title Introductory Medicinal Plants
Degree Type Baccalaureate

Delivery Method(s) On-Campus
Co-Listing No

Effective Term Fall
Effective Year 2022
Rotating Topic? No
Repeatable Credit? No

Amount of Credit 3

S/U Only? No
Contact Type Regularly Scheduled
Course Type Lecture
Weekly Contact Hours 4
Course Description “Introduction to medicinal plants” surveys series of plants across the globe used in traditional and modern medicines to improve human health. We learn about ethnobotany, several examples of plant-derived drugs and their metabolite classes at a basic level for non-experts along with underlying scientific evidence. We have hands-on-activities to demonstrate medicinal properties of plant extracts and tours of medicinal plants around UF main campus and greenhouses to experience live plants.
Prerequisites None
Co-requisites N/A
Rationale and Placement in Curriculum “Introduction to medicinal plants” is a unique course completely dedicated to importance of plants historically for medicinal purposes as a basic level. This course establishes a connection between plants and human medicine and
introduces students to various examples of plant-derived drugs in the pharmaceutical industry that

Original file: Submitted form version 2.pdf

helps students realize the potential in medicinal plants research. This course also introduces students to basics of plant metabolism that helps students relate the bio active compounds synthesized in plants to their pharmaceutical use. With guest lectures from various research faculty including college of pharmacy, students will learn basics of how medicinal compounds are identified and isolated from plants and current research in UF-IFAS. With multiple hands-on-activities planned, students will experience live medicinal plants and use extracts derived from them in invitro assays. Overall, with the booming research in the field of medicinal plants, this course may attract students from various disciplines.

Course Objectives Course learning objectives: Upon successful completion of the course students will be able to:

1. Survey the medicinal plants used in traditional and modern medicine.
2. Evaluate recent research and development in medicinal plants and justify the use of herbal preparations, risks involved and analyze the ethical framework to herbal medicine.
3. Identify the ethnobotanical use of plants and tissues for isolation of bioactive compounds.
4. Define primary and specialized metabolism in plants and recognize how humans have harnessed chemical diversity in plants.
5. Summarize basics of isolation, purification, and Identification of medicinal compounds.
6. Explore application of plants as medicine through class lectures, paper presentations, discussions and lab activities, looking to the future of medicines from plants.
7. Tour the medicinal plants growing around Fifield Hall, Wilmont garden, green houses of Medicinals in Controlled Environment (MICE) research teams at UF-IFAS and experience live medicinal plants, their medicinal properties, and commercial uses.
8. Demonstrate the antibacterial effects of plant extracts, propagation of common medicinal plants, simple herbal preparations for healthy eating through planned lab activities.
9. Knowing plant derived bioactive compounds in your medicines by exploring local pharmacies.

Course Textbook(s) and/or Other Assigned Reading Optional textbooks: Lecture notes and the pdf copy of Handbook of medicinal herbs (Duke,
James A., 1929-2017; ISBN 0-8493-1284-1) WILL be provided by the instructor.

Plants That Cure: Plants as a Source for Medicines, from Pharmaceuticals to Herbal Remedies by Elizabeth A. Dauncey (Author), Plants that Cure Melanie-Jayne R. Howes (Author) ISBN-978-0-691-20018-7

Weekly Schedule of Topics Introduction to Medicinal Plants

Lec Wk	Lecture Topic
24-Aug	Introduction to Medicinal plants course
26-Aug	Why study plants? prospects in medicinal plant research
29-Aug	Harnessing chemical diversity of plants for human use
31-Aug	Nomenclature and botany of medicinal plants and plant parts for medicinal use
2-Sep	Plant taxonomy and phylogenetic relationships – Dr. Bart Schutzman, ENH
7-Sep	Ethnobotanical use of plants - Historical perspectives of medicinal botany based on plant origins
9-Sep	Basics of plant primary metabolism + Quiz 1
12-Sep	Basics of plant secondary metabolism and classification of phytochemicals
16-Sep	Examples of plant derived natural products for medicinal use I
19-Sep	Examples of plant derived natural products for medicinal use II
21-Sep	Examples of plant derived natural products for medicinal use III
23-Sep	Quiz 2 + Review for midterm exam
26-Sep	Hands on activity I - Antibacterial properties of garlic, moringa and ginger extracts on gram-positive and gram-negative bacteria
28-Sep	Record your observations from lab activity for report and Discuss results for activity I
30-Sep	Mid-term Exam
3-Oct	Herbal remedies quality control, dosage, safety, and efficacy Discuss how to write a research paper
5-Oct	Survey of native plants in Florida for medicinal use - Dr. Sandy Wilson, ENH
7-Oct	Field trip: Visit Wilmont Botanical Gardens and learn about Therapeutic Horticulture Program
10-Oct	Medicinal plants for pain relief as analgesics and calming the nerves I
12-Oct	Medicinal plants for pain relief as analgesics and calming the nerves II
14-Oct	Medicinal plants with anti-cancer properties
17-Oct	Medicinal plants promoting digestive and skin health
19-Oct	Medicinal plants for respiratory and cardiovascular health
21-Oct	Medicinal plants for boosting immunity, joints, and muscles

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24-Oct In-class discussion and report submission of exercise on survey of plant-based pharmaceuticals in your nearby pharmacy + Quiz 2
26-Oct Tour of ethnobotanically significant medicinal plants around Fifield Hall and medicinals in controlled environment (MICE) research green houses
28-Oct Aromatic plants for essential oils
31-Oct Environmental impact on plant natural product accumulation
2-Nov Overview of isolation, purification, and Identification of medicinal compounds - Dr. Yousong Ding - Dept. of Medicinal Chemistry, College of Pharmacy
4-Nov Challenges in using plants as medicines and ethical framework to herbal medicine - Nagoya protocol + Quiz 3
7-Nov Hands on activity II – propagate medicinal plants (take home a plant) - Erin Alvarez
9-Nov Student Presentations on selected Medicinal plant I
14-Nov Student Presentations on selected Medicinal plant II
16-Nov Student Presentations on selected Medicinal plant III
18-Nov Hands on activity III – herbal preparations in class + Research paper submission
24-Nov Thanksgiving Holiday
26-Nov Thanksgiving Holiday
2-Dec Medicinal plants research at UF - Ginger, turmeric - Dr. Celina Gomez, ENH
5-Dec Medicinal plants research at UF – Kratom, Cannabis - Dr. Brian Pearson, ENH
7-Dec Medicinal plants research at UF - Saw Palmetto, Skullcap, Kratom - Dr. Vendrame, Dr. Nadakuduti, ENH
9-Dec Reading Day
12-Dec Final Exam

Grading Scheme #Points Passing Grade Grade points

96.0-100	A	4.0
91.0-95.9	A-	3.67
87.0-90.9	B+	3.33
83.0-86.9	B	3.0
79.0-82.9	B-	2.67
75.0-78.9	C+	2.33
72.0-74.9	C	2.0
69.0-71.9	C-	1.67
66.0-68.9	D+	1.33
63.0-65.9	D	1.0
60.0-62.9	D-	0.67
<60 E		0.00

Instructor(s) Dr. Satya Swathi Nadakuduti
Attendance & Make-up Yes
Accomodations Yes
UF Grading Policies for assigning Grade Points Yes
Course Evaluation Policy Yes

Original file: Submitted form version 2.pdf

CALS Curriculum Committee
Submission Checklist

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 1through 8 and all standard syllabus statements. This document can be viewed at the committee site(https://cals.ufl.edu/faculty-staff/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_ Joint course submissions must include both graduate and undergraduate syllabuses and a separate statement 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. Any other information you wish to include needs to be under a different heading such as background or additional 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-course-objectives.pdf).Do not use the words demonstrate or understand when listing learning objectives.

Original file: CALS_Sumssion checklist_ORH2XXXC.pdf

__X__ 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.

_X___ Outside consultations are required if there is a possibility of the proposed course covering 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://registrar.ufl.edu/pdf/uccconsult.pdf.

_ N/A ___ 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.

__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 is 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. Joel Brendemuhl (brendj@ufl.edu) for further instruction

Original file: CALS_Sumssion checklist_ORH2XXXC.pdf

Introduction to Medicinal Plants

ORH2XXXC, 3 credits

Fall 2022

Meeting date, time, and location:

- **Lectures:** In-person lectures on Mon, Wed and Friday **from 10:40-11:30 am** in **PSF5**
- **Lab activities:** Three laboratory activities will be held throughout the semester from **10:40am to 12:35pm** on the dates listed within the course schedule.
- **Field trip:** Visit Wilmont Botanical Gardens, College of Medicine Healing Gardens & Teaching laboratory and learn about Therapeutic Horticulture Program on **Wed Oct 7th** from **10:40 – 12:35pm**

Prerequisites: None

Instructor: Dr. Satya Swathi Nadakuduti
Environmental Horticulture Department
1519 Fifield Hall, University of Florida
s.nadakuduti@ufl.edu; (352)-273-4575
Office hours – Immediately after the class every Wed and Friday from 11:30 - 12:30pm. Other appointments can be made on an individual basis.

TA: TBD. Office hours: TBD. Other appointments can be made as needed.

Guest lectures:
Dr. Bart Schutzman, Environmental Horticulture Dept
Dr. Sandy Wilson, Environmental Horticulture Dept
Dr. Celina Gomez, Environmental Horticulture Dept
Dr. Brian Pearson, Environmental Horticulture Dept
Dr. Wagner Vendrame, Environmental Horticulture Dept
Dr. Yousong Ding, Dept. of Medicinal Chemistry, College of Pharmacy

Hands-on-activities:
Swathi Nadakuduti, Erin Alvarez - Environmental Horticulture Dept

Course description:
"Introduction to medicinal plants" surveys series of plants across the globe used in traditional and modern medicines and/or diets to improve human health. We will focus on aspects related to ethnobotany and chemistry at a basic level for non-experts and discuss about the scientific evidence and research underlying some of the plant-derived drugs. We will also learn about basics of plant metabolism, botany, nomenclature and taxonomy of medicinal plants and various guest lectures on medicinal plant research at University of Florida. The class will be structured to include lectures, interactive classroom discussions, experiencing live plants we are studying about, propagating selected medicinal plants and making simple herbal preparations. Our learning experience will conclude with a tour of medicinal plants around UF main campus, research greenhouses, gardens in UF/IFAS.

Original file: ORH2XXXC_Intro to medicinal Plants_Syllabus.pdf

Course learning objectives: Upon successful completion of the course students will be able to:

1. Survey the medicinal plants used in traditional and modern medicine.
2. Evaluate recent research and development in medicinal plants and justify the use of herbal preparations, risks involved and analyze the ethical framework to herbal medicine.
3. Identify the ethnobotanical use of plants and tissues for isolation of bioactive compounds.
4. Define primary and specialized metabolism in plants and recognize how humans have harnessed chemical diversity in plants.
5. Summarize basics of isolation, purification, and Identification of medicinal compounds.
6. Explore application of plants as medicine through class lectures, paper presentations, discussions and lab activities, looking to the future of medicines from plants.
7. Tour the medicinal plants growing around Fifield Hall, Wilmont garden, green houses of Medicinals in Controlled Environment (MICE) research teams at UF-IFAS and experience live medicinal plants, their medicinal properties, and commercial uses.
8. Demonstrate the antibacterial effects of plant extracts, propagation of common medicinal plants, simple herbal preparations for healthy eating through planned lab activities.
9. Knowing plant derived bioactive compounds in your medicines by exploring local pharmacies.

Introduction to Medicinal Plants

Lec Wk	Lecture Topic
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29-Aug	Harnessing chemical diversity of plants for human use
31-Aug	Nomenclature and botany of medicinal plants and plant parts for medicinal use
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7-Sep	Ethnobotanical use of plants - Historical perspectives of medicinal botany based on plant origins
9-Sep	Basics of plant primary metabolism + Quiz 1
12-Sep	Basics of plant secondary metabolism and classification of phytochemicals
16-Sep	Examples of plant derived natural products for medicinal use I
19-Sep	Examples of plant derived natural products for medicinal use II
21-Sep	Examples of plant derived natural products for medicinal use III
23-Sep	Quiz 2 + Review for midterm exam
26-Sep	*Hands on activity I - Antibacterial properties of garlic, moringa and ginger extracts on gram-positive and gram-negative bacteria*
28-Sep	Record your observations from lab activity for report and Discuss results for activity I
30-Sep	**Mid-term Exam**
3-Oct	Herbal remedies quality control, dosage, safety, and efficacy Discuss how to write a research paper
5-Oct	Survey of native plants in Florida for medicinal use - ***Dr. Sandy Wilson, ENH***
7-Oct	*Field trip: Visit Wilmont Botanical Gardens and learn about Therapeutic Horticulture Program*
10-Oct	Medicinal plants for pain relief as analgesics and calming the nerves I
12-Oct	Medicinal plants for pain relief as analgesics and calming the nerves II

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14-Oct	Medicinal plants with anti-cancer properties
17-Oct	Medicinal plants promoting digestive and skin health
19-Oct	Medicinal plants for respiratory and cardiovascular health
21-Oct	Medicinal plants for boosting immunity, joints, and muscles
24-Oct	*In-class discussion and report submission of exercise on survey of plant-based pharmaceuticals in your nearby pharmacy* + Quiz 2
26-Oct	*Tour of ethnobotanically significant medicinal plants around Fifield Hall and medicinals in controlled environment (MICE) research green houses*
28-Oct	Aromatic plants for essential oils
31-Oct	Environmental impact on plant natural product accumulation
2-Nov	Overview of isolation, purification, and Identification of medicinal compounds - ***Dr. Yousong Ding - Dept. of Medicinal Chemistry, College of Pharmacy***
4-Nov	Challenges in using plants as medicines and ethical framework to herbal medicine - Nagoya protocol + Quiz 3
7-Nov	*Hands on activity II – propagate medicinal plants (take home a plant) - Erin Alvarez*
9-Nov	Student Presentations on selected Medicinal plant I
14-Nov	Student Presentations on selected Medicinal plant II
16-Nov	Student Presentations on selected Medicinal plant III
18-Nov	*Hands on activity III – herbal preparations in class + Research paper submission*
24-Nov	Thanksgiving Holiday
26-Nov	Thanksgiving Holiday
2-Dec	Medicinal plants research at UF - Ginger, turmeric - ***Dr. Celina Gomez, ENH***
5-Dec	Medicinal plants research at UF – Kratom, Cannabis - ***Dr. Brian Pearson, ENH***
7-Dec	Medicinal plants research at UF - Saw Palmetto, Skullcap, Kratom - ***Dr. Vendrame, Dr. Nadakuduti, ENH***
9-Dec	Reading Day
12-Dec	**Final Exam**

Optional textbooks: Lecture notes and the pdf copy of Handbook of medicinal herbs (Duke, James A., 1929-2017; ISBN 0-8493-1284-1) **WILL** be provided by the instructor.

Plants That Cure: Plants as a Source for Medicines, from Pharmaceuticals to Herbal Remedies by Elizabeth A. Dauncey (Author), Plants that Cure Melanie-Jayne R. Howes (Author) ISBN-978-0-691-20018-7

Evaluation and Grade determination:

Assignment#1 (10 points) Write a research report on a selected medicinal plant with information related to the botany, horticulture, biology, and relationship to human health. Each paper must include an in-depth scientific literature review to support or argue the use of the plant product for medicinal purpose by critical analysis of literature. Research reports are 4-5 typed pages, including illustrations (excluding references). Research papers will be graded on the overall quality of the paper and the current literature cited. Students are expected to work independently to complete reports. A list of medicinal plants will be given to choose from, or the student may choose a medicinal plant and research on it. Further instructions will be given in the class on how to prepare your research report.

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Student presentations (5 points) Students so a 5min oral presentation in class on a medicinal plant of interest to them. 2min will be allotted for questions.

Hands-on-activity I and II Reports (7.5 points each): Submit a report (following week after the activity) on the first two hands-on-activities to include: description of objectives for the activity, materials and methods used, observations from the activity and interpretation of results.

Quizzes#1-3 (5 points each) In-class quiz will be for 15 min before the lecture, consisting of multiple-choice questions and fill in the blanks on the content covered.

Exercise (10 points) Go to a nearby pharmacy (CVS, Walgreens, Rite Aid etc.,) and prepare a list of 10 drugs/ pharmaceuticals or supplements in which plants/ plant products have been used. Identify the plants, respective bioactive ingredients and the purpose of medication. You could select pharmaceuticals for various conditions, examples include digestion, pain relief, heart burn, cold, coughs etc.,. Prepare for **In-class discussion** on the categories of plant products used for specific ailments (**5 points**) and prepare a **report** with all the above details along with pictures of each product reported (**5 points**).

Mid-term and Final exams (20 points each) questions will be drawn from lectures and discussions). There will be brief review sessions before the exams.

Attendance (5 points) Class attendance will account for 5 points. A student who doesn't miss more than 2 classes in the whole semester will earn 5 points towards the course grade. Accommodations will be provided for illness/ health conditions with doctors note and option to participate in the class online will be made possible if required.

#Points	Passing Grade	Grade points
96-100	A	4.0
91-95	A-	3.67
87-90	B+	3.33
83-86	B	3.0
79-82	B-	2.67
75-78	C+	2.33
72-74	C	2.0
69-71	C-	1.67
66-68	D+	1.33
63-65	D	1.0
60-62	D-	0.67
<60	E	0.00

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

Late Assignments: Assignments will NOT be accepted after the due date. If communicated ahead of time, late assignments may be considered with a late penalty of 25%.

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Makeup Exams: Special permission is required ahead of time to accommodate makeup exam. This will be made possible under reasonable circumstances.

Expectations for classroom behavior: Please do not talk privately during the lectures or multitask (i.e. doing work for other courses or research, using your computer, cell phone or other electronic devices for web surfing or email). Ask questions and be involved in the class.

Class Policies that students MUST follow:
Attendance: Your attendance at all classes is a strong expectation, but if you are ill or an emergency occurs, contact your instructor PRIOR TO the scheduled class time. Make up quizzes and assignments will be allowed ONLY when a document of support for emergencies is provided. Requirements for class attendance and make-up exams, assignments and other work are consistent with university policies which can be found at https://catalog.ufl.edu/UGRD/academic-regulations/attendance-policies/.

"At the University of Florida, we have an obligation to each do our part to prevent further transmission of COVID-19. Medical experts say vaccination and masking are the best ways to support the health and safety of our campus community. Effective immediately, in light of new guidance from the Centers for Disease Control and Prevention, the University of Florida expects everyone to wear a mask at all times when inside any UF facility, even if you are vaccinated. This includes all students, faculty, staff, and visitors. As such, all students, faculty, staff and visitors attending our class are expected to wear a mask at all times as long as we are meeting inside."

COVID Response Statements:
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 unmute 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.

Online Course Evaluation Process:
Student assessment of instruction is an important part of efforts to improve teaching and learning. At the end of the semester, students are expected to provide feedback on the quality of instruction in this course using a standard set of university and college criteria. 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/. students will be given specific time in the class to fulfill this requirement.

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Academic Honesty:
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 academic misconduct to appropriate personnel. 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:
http://www.dso.ufl.edu/sccr/process/student-conduct-honor-code.

** Please DO NOT borrow the writing of others – this is called Plagiarism. If you do not understand what this means, ask your instructor to clarify. If you are presenting others' thoughts or writing including diagrams/pictures you must cite them. Instructors will do the same!

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.***

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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.

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, https://disability.ufl.edu/get-started/

Campus Helping Resources:
Students experiencing crises or personal problems that interfere with their general wellbeing 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.

Health and Wellness

U Matter, We Care:
If you or a friend is in distress, please contact umatter@ufl.edu or 352-392-1575
so that a team member can reach out to the student. Dean of Students Office (CARE team)
https://care.dso.ufl.edu/

Counseling and Wellness Center: http://www.counseling.ufl.edu/cwc 352-392-1575

Sexual Assault Recovery Services (SARS) Student Health Care Center, 352-392-1161

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

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/

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

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Academic Resources

E-learning technical support, 352-392-4357 (select option 2) or e-mail to Learningsupport@ufl.edu. https://lss.at.ufl.edu/help.shtml

Career Connections Center, First Floor JWRU, 392-1601, https://career.ufl.edu/

Library Support, http://cms.uflib.ufl.edu/ask. Various ways to receive assistance with respect to using the libraries or finding resources.

Teaching Center, Broward Hall, 392-2010 or 392-6420. General study skills and tutoring. https://teachingcenter.ufl.edu/

Writing Studio, **302 Tigert Hall**, 846-1138. Help brainstorming, formatting, and writing papers. https://writing.ufl.edu/writing-studio/

Student Complaints
Residential Course: https://sccr.dso.ufl.edu/policies/student-honor-code-studentconduct-code/
Online Course: http://www.distance.ufl.edu/student-complaint-process

University of Florida Complaints Policy
The University of Florida believes strongly in the ability of students to express concerns regarding their experiences at the University. The University encourages its students who wish to file a written complaint to submit that complaint directly to the department that manages that policy.

A student who is unsure as to the official responsible for handling his or her particular complaint may contact the Ombuds office or the Dean of Students Office. For complaints that are not satisfactorily resolved at the department level, or which seem to be broader than one department, students are encouraged to submit those complaints to one of the following locations: Ombuds: http://www.ombuds.ufl.edu/ 31 Tigert Hall, 352-392-1308
The purpose of the Ombuds office is to assist students in resolving problems and conflicts that arise in the course of interacting with the University of Florida. By considering problems in an unbiased way, the Ombuds works to achieve a fair resolution and works to protect the rights of all parties involved. Dean of Students Office: http: //www.dso.ufl.edu/ 202 Peabody Hall, 352-392-1261

The Dean of Students Office works with students, faculty, and families to address a broad range of complaints either through directly assisting the student involved to resolve the issue, working with the student to contact the appropriate personnel, or referring the student to resources or offices that can directly address the issue. Follow up is provided to the student until the situation is resolved. Additionally, the University of Florida regulations provide a procedure for filing a formal grievance in Regulation 4.012: http://regulations.ufl.edu/regulations/uf-4-student-affairs

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Cover Sheet: Request 17048

SUR 4XXX Marine Geomatics

Info

Process	Course|New|Grad
Status	Pending at CALS - College of Agricultural and Life Sciences
Submitter	Jennifer Vogel alpha32605@ufl.edu
Created	2/8/2022 9:45:59 AM
Updated	2/8/2022 2:09:58 PM
Description of request	Create a new combined grad/undergraduate course in Geomatics for the benefit of Geomatics, Fisheries and Wildlife students.

Actions

Step	Status	Group	User	Comment	Updated
Department	Approved	SFRC - Geomatics 60466000	Terrell Baker III		2/8/2022
Marine_Geomatics_Differentiation.docx Syllabus_SUR4934.docx Syllabus_SUR6934.docx					2/8/2022 2/8/2022 2/8/2022
College	Pending	CALS - College of Agricultural and Life Sciences			2/8/2022
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					

Original file: Cover sheet.pdf

Course|New for request 17048

Info

Request: SUR 4XXX Marine Geomatics
Description of request: Create a new combined grad/undergraduate course in Geomatics for the benefit of Geomatics, Fisheries and Wildlife students.
Submitter: Jennifer Vogel alpha32605@ufl.edu
Created: 2/8/2022 9:05:19 AM
Form version: 1

Responses

Recommended Prefix SUR
Course Level 4

Course Number XXX
Lab Code None
Category of Instruction Joint (Ugrad/Grad)
Course Title Marine Geomatics
Transcript Title Marine Geomatics
Degree Type Baccalaureate

Delivery Method(s) Online
Co-Listing Yes
Co-Listing Explanation Student objectives, grade weighting and expectations for the assignments and online discussions based on readings are very different. The undergraduate section of the course usually has relatively simple tasks that are meant to teach new content, while the graduate section of the course usually has to contrast scientific articles and set them into the context of the material learned that week. Students are given latitude to explore specific content that is more relevant to them at both levels. I provided the instructions for the six discussions in Appendix A below to illustrate how different the assignments are. Based on this feedback, I also adjusted the weight of the final grade that the discussions are worth for the graduate level, and reduced the importance of the quizzes, which address student learning objectives that are lower on Bloom's taxonomy.
For the lab assignments, the learning objectives and expectations for assignments of Week 1 (Applications of Marine Geomatics) and Week 4 (Survey Design) are much higher for graduate students. In Week 4, in particular, graduate students are expected to design a hydrographic survey and ensure that different sensors are properly integrated. They also need to explain how this design meets different sets of standards. At the undergraduate level, students are only required to discuss which instruments they think would be most appropriate for a given survey and explain why. Expectations used to be discussed through course communication; to address this concern, the instructions and rubrics for each level will be made independent from one another.

Effective Term Earliest Available
Effective Year Earliest Available
Rotating Topic? No
Repeatable Credit? No
Multiple Offerings in a Single Semester No

Amount of Credit 3

S/U Only? No
Contact Type Regularly Scheduled
Course Type Lecture
Weekly Contact Hours 3
Course Description An introduction to the technologies, concepts, and methods required to acquire, analyze, and manage geographic data used in seafloor mapping and imaging. Background on the capabilities and limitations of different data collection systems will be provided, as well as for the other types of sensors necessary to collect accurate information. Topics will include marine positioning,

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underwater acoustics, sonars, hydrographic standards, multibeam echosounder systems and hydrographic survey design.
Prerequisites Junior or senior standing
Co-requisites N/A
Rationale and Placement in Curriculum The course is aimed primarily at undergraduate students from the Geomatics program, but also at students from the Fisheries & Aquatic Sciences Program and the Department of Wildlife Ecology and Conservation that have an interest in the techniques used to map and image the seafloor.

Course Objectives 1. Explain how sound propagates in water
2. Understand how different geomatics sensors complement each other to enable ocean mapping
3. Describe the use of ocean surveying and mapping instruments and data processing software
4. Select the most appropriate suite of instruments and hydrographic standards for different purposes, including safe navigation

Course Textbook(s) and/or Other Assigned Reading There is no textbook for the course. Students are given an option to choose from a selection of readings each week. A sample reading discussion assignment from Week 1 is below:
Select one of the articles below and read it.
Drap et al. (2008) Underwater Cartography for Archaeology in the VENUS Project
Kuperman & Roux (2007) Underwater Acoustics
Lam & Yip (2008) Hydrographic Surveying and Mapping for the Coastal Construction of Hong Kong Disneyland
Mayer (2006): Frontiers in Seafloor Mapping and Visualization
Mayer et al. (2018) The Nippon Foundation-GEBCO Seabed 2030 Project: The Quest to See the World's Oceans Completely Mapped by 2030
Pickrill & Kostylev (2007): Habitat Mapping and National Seafloor Mapping Strategies in Canada
Wölfl et al. (2019): Seafloor Mapping - The Challenges of a Truly Global Ocean Bathymetry

Weekly Schedule of Topics Weeks Dates Topics
1 June 28th to July 4th

Course Introduction, Introduction to Remote Sensing for Ocean Mapping
2 July 5th to 11th

Instruments and Platforms for Ocean Mapping
3 July 12th to 18th

Multisensor Integration, Positioning
4 July 19th to July 25th

Survey Design, Hydrographic Standards
5 July 26th to August 1st

Data Processing, Overview of Software and Surveying Systems
6 August 2nd to 8th

Data Products, Management, and Interpretation

Grading Scheme Requirement % of final grade
Online Discussion based on Readings (6x)

5% each (25%)
Quizzes (5 best of 6, all 6 must be taken)

5% each (25%)
Labs (5 best of 6, all 6 must be completed)

10% each (50%)

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Instructor(s) Vincent Lecours, Ph.D
Attendance & Make-up Yes
Accomodations Yes
UF Grading Policies for assigning Grade Points Yes
Course Evaluation Policy Yes

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University of Florida
SUR 4934-6934 (3 credits) Differentiation
Marine Geomatics

SUR 4934 Objectives

1. *Explain* how sound propagates in water
2. *Understand* how different geomatics sensors complement each other to enable ocean mapping
3. *Describe* the use of ocean surveying and mapping instruments and data processing software
4. *Select* the most appropriate suite of instruments and hydrographic standards for different purposes, including safe navigation

SUR 6934 Objectives

1. Explain how sound propagates in water
2. Describe the use of ocean surveying and mapping instruments and data processing software
3. Integrate different sensors to build a proper ocean surveying system
4. Select the most appropriate suite of instruments and hydrographic standards for different purposes, including safe navigation
5. Design a hydrographic survey
6. Interpret and analyze written text

SUR 4934 Grade Weights

Requirement	% of final grade
Online Discussion based on Readings (6x)	5% each (25%)
Quizzes (5 best of 6, all 6 must be taken)	5% each (25%)
Labs (5 best of 6, all 6 must be completed)	10% each (50%)

SUR 6934 Grade Weights

Requirement	% of final grade
Online Discussion based on Readings (6x)	7% each (35%)
Quizzes (5 best of 6, all 6 must be taken)	3% each (15%)
Labs (5 best of 6, all 6 must be completed)	10% each (50%)

Assignment Differentiation: Sample assignment descriptions that show the assignments for the graduate section of the course are of higher level

The expectations for the online discussions based on readings are very different. The undergraduate section of the course usually has relatively simple tasks that are meant to teach new content, while the graduate section of the course usually has to contrast scientific articles and set them into the context of the material learned that week. Students are given latitude to explore specific content that is more relevant to them at both levels. I provided the instructions for the six discussions in Appendix A below to illustrate how different the assignments are. Based on this feedback, I also adjusted the weight of the final grade that the discussions are worth for the graduate level, and reduced the importance of the quizzes, which address student learning objectives that are lower on Bloom's taxonomy.

For the lab assignments, the learning objectives and expectations for assignments of Week 1 (Applications of Marine Geomatics) and Week 4 (Survey Design) are much higher for graduate students. In Week 4, in particular, graduate students are expected to design a hydrographic survey and ensure that different sensors are properly integrated. They also need to explain how this design meets different sets of standards. At the undergraduate level, students are only required to discuss which instruments they think would be most appropriate for a given survey and explain why. Expectations used to be discussed through course communication; to address this concern, the instructions and rubrics for each level will be made independent from one another.

Appendix A

Instructions – Weekly Discussions on Readings

Discussion - Week 1

If you're taking SUR 4934:

1. Review the module about *Netiquette*, or its corresponding section in the *syllabus*.
2. Access the official dictionary of the International Hydrographic Organization, the "*S-32 IHO Hydrographic Dictionary*".
3. Navigate to the words that start with the first letter of your first name. Find a word that you don't know or are not familiar with. Look at the definition in the dictionary, and if needed, use a search engine (*e.g.*, Google, Duck Duck Go, Ecosia) to find a definition of this term that is simple and clear enough for everyone to understand.
4. Repeat #3 for a word that starts with the first letter of your last name.
5. Go to *MarineCadastre.gov*, and spend some time exploring the website (Data, Maps, Uses, Tools, News, About).
6. In this discussion forum, within a same post, report on the two new words that you learned from the IHO dictionary (for example by providing the simplified definitions, contexts of use, or examples), and discuss some of the things that "surprised" you, or that you found really interesting from the "Marine Cadastre" website.
7. Comment on at least two other posts.

If you're taking SUR 6934:

1. Review the module about *Netiquette*, or its corresponding section in the *syllabus*.
2. Select one of the articles below and read it.
   - Drap *et al.* (2008) *Underwater Cartography for Archaeology in the VENUS Project*
   - Kuperman & Roux (2007) *Underwater Acoustics*
   - Lam & Yip (2008) *Hydrographic Surveying and Mapping for the Coastal Construction of Hong Kong Disneyland*
   - Mayer (2006): *Frontiers in Seafloor Mapping and Visualization*
   - Mayer *et al.* (2018) *The Nippon Foundation-GEBCO Seabed 2030 Project: The Quest to See the World's Oceans Completely Mapped by 2030*
   - Pickrill & Kostylev (2007): *Habitat Mapping and National Seafloor Mapping Strategies in Canada*
   - Wölfl *et al.* (2019): *Seafloor Mapping - The Challenges of a Truly Global Ocean Bathymetry*
3. In this discussion forum, within a same post, summarize the paper in a couple of sentences (*e.g.*, context, questions/objectives, why it matters), and discuss some of the things that "surprised" you, or that you found really interesting. In addition, consider discussing at minimum one of these:
   - How does the material presented in the paper relates to you (your interest/research/field of study/future career); could it be transferred into a context relevant to you?
   - Which figure do you think is the most important? Why?
   - List some of the concepts or terms that you did not understand on the initial reading of the article, do a quick research on those, and describe the results of your search (*e.g.*, definitions, examples, context).
4. Comment on at least two other posts (any posts, including those from SUR 4934 students).

Discussion - Week 2

Jun 29, 2021 at 12:21pm

36 51

Everyone:

This week, the discussion is in two parts. Consider writing your contribution in a Word document, one part at the time, and copy and paste it in the discussion forum for Week 2 when you are ready to post. or you can also write a couple of individual posts.

Part 1:

1. Read Dierssen & Théberge (2014).
2. Discuss some of the things that "surprised" you, or that you found really interesting. For example, you can talk about how the material presented in the paper relates to you (your interest/research/field of study/future career), whether it could be transferred into a context relevant to you, which figure you thought was the most important or interesting and why, etc.

Part 2:

1. Open Pydro Explorer. Browse and explore the different tools; some will have tools within tools (*e.g.*, Charlene). Find a tool that you either think you could use in your current or future professional career, or one that you just think is cool or that you did not expect to find in there.
2. In the discussion forum for Week 2, in the same post, indicate which tool you picked, provide a short description of what it does, provide an example of how you would use this tool in a given application, and discuss anything else that you find relevant (*e.g.*, why did you pick that particular tool, did you learn something from this tool, etc.).
3. Comment on at least *one* other post.

SUR 6934:

1. In addition to Parts 1 and 2 above, select one of the articles below and read it.
   - Brown *et al.* (2017): *Setting the Stage for Multi-Spectral Acoustic Backscatter Research*
   - Costa *et al.* (2009): *Comparative Evaluation fo Airborne LiDAR and Ship-based Multibeam SoNAR Bathymetry and Intensity for Mapping Coral Reef Ecosystems*
   - Lamarche & Lurton (2018): *Recommendations for Improved and Coherent Acquisition and Processing of Backscatter Data from Seafloor-Mapping Sonars*
   - Le Bas & Huvenne (2009): *Acquisition and Processing of Backscatter Data for Habitat Mapping - Comparison of Multibeam and Sidescan Systems*
   - Linklater *et al.* (2019): *Techniques for Classifying Seabed Morphology and Composition on a Subtropical-Temperate Continental Shelf*
2. In the discussion forum for Week 2, within a same post, summarize the paper in a couple of sentences (*e.g.*, context, questions/objectives, why it matters), and discuss some of the things that "surprised" you, or that you found really interesting. In addition, consider discussing at minimum one of these:
   - How does the material presented in the paper relates to you (your interest/research/field of study/future career); could it be transferred into a context relevant to you?
   - Which figure do you think is the most important? Why?
   - List some of the concepts or terms that you did not understand on the initial reading of the article, do a quick research on those, and describe the results of your search (*e.g.*, definitions, examples, context).

Discussion - Week 3

Jul 5, 2021 at 5:32pm

63 63

The rubric for the online discussions is available under the course's resources module, or *here*. Details about *Netiquette* can be found in the *syllabus*.

Everyone:

There was a lot of material to cover this week. In the discussion forum for Week 3, I want you to chat about the material covered. Is there something in particular that "surprised" you? Did you learn something new that you found pretty cool? Is there something in particular that relates to you (your interest/research/field of study/future career) or that could be transferred into a context relevant to you? Are there certain concepts that you're still not sure to understand? Can you find extra material online that explain them better? It's up to you; it's your space to interact with others about multisensor integration, ancillary sensors, and 4D positioning!

Once you are done, comment on at least two other posts.

SUR 6934:

1. In addition to above, select one of the articles below and read it.
   - Bisnath *et al.* (2012): Development of an Operational RTK GPS-equipped Buoy for Tidal Datum Determination
   - Calder *et al.* (2007): Application of High-precision Timing Systems to Distributed Survey Systems
   - Hughes Clarke (2003): A Reassessment of Vessel Coordinate Systems: What is it that we Are Really Aligning?
   - Parker & Mallace (2005): A Direct Comparison of the Motion Sensors' Performance from the 2005 Common Dataset
2. In the discussion forum for Week 3, within a same post, summarize the paper in a couple of sentences (*e.g.*, context, questions/objectives, why it matters), and discuss some of the things that "surprised" you, or that you found really interesting. In addition, consider discussing at minimum one of these:
   - How does the material presented in the paper relates to you (your interest/research/field of study/future career); could it be transferred into a context relevant to you?
   - Which figure do you think is the most important? Why?
   - List some of the concepts or terms that you did not understand on the initial reading of the article, do a quick research on those, and describe the results of your search (*e.g.*, definitions, examples, context).

Discussion - Week 4

Jul 12, 2021 at 2:32pm

The rubric for the online discussions is available under the course's resources module, or here. Details about Netiquette can be found in the syllabus.

Everyone:

This week, I want you to seek information about major organizations or agreements within the marine geomatics world. Do a quick research on one of the organizations/agreements listed below, and in the discussion forum for Week 4, introduce it to your colleagues (*e.g.*, what it is, how it came to be, major contributions, etc.). Make sure to highlight their contributions or roles associated with hydrography, marine geomatics, and ocean mapping. Once you are done, comment on at least two other posts, one of which should be from a SUR6934 discussion on standards.

-Brazilian Directorate of Hydrography and Navigation

-Canadian Hydrographic Service

-Center for Coastal and Ocean Mapping Joint Hydrographic Center

-Coastal and Marine Geology Program (USGS)

-Commission on the Limits of the Continental Shelf

-Cuban National Office of Hydrography and Geodesy

-European Marine Observation and Data Network

-French Naval Hydrographic and Oceanographic Service

-General Bathymetric Chart of the Oceans

-Intergovernmental Oceanographic Commission

-International Convention for the Safety of Life at Sea

-International Federation of Surveyors (4th commission on Hydrography)

-International Hydrographic Organization

-International Marine Contractors Association

-International Maritime Organization

-International Seabed Authority

-International Tribunal for the Law of the Sea

-Italian Hydrographic Institute

-National Institute of Water and Atmospheric Research

-National Ocean Service

-National Oceanic and Atmospheric Administration

-Naval Oceanographic Office

-Norwegian Mapping and Cadastre Authority

-Office of Coast Survey

-UK Hydrographic Office

-United Nations Convention on the Law of the Sea

-United States Hydrographic Office

-Any other organizations/committees/conventions/network that are relevant!

SUR 6934:

This week, in addition to the above, I'd like you to look into the specifics of hydrographic surveying in the United States. Look into NOAA's 2020 "Hydrographic Surveys Specifications and Deliverables", into NOAA's "Field Procedures Manual", or into USACE's "Hydrographic Engineer Manual" (you may need to download this one for best results), find a chapter/section/sub-section that you find interesting, and, in the discussion forum for Week 4, within a same post, summarize your section in a couple of sentences and discuss some of the things that "surprised" you, or that you found really interesting. Like usual, you can link to your interest/research/field of study/future career, highlight new terms, etc.

Discussion - Week 5

Jul 20, 2021 at 11:16am

62 62

The rubric for the online discussions is available under the course's resources module, or *here*. Details about *Netiquette* can be found in the *syllabus*.

Everyone:

This week, you explored different data processing software. In the discussion forum for Week 5, tell your colleagues which one(s) you would be more inclined to use/select if you were to make recommendations to your boss or if you were to buy licenses for your own business. Explain why, and comment on at least two other posts.

SUR 6934:

In addition to above, select one of the articles below and read it.

- Calder & Smith (2004): A Time Comparison of Computer-Assisted and Manual Bathymetric Processing
- Cutter et al. (2010): A comparison of bathymetry mapped with the Simrad ME70 multibeam echosounder operated in bathymetric and fisheries modes
- Lacharité et al. (2018): Multisource multibeam backscatter data: developing a strategy for the production of benthic habitat maps using semi-automated seafloor classification methods
- Malik et al. (2018): A framework to quantify uncertainties of seafloor backscatter from swath mapping echosounders
- Malik et al. (2019): Results from the First Phase of the Seafloor Backscatter Processing Software Inter-Comparison Project
- Masetti et al. (2017): HydrOffice
- Sowers et al. (2020): Standardized Geomorphic Classification of Seafloor Within the United States Atlantic Canyons and Continental Margin
- Tidey & Hulbe (2019): Sub-Antarctic Auckland Islands Seafloor Mapping Investigations Using Legacy Data
- Wang et al. (2015): A comparison of waveform processing algorithms for single-wavelength LiDAR bathymetry

In the discussion forum for Week 5, within a same post, summarize the paper in a couple of sentences (*e.g.*, context, questions/objectives, why it matters), and discuss some of the things that "surprised" you, or that you found really interesting. In addition, consider discussing at minimum one of these:

- How does the material presented in the paper relates to you (your interest/research/field of study/future career); could it be transferred into a context relevant to you?
- Which figure do you think is the most important? Why?
- List some of the concepts or terms that you did not understand on the initial reading of the article, do a quick research on those, and describe the results of your search (*e.g.*, definitions, examples, context).

Discussion - Week 6

Jul 29, 2021 at 9:16am

The rubric for the online discussions is available under the course's resources module, or *here*. Details about *Netiquette* can be found in the *syllabus*.

Everyone:

Throughout the duration of this course, I have posted a number of articles and reports for you to explore. Some of these papers were given as reading assignments to the SUR 6934 students. This week, you are given the opportunity to explore these papers. Select one of the publications within one of these modules at the bottom of the "Modules" page:

-Library for Assigned Readings

-US Army Corps of Engineers Resources

-NOAA Resources

-International Hydrographic Organization Resources

-Additional Resources

In this discussion forum, within a same post, summarize the publication in a couple of sentences (*e.g.*, context, questions/objectives, why it matters), and discuss some of the things that "surprised" you, or that you found really interesting. In addition, consider discussing at minimum one of these:

- How does the material presented in the paper relates to you (your interest/research/field of study/future career); could it be transferred into a context relevant to you?
- Which figure do you think is the most important? Why?
- List some of the concepts or terms that you did not understand on the initial reading of the article, do a quick research on those, and describe the results of your search (*e.g.*, definitions, examples, context).

Once you are done, comment on at least two other posts.

University of Florida
SUR 4934 (3 credits)
Marine Geomatics

Summer B 2021 Syllabus
Delivery Format: Online, asynchronous
Optional Live Meeting day: Thursday, 7:00 PM-8:15 PM
https://ufl.instructure.com/courses/428744

Instructor: Vincent Lecours, Ph.D.
Office: FAS Millhopper Facility, Room 12
Phone Number: (352) 273-3617
Email Address: vlecours@ufl.edu
Office Hours: Thur 3pm-5pm or by appt
Preferred Course Communications: email

Teaching Assistant: Michael Espriella
Office: FAS Millhopper Facility, Room 11
Phone Number: N/A
Email Address: michaelespriella@ufl.edu
Preferred Course Communications: email

Prerequisites
Junior or senior standing.

PURPOSE AND OUTCOME

Course Overview
An introduction to the technologies, concepts, and methods required to acquire, analyze, and manage geographic data used in seafloor mapping and imaging. Background on the capabilities and limitations of different data collection systems will be provided, as well as for the other types of sensors necessary to collect accurate information. Topics will include marine positioning, underwater acoustics, sonars, hydrographic standards, and hydrographic survey design. A particular emphasis is given to multibeam echosounder systems. The course is aimed primarily at undergraduate students from the Geomatics program, but also at students from the Fisheries & Aquatic Sciences Program and the Department of Wildlife Ecology and Conservation that have an interest in the techniques used to map and image the seafloor.

Student Learning Objectives
At the end of this course, students will be able to:

1. *Explain* how sound propagates in water
2. *Understand* how different geomatics sensors complement each other to enable ocean mapping
3. *Describe* the use of ocean surveying and mapping instruments and data processing software
4. *Select* the most appropriate suite of instruments and hydrographic standards for different purposes, including safe navigation

Instructional Methods
Course concepts will be introduced using real examples to demonstrate how marine geomatics is applied in the world. The course is entirely online, with asynchronous learning paired with synchronous discussion periods. This course has a lab component in which students will learn how to process bathymetric and backscatter data. The course provides opportunities for students to engage with other students and the instructor in various communication and interaction experiences.

DESCRIPTION OF COURSE CONTENT

Topical Outline/Course Schedule

This syllabus represents current plans and objectives for this course. As the semester progresses, changes may need to be made to accommodate timing, logistics, or enhance learning. Such changes, communicated clearly, are not unusual and should be expected.

Weeks	Dates	Topics
1	June 28th to July 4th	Course Introduction, Introduction to Remote Sensing for Ocean Mapping
2	July 5th to 11th	Instruments and Platforms for Ocean Mapping
3	July 12th to 18th	Multisensor Integration, Positioning
4	July 19th to July 25th	Survey Design, Hydrographic Standards
5	July 26th to August 1st	Data Processing, Overview of Software and Surveying Systems
6	August 2nd to 8th	Data Products, Management, and Interpretation

Course Materials and Technology

Because of its online nature, this course requires access to a computer or mobile device with a high-speed internet connection, a headset and/or microphone and speakers, and the latest version of a web browser. Canvas supports only the two most recent versions of any given browser (What browser am I using?). A webcam is suggested for the live discussions.

The course will use a variety of software, including open-source software that can be downloaded on any desktop computer and laptop.

Technical support is available through the UF Help Desk at:

- Learning-support@ufl.edu
- (352) 392-HELP - select option 2
- https://lss.at.ufl.edu/help.shtml

ACADEMIC REQUIREMENTS AND GRADING

Assignments and Exams

- Every week, students will be given a list of potential readings relevant to the weekly topics. Students will need to read the assigned documents and share discussion points on an online discussion forum. Students are also expected to interact with others in this forum. Students are expected to provide original and relevant contributions to achieve full marks. If more than one discussion is missed, each additional discussion missed will lead to a 5 points reduction in the point total. Discussions will be evaluated using a rubric.
- In lieu of a comprehensive final exam, six quizzes will be given to assess the students' understanding of each week's topics. The five highest grades of the six quizzes will be counted as part of the final grade.
- This course has a lab component during which the students will apply theoretical concepts in a practical GIS environment using real data. Six lab assignments will be graded, and the five highest grades of those assignments will count towards the final grade.
- All assignments will be submitted on the course website. Presentation of the assignments must be neat, logical, organized, and appropriately referenced. Poor presentation will be penalized up to a maximum of 20% of the value of assignments and exams.

Grading

Requirement	% of final grade
Online Discussion based on Readings (6x)	5% each (25%)
Quizzes (5 best of 6, all 6 must be taken)	5% each (25%)
Labs (5 best of 6, all 6 must be completed)	10% each (50%)

Points earned	93-100	90-92.99	87-89.99	83-86.99	80-82.99	77-79.99	73-76.99	70-72.99	67-69.99	63-66.99	60-62.99	Below 60
Letter Grade	A	A-	B+	B	B-	C+	C	C-	D+	D	D-	E

Letter Grade	A	A-	B+	B	B-	C+	C	C-	D+	D	D-	E	WF	I	NG	S-U
Grade Points	4.0	3.67	3.33	3.0	2.67	2.33	2.0	1.67	1.33	1.0	0.67	0.0	0.0	0.0	0.0	0.0

For greater detail on the meaning of letter grades and university policies related to them, see the Registrar's Grade Policy regulations at:
http://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx

Late Policy
Due dates are indicated in the calendar above. Any modifications to these dates will be announced by the instructor when assignments are given. A deduction of 10% will be made for each day that an assignment is late, with the first 10% being removed immediately after the due time.

Policy Related to Make-up Exams, Other Work, and Required Class Attendance
It is the responsibility of the student to access on-line lectures, readings, quizzes, and exams and to maintain satisfactory progress in the course. 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/ugrad/current/regulations/info/attendance.aspx

Computer or other hardware failures, except failure of the UF e-Learning system, will not excuse students for missing assignments. Any late submissions due to technical issues MUST be accompanied by the ticket number received from the Helpdesk when the problem was reported to them. The ticket number will document the time and date of the problem. You MUST e-mail your instructor within 24 hours of the technical difficulty if you wish to request consideration. For computer, software compatibility, or access problems call the HELP DESK phone number—352-392-HELP = 352- 392-4357 (option 2).

STUDENT EXPECTATIONS, ROLES, AND OPPORTUNITIES FOR INPUT

Expectations Regarding Course Behavior

You are expected to actively engage in the course throughout the semester. You must come to the online discussions (live or not) prepared by completing all out-of-class assignments. This preparation gives you the knowledge or practice needed to engage in higher levels of learning during the live discussion sessions. If you are not prepared, you may struggle to keep pace with the activities occurring in the course, and it is unlikely that you will reach the higher learning goals of the course. Your participation fosters a rich course experience for you and your peers that facilitates overall mastery of the course objectives.

In order to facilitate the creation of a functional learning community and out of respect for the instructor and the other students, it is expected that all cell phones be either set on silent mode or turned off, except when authorized by the instructor. Please mute your microphone when not speaking. Recording devices are strictly prohibited.

Netiquette Guide for Online Courses

It is important to recognize that the online classroom is in fact a classroom, and certain behaviors are expected when you communicate with both your peers and your instructors. All members of the class are expected to follow rules of common courtesy in all email messages, threaded discussions and chats. Failure to do so may result in loss of participation points and/or referral to the Dean of Students' Office. These guidelines for online behavior and interaction are known as netiquette.

Remember that your password is the only thing protecting you from pranks or more serious harm.

- Don't share your password with anyone .
- Change your password if you think someone else might know it.
- Always log out when you are finished using the system.

When communicating online, you should always:

- Treat your instructor and classmates with respect in email or any other communication.
- Use clear and concise language.
- Remember that all college level communication should have correct spelling and grammar (this includes discussion boards).
- Avoid slang terms such as "wassup?" and texting abbreviations such as "u" instead of "you."
- Use standard fonts such as Ariel, Calibri or Times new Roman and use a size 10 or 12 pt. font.
- Avoid using the caps lock feature AS IT CAN BE INTERPRETTED AS YELLING.
- Limit and possibly avoid the use of emoticons.
- Be cautious when using humor or sarcasm as tone is sometimes lost in an email or discussion post and your message might be taken seriously or sound offensive.
- Be careful with personal information (both yours and other's).
- Do not send confidential information via e-mail.

When you send an email to your instructor, teaching assistant, or classmates, you should:

- Use a descriptive subject line.
- Be brief.
- Avoid attachments unless you are sure your recipients can open them.
- Avoid HTML in favor of plain text.
- Sign your message with your name and return e-mail address.
- Think before you send the e-mail to more than one person. Does everyone really need to see your message?
- Be sure you REALLY want everyone to receive your response when you click, "reply all."

- Be sure that the message author intended for the information to be passed along before you click the "forward" button.

When posting on the Discussion Board in your online class, you should:

- Make posts that are on topic and within the scope of the course material.
- Take your posts seriously and review and edit your posts before sending.
- Be as brief as possible while still making a thorough comment.
- Always give proper credit when referencing or quoting another source.
- Be sure to read all messages in a thread before replying.
- Don't repeat someone else's post without adding something of your own to it.
- Avoid short, generic replies such as, "I agree." You should include why you agree or add to the previous point.
- Always be respectful of others' opinions even when they differ from your own.
- When you disagree with someone, you should express your differing opinion in a respectful, non-critical way.
- Do not make personal or insulting remarks.
- Be open-minded.

Opportunities for Input and Online Faculty Course Evaluation Process

Your comments are very valuable to the instructor. They will be used by the instructor to make specific improvements to the course (*e.g.*, assignments) and teaching style. The instructor will be providing opportunities throughout the semester for students to provide direct feedback on the course. However, students are encouraged to email the instructor at any time if they have concerns or comments to share with the instructor.

In addition, at approximately the mid-point of the semester, the School of Forest, Fisheries, and Geomatics Sciences might request anonymous feedback on student satisfaction on various aspects of this course. These surveys will be sent out through Canvas and are not required, but encouraged. This is not the UF Faculty Evaluation!

Finally, at the end of the semester, 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/.

Academic Integrity

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 academic misconduct or appropriate personnel. 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.

Please remember that cheating, lying, misrepresentation, or plagiarism in any form is unacceptable and inexcusable behavior. 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: http://www.dso.ufl.edu/sccr/process/student-conduct-honor-code. À

Inclusive Learning Environment
This course embraces the University of Florida's Non-Discrimination Policy, which reads,

> *The University shall actively promote equal opportunity policies and practices conforming to laws against discrimination. The University is committed to non-discrimination with respect to race, creed, color, religion, age, disability, sex, sexual orientation, gender identity and expression, marital status, national origin, political opinions or affiliations, genetic information and veteran status as protected under the Vietnam Era Veterans' Readjustment Assistance Act.*

If you have questions or concerns about your rights and responsibilities for inclusive learning environment, please see the instructor or refer to the Office of Multicultural & Diversity Affairs website: http://multicultural.ufl.edu.

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.

SUPPORT SERVICES

Accommodations 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 within the first week of class. The Dean of Students Office will provide documentation to the student who must then provide this documentation to the course instructor to receive accommodations. Please make sure you provide this letter to the instructor by the end of the second week of the course. The College is committed to providing reasonable accommodations to assist students in their coursework.

0001 Reid Hall, 352-392-8565, https://disability.ufl.edu/

Student Life, Wellness, and Counseling Help
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.

- The Counseling and Wellness Center (352-392-1575) offers a variety of support services such as psychological assessment and intervention and assistance for math and test anxiety. Visit their website for more information: http://www.counseling.ufl.edu. Online and in-person assistance is available.
- U Matter We Care website: http://www.umatter.ufl.edu/. If you are feeling overwhelmed or stressed, you can reach out for help through the U Matter We Care website, which is staffed by Dean of Students and Counseling Center personnel.
- The Student Health Care Center at Shands is a satellite clinic of the main Student Health Care Center located on Fletcher Drive on campus. Student Health at Shands offers a variety of clinical services. The clinic is located on the second floor of the Dental Tower in the Health Science Center. For more information, contact the clinic at 392-0627 or check out the website at: https://shcc.ufl.edu/
- Crisis intervention is always available 24/7 from the Alachua County Crisis Center (352-264-6789) http://www.alachuacounty.us/DEPTS/CSS/CRISISCENTER/Pages/CrisisCenter.aspx
- Career Connections Center http://career.ufl.edu/
- Other resources are available at http://www.distance.ufl.edu/getting-help for online students.

Do not wait until you reach a crisis to come in and talk with us. You are not alone, so do not be afraid to ask for assistance.

Student Complaint Process

The School of Forest, Fisheries, and Geomatics Sciences cares about your experience, and we will make every effort to address course concerns. We request that all of our online students complete a course satisfaction survey each semester, which is a time for you to voice your thoughts on how your course is being delivered.

If you have a more urgent concern, your first point of contact should be the SFFGS Academic Coordinator or the Graduate/Undergraduate Coordinator for the program offering the course. You may also submit a complaint directly to UF administration: http://www.distance.ufl.edu/student-complaint-process.

University of Florida
SUR 6934 (3 credits)
Marine Geomatics

Summer B 2021 Syllabus
Delivery Format: Online, asynchronous
Optional Live Meeting day: Thursday, 7:00 PM-8:15 PM
https://ufl.instructure.com/courses/428744

Instructor: Vincent Lecours, Ph.D.
Office: FAS Millhopper Facility, Room 12
Phone Number: (352) 273-3617
Email Address: vlecours@ufl.edu
Office Hours: Thur 3pm-5pm or by appt
Preferred Course Communications: email

Teaching Assistant: Michael Espriella
Office: FAS Millhopper Facility, Room 11
Phone Number: N/A
Email Address: michaelespriella@ufl.edu
Preferred Course Communications: email

Prerequisites
There are no prerequisites for this course.

PURPOSE AND OUTCOME

Course Overview
An introduction to the technologies, concepts, and methods required to acquire, analyze, and manage geographic data used in seafloor mapping and imaging. Background on the capabilities and limitations of different data collection systems will be provided, as well as for the other types of sensors necessary to collect accurate information. Topics will include marine positioning, underwater acoustics, sonars, hydrographic standards, and hydrographic survey design. A particular emphasis is given to multibeam echosounder systems. The course is aimed primarily at graduate students from the Geomatics program, but also at students from the Fisheries & Aquatic Sciences Program and the Department of Wildlife Ecology and Conservation that have an interest in the techniques used to map and image the seafloor.

Student Learning Objectives
At the end of this course, students will be able to:

1. *Explain* how sound propagates in water
2. *Describe* the use of ocean surveying and mapping instruments and data processing software
3. *Integrate* different sensors to build a proper ocean surveying system
4. *Select* the most appropriate suite of instruments and hydrographic standards for different purposes, including safe navigation
5. *Design* a hydrographic survey
6. *Interpret and analyze* written text

Instructional Methods
Course concepts will be introduced using real examples to demonstrate how marine geomatics is applied in the world. The course is entirely online, with asynchronous learning paired with synchronous discussion periods. This course has a lab component in which students will learn how to process bathymetric and backscatter data. The course provides opportunities for students to engage with other students and the instructor in various communication and interaction experiences.

DESCRIPTION OF COURSE CONTENT

Topical Outline/Course Schedule

This syllabus represents current plans and objectives for this course. As the semester progresses, changes may need to be made to accommodate timing, logistics, or enhance learning. Such changes, communicated clearly, are not unusual and should be expected.

Weeks	Dates	Topics
1	June 28th to July 4th	Course Introduction, Introduction to Remote Sensing for Ocean Mapping
2	July 5th to 11th	Instruments and Platforms for Ocean Mapping
3	July 12th to 18th	Multisensor Integration, Positioning
4	July 19th to July 25th	Survey Design, Hydrographic Standards
5	July 26th to August 1st	Data Processing, Overview of Software and Surveying Systems
6	August 2nd to 8th	Data Products, Management, and Interpretation

Course Materials and Technology

Because of its online nature, this course requires access to a computer or mobile device with a high-speed internet connection, a headset and/or microphone and speakers, and the latest version of a web browser. Canvas supports only the two most recent versions of any given browser (What browser am I using?). A webcam is suggested for the live discussions.

The course will use a variety of software, including open-source software that can be downloaded on any desktop computer and laptop.

Technical support is available through the UF Help Desk at:

- Learning-support@ufl.edu
- (352) 392-HELP - select option 2
- https://lss.at.ufl.edu/help.shtml

ACADEMIC REQUIREMENTS AND GRADING

Assignments and Exams

- Every week, students will be given a list of potential readings relevant to the weekly topics. Students will need to read the assigned documents and share discussion points on an online discussion forum. Students are also expected to interact with others in this forum. Students are expected to provide original and relevant contributions, and to contrast the readings with each other to achieve full marks. If more than one discussion is missed, each additional discussion missed will lead to a 7 points reduction in the point total. Discussions will be evaluated using a rubric.
- In lieu of a comprehensive final exam, six quizzes will be given to assess the students' understanding of each week's topics. The five highest grades of the six quizzes will be counted as part of the final grade.
- This course has a lab component during which the students will apply theoretical concepts in a practical GIS environment using real data. Six lab assignments will be graded, and the five highest grades of those assignments will count towards the final grade.

- All assignments will be submitted on the course website. Presentation of the assignments must be neat, logical, organized, and appropriately referenced. Poor presentation will be penalized up to a maximum of 20% of the value of assignments and exams.

Grading

Requirement	% of final grade
Online Discussion based on Readings (6x)	7% each (35%)
Quizzes (5 best of 6, all 6 must be taken)	3% each (15%)
Labs (5 best of 6, all 6 must be completed)	10% each (50%)

Points earned	93-100	90-92.99	87-89.99	83-86.99	80-82.99	77-79.99	73-76.99	70-72.99	67-69.99	63-66.99	60-62.99	Below 60
Letter Grade	A	A-	B+	B	B-	C+	C	C-	D+	D	D-	E

Letter Grade	A	A-	B+	B	B-	C+	C	C-	D+	D	D-	E	WF	I	NG	S-U
Grade Points	4.0	3.67	3.33	3.0	2.67	2.33	2.0	1.67	1.33	1.0	0.67	0.0	0.0	0.0	0.0	0.0

For greater detail on the meaning of letter grades and university policies related to them, see the Registrar's Grade Policy regulations at: https://gradcatalog.ufl.edu/graduate/regulations/

Late Policy

Due dates are indicated in the calendar above. Any modifications to these dates will be announced by the instructor when assignments are given. A deduction of 10% will be made for each day that an assignment is late, with the first 10% being removed immediately after the due time.

Policy Related to Make-up Exams, Other Work, and Required Class Attendance

It is the responsibility of the student to access on-line lectures, readings, quizzes, and exams and to maintain satisfactory progress in the course. Requirements for class attendance and make-up exams, assignments and other work are consistent with university policies that can be found at: https://gradcatalog.ufl.edu/graduate/regulations/

Computer or other hardware failures, except failure of the UF e-Learning system, will not excuse students for missing assignments. Any late submissions due to technical issues MUST be accompanied by the ticket number received from the Helpdesk when the problem was reported to them. The ticket number will document the time and date of the problem. You MUST e-mail your instructor within 24 hours of the technical difficulty if you wish to request consideration. For computer, software compatibility, or access problems call the HELP DESK phone number—352-392-HELP = 352- 392-4357 (option 2).

STUDENT EXPECTATIONS, ROLES, AND OPPORTUNITIES FOR INPUT

Expectations Regarding Course Behavior

You are expected to actively engage in the course throughout the semester. You must come to the online discussions (live or not) prepared by completing all out-of-class assignments. This preparation gives you the knowledge or practice needed to engage in higher levels of learning during the live discussion sessions. If you are not prepared, you may struggle to keep pace with the activities occurring in the course, and it is unlikely that you will reach the higher learning goals of the course. Your participation fosters a rich course experience for you and your peers that facilitates overall mastery of the course objectives.

In order to facilitate the creation of a functional learning community and out of respect for the instructor and the other students, it is expected that all cell phones be either set on silent mode or turned off, except when authorized by the instructor. Please mute your microphone when not speaking. Recording devices are strictly prohibited.

Netiquette Guide for Online Courses

It is important to recognize that the online classroom is in fact a classroom, and certain behaviors are expected when you communicate with both your peers and your instructors. All members of the class are expected to follow rules of common courtesy in all email messages, threaded discussions and chats. Failure to do so may result in loss of participation points and/or referral to the Dean of Students' Office. These guidelines for online behavior and interaction are known as netiquette.

Remember that your password is the only thing protecting you from pranks or more serious harm.

- Don't share your password with anyone.
- Change your password if you think someone else might know it.
- Always log out when you are finished using the system.

When communicating online, you should always:

- Treat your instructor and classmates with respect in email or any other communication.
- Use clear and concise language.
- Remember that all college level communication should have correct spelling and grammar (this includes discussion boards).
- Avoid slang terms such as "wassup?" and texting abbreviations such as "u" instead of "you."
- Use standard fonts such as Ariel, Calibri or Times new Roman and use a size 10 or 12 pt. font.
- Avoid using the caps lock feature AS IT CAN BE INTERPRETTED AS YELLING.
- Limit and possibly avoid the use of emoticons.
- Be cautious when using humor or sarcasm as tone is sometimes lost in an email or discussion post and your message might be taken seriously or sound offensive.
- Be careful with personal information (both yours and other's).
- Do not send confidential information via e-mail.

When you send an email to your instructor, teaching assistant, or classmates, you should:

- Use a descriptive subject line.
- Be brief.
- Avoid attachments unless you are sure your recipients can open them.
- Avoid HTML in favor of plain text.
- Sign your message with your name and return e-mail address.

- Think before you send the e-mail to more than one person. Does everyone really need to see your message?
- Be sure you REALLY want everyone to receive your response when you click, "reply all."
- Be sure that the message author intended for the information to be passed along before you click the "forward" button.

When posting on the Discussion Board in your online class, you should:

- Make posts that are on topic and within the scope of the course material.
- Take your posts seriously and review and edit your posts before sending.
- Be as brief as possible while still making a thorough comment.
- Always give proper credit when referencing or quoting another source.
- Be sure to read all messages in a thread before replying.
- Don't repeat someone else's post without adding something of your own to it.
- Avoid short, generic replies such as, "I agree." You should include why you agree or add to the previous point.
- Always be respectful of others' opinions even when they differ from your own.
- When you disagree with someone, you should express your differing opinion in a respectful, non-critical way.
- Do not make personal or insulting remarks.
- Be open-minded.

Opportunities for Input and Online Faculty Course Evaluation Process

Your comments are very valuable to the instructor. They will be used by the instructor to make specific improvements to the course (*e.g.*, assignments) and teaching style. The instructor will be providing opportunities throughout the semester for students to provide direct feedback on the course. However, students are encouraged to email the instructor at any time if they have concerns or comments to share with the instructor.

In addition, at approximately the mid-point of the semester, the School of Forest, Fisheries, and Geomatics Sciences might request anonymous feedback on student satisfaction on various aspects of this course. These surveys will be sent out through Canvas and are not required but encouraged. This is not the UF Faculty Evaluation!

Finally, at the end of the semester, 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/.

Academic Integrity

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 academic misconduct or appropriate personnel. 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.

Please remember that cheating, lying, misrepresentation, or plagiarism in any form is unacceptable and inexcusable behavior. 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: http://www.dso.ufl.edu/sccr/process/student-conduct-honor-code. À

Inclusive Learning Environment
This course embraces the University of Florida's Non-Discrimination Policy, which reads,

> *The University shall actively promote equal opportunity policies and practices conforming to laws against discrimination. The University is committed to non-discrimination with respect to race, creed, color, religion, age, disability, sex, sexual orientation, gender identity and expression, marital status, national origin, political opinions or affiliations, genetic information and veteran status as protected under the Vietnam Era Veterans' Readjustment Assistance Act.*

If you have questions or concerns about your rights and responsibilities for inclusive learning environment, please see the instructor or refer to the Office of Multicultural & Diversity Affairs website: http://multicultural.ufl.edu.

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.

SUPPORT SERVICES

Accommodations 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 within the first week of class. The Dean of Students Office will provide documentation to the student who must then provide this documentation to the course instructor to receive accommodations. Please make sure you provide this letter to the instructor by the end of the second week of the course. The College is committed to providing reasonable accommodations to assist students in their coursework.

0001 Reid Hall, 352-392-8565, https://disability.ufl.edu/

Student Life, Wellness, and Counseling Help
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.

- The Counseling and Wellness Center (352-392-1575) offers a variety of support services such as psychological assessment and intervention and assistance for math and test anxiety. Visit their website for more information: http://www.counseling.ufl.edu. Online and in-person assistance is available.
- U Matter We Care website: http://www.umatter.ufl.edu/. If you are feeling overwhelmed or stressed, you can reach out for help through the U Matter We Care website, which is staffed by Dean of Students and Counseling Center personnel.
- The Student Health Care Center at Shands is a satellite clinic of the main Student Health Care Center located on Fletcher Drive on campus. Student Health at Shands offers a variety of clinical services. The clinic is located on the second floor of the Dental Tower in the Health Science Center. For more information, contact the clinic at 392-0627 or check out the website at: https://shcc.ufl.edu/
- Crisis intervention is always available 24/7 from the Alachua County Crisis Center (352-264-6789) http://www.alachuacounty.us/DEPTS/CSS/CRISISCENTER/Pages/CrisisCenter.aspx
- Career Connections Center http://career.ufl.edu/
- Other resources are available at http://www.distance.ufl.edu/getting-help for online students.

Do not wait until you reach a crisis to come in and talk with us. You are not alone, so do not be afraid to ask for assistance.

Student Complaint Process

The School of Forest, Fisheries, and Geomatics Sciences cares about your experience, and we will make every effort to address course concerns. We request that all of our online students complete a course satisfaction survey each semester, which is a time for you to voice your thoughts on how your course is being delivered.

If you have a more urgent concern, your first point of contact should be the SFFGS Academic Coordinator or the Graduate/Undergraduate Coordinator for the program offering the course. You may also submit a complaint directly to UF administration: http://www.distance.ufl.edu/student-complaint-process.

Cover Sheet: Request 17029

Diverse Perspectives in Conservation

Info

Process	Course|New|Ugrad/Pro
Status	Pending at CALS - College of Agricultural and Life Sciences
Submitter	Nia Morales n.morales@ufl.edu
Created	2/2/2022 1:20:47 PM
Updated	2/2/2022 1:50:19 PM
Description of request	This request is to create a new WIS course- Diverse Perspectives in Conservation. This course will be a 4000 level undergraduate course.

Actions

Step	Status	Group	User	Comment	Updated
Department	Approved	CALS - Wildlife Ecology and Conservation 60470000	Eric Hellgren	Great new course.	2/2/2022
CALS CC Checklist.pdf WIS4934_2022 syllabus.docx					2/2/2022 2/2/2022
College	Pending	CALS - College of Agricultural and Life Sciences			2/2/2022
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					

Original file: Cover sheet.pdf

Course|New for request 17029

Info

Request: Diverse Perspectives in Conservation
Description of request: This request is to create a new WIS course- Diverse Perspectives in Conservation. This course will be a 4000 level undergraduate course.
Submitter: Nia Morales n.morales@ufl.edu
Created: 2/2/2022 12:55:03 PM
Form version: 1

Responses

Recommended Prefix WIS
Course Level 4

Course Number XXX
Lab Code None
Category of Instruction Advanced
Course Title Diverse Perspectives in Conservation
Transcript Title Diverse Perspectives in Conser
Degree Type Baccalaureate

Delivery Method(s) On-Campus
Co-Listing No

Effective Term Spring
Effective Year 2022
Rotating Topic? No
Repeatable Credit? No

Amount of Credit 3

S/U Only? No
Contact Type Regularly Scheduled
Course Type Lecture
Weekly Contact Hours 3
Course Description As the population of the United States becomes increasingly diverse, the integration and participation of diverse communities is essential with respect to successful management and conservation of natural resources. This course will examine current and historical factors that influence the interaction of marginalized communities such as indigenous and communities of color with the natural environment, including natural resource management decision-making structures.
Prerequisites WIS2xxx or equivalent or permission of instructor
Co-requisites n/a
Rationale and Placement in Curriculum There are no other courses in the wildlife department that focus on the issues covered in this class. The course draws upon multiple social science disciplines to examine cultural, racial, and ethnic differences associated with environmental worldviews, participation and engagement in the outdoors and conservation, and the valuation and use of natural resources. We discuss other relevant concepts to conservation, such as environmental and social justice and traditional ecological knowledge. This course will count towards the human dimensions requirements for graduation in the wildlife ecology and conservation department and will offer students unique perspectives on diversity, equity, and inclusion in our discipline.
Course Objectives • Critically examine the conservation history of the United States and determine the worldview from which it stemmed as well as identify the groups whose voices have been marginalized or left out
• Assess the value of incorporating diverse perspectives or voices in conservation
• Be able to articulate the barriers and opportunities to diversity, equity, and inclusion in conservation

Original file: Submitted form version 1.pdf

- Develop skills to work with diverse stakeholders in conservation issues
- Reflect on their own identities to better understand the privilege and/or marginalization that they experience and its implications for how they engage in scientific and conservation spaces
- Develop competencies in recognizing and challenging social hierarchies such as racial and gender bias and discrimination

Course Textbook(s) and/or Other Assigned Reading Schelhas, J. (2002). Race, ethnicity, and natural resources in the United States: A review. Nat. Resources J., 43. http://heinonlinebackup.com/hol-cgi-bin/get_pdf.cgi?handle=hein.journals/narj42&section=42
Scott, D. (2014). Race, ethnicity, and leisure services: Can we hope to escape the past? in Race, Ethnicity, and Leisure: Perspectives on research, theory, and practice. Stodolska, M, Shinew, K., Floyd, M., and Walker, G. eds. Human Kinetics Library Core Collection, Champaign IL. ISBN-978-0-7360-9452-8
Haynes, N., Jacobson, S. K., & Wald, D. M. (2015). A life-cycle analysis of minority underrepresentation in natural resource fields. Wildlife Society Bulletin, 39(2), 228–238. https://doi.org/10.1002/wsb.525
Morales, N., Bisbee O'Connell, K., McNulty, S., Berkowitz, A., Bowser, G., Giamellaro, M., & Miriti, M. N. (2020). Promoting inclusion in ecological field experiences: Examining and overcoming barriers to a professional rite of passage. The Bulletin of the Ecological Society of America, 101(4), 1–10. https://doi.org/10.1002/bes2.1742
Finney, C. 2014. Black Faces, White Spaces: Reimagining the relationship of African Americans to the Great Outdoors. University of North Carolina Press, Chapel Hill NC. ISBN-2014000594
Lowe, B., Jacobson, S.K., Anold, H., Mbonde, A., and Lorenzen, K. (2019). The neglected role of religion in fisheries management. Fish and Fisheries. DOI: 10.1111/faf.12388
Weekly Schedule of Topics Week 1: Course Introduction
Week 2: Worldview, Values, and Attitudes in Conservation Part I
Week 3: Worldview, Values, and Attitudes in Conservation Part II
Week 4: History of Conservation in the US
Week 5: Colonialism and International Conservation
Week 6: Diversity, Equity, and Inclusion in the Outdoors Part I
Week 7: Diversity, Equity, and Inclusion in the Outdoors Part II
Week 8: Environmental Racism & Environmental Justice
Week 9: Who is trusted in science?
Week 10: Traditional Ecological Knowledge
Week 11: Indigenous issues in Conservation
Week 12: Engaging with Diverse Stakeholders for Conservation Management
Week 13: Collaborative/Participatory Methods for Inclusive Conservation
Week 14: Addressing Diversity, Equity, and Inclusion in the Academic to Career Pipeline
Week 15: Where do We Go from Here?

Grading Scheme Reflection posts 100pts
Term Paper Part 1 10 pts
Bias in Publishing 40pts
Role Play Participation (Advancing Racial Equity in Minneapolis Parks) 50pts
Term Paper Part II 100pts
Overall Class Participation

30 pts

Instructor(s) Nia Morales
Attendance & Make-up Yes
Accomodations Yes
UF Grading Policies for assigning Grade Points Yes
Course Evaluation Policy Yes

Original file: Submitted form version 1.pdf

CALS Curriculum Committee
Submission Checklist

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.

NM 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/.

NM 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/faculty-staff/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.

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

-- 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.

NM The course description on the UCC form and in the syllabus must match. Any other information you wish to include needs to be under a different heading such as background or additional information.

NM 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-course-objectives.pdf). Do not use the words demonstrate or understand when listing learning objectives.

Original file: CALS CC Checklist.pdf

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

--- 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.

NM Outside consultations are required if there is a possibility of the proposed course covering 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/.

NM 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.

NM 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.

NM 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 is included in the CALS Syllabus Statements. For the approval process the college suggests a less is more view when it comes to this policy.

NM 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. Joel Brendemuhl (brendj@ufl.edu) for further instruction)

Original file: CALS CC Checklist.pdf

WIS4934: Diverse Perspectives in Conservation

3 credits

I. Course Information

Spring 2022
Meeting Day/Time: Tuesday: Period 7-8 & Thursday Period 7
Location: MCCA 3194

Instructor

Nia Morales, Assistant Professor of Human Dimensions
Email: n.morales@ufl.edu
Office location: 316 Newins-Ziegler Hall
Office hours: Tuesday 4-5pm, Thursday 3-4pm, or by appointment
Phone: (352) 846-0630

Keara Clancy (Teaching Assistant)
Email: kearaclancy@ufl.edu

Course Description

As the population of the United States becomes increasingly diverse, the integration and participation of diverse communities is essential with respect to successful management and conservation of natural resources. This course will examine current and historical factors that influence the interaction of marginalized communities such as indigenous and communities of color with the natural environment, including natural resource management decision-making structures.

Learning Objectives

In this course students will:

- Critically examine the conservation history of the United States and determine the worldview from which it stemmed as well as identify the groups whose voices have been marginalized or left out
- Assess the value of incorporating diverse perspectives or voices in conservation
- Be able to articulate the barriers and opportunities to diversity, equity, and inclusion in conservation

- Develop skills to work with diverse stakeholders in conservation issues
- Reflect on their own identities to better understand the privilege and/or marginalization that they experience and its implications for how they engage in scientific and conservation spaces
- Develop competencies in recognizing and challenging social hierarchies such as racial and gender bias and discrimination

Suggested Textbook

Finney, C. 2014. Black Faces, White Spaces: Reimagining the relationship of African Americans to the Great Outdoors. University of North Carolina Press, Chapel Hill NC.

ISBN-2014000594

II. Coursework & Schedule

1. List of Graded Work

Assignment	Description	Requirements	Due Date	Points
Reflection posts	10 reflection post to prompts on Canvas (2-3 paragraph)	At least 2 paragraphs submitted to Canvas	See weekly schedule and Canvas	100
Term Paper Part 1	Choose topic for term paper. Write 1 page description of the issue and why you chose it. Topic must be approved by instructor		2/1	10
Bias in Publishing	Choose an international peer-reviewed scientific journal and analyze the authorship of its most recent papers. Write a summary and reflection.	See Canvas for rubric	3/22	40
Role Play Participation	Advancing Racial Equity in Minneapolis Parks	See Canvas for rubric	4/12	50
Term Paper Part II	5-7 page paper on a topic of your choosing	See Canvas for rubric	4/20	100
Overall Class Participation	See rubric on pg. 6			30
			Total	330

2. Weekly Course Schedule

Date	Topic	Assigned Work Due
Week 1: Course Introduction (1/6)		
Readings	Look over syllabus	
Activities	Student introductions, group norms & expectations	
Week 2: Worldview, Values, and Attitudes in Conservation Part I (1/11 & 1/13)		
Readings	NPR Interview- Isabel Wilkerson (for Tuesday) Schelhas, 2002. P 741- 750 (ending at outdoor recreation) *** Do not read until AFTER Tuesday's class***	
Activities		
Week 3: Worldview, Values, and Attitudes in Conservation Part II (1/18 & 1/20)		
Readings	Lowe 2019	Reflection Essay #1 due 1/18
Activities	Guest Lecture: Dr. Ben Lowe	
Week 4: History of Conservation in the US (1/25 & 1/27)		
Readings	Black Faces, White Spaces Chapter 2 Schelhas, 2002. P 728- top of 736 (ending at Env Racism & Justice) & 739- top of 741 (ending at Culture and Resource Use). Outside Magazine Article- Yosemite Valley Finally Reckons with its Discriminatory Past	Reflection Essay #2 due 1/25
Activities	Lecture & Discussion *Bring a laptop/tablet to class if possible*	
Week 5: Colonialism and International Conservation (2/1 & 2/3)		
Readings	TBD	Term Paper Pt. 1 due 2/1 Reflection Essay #3 due 2/1
Activities	Lecture & Discussion	
Week 6: Diversity, Equity, and Inclusion in the Outdoors Part I (2/8 & 2/10)		
Readings	Scott, D. 2014.	Reflection Essay #4 due 2/8
Activities		
Week 7: Diversity, Equity, and Inclusion in the Outdoors Part II (2/15 & 2/17)		
Readings	See Canvas for readings on gender and accessibility	
Activities	Lecture & Discussion	
Week 8: Environmental Racism & Environmental Justice (2/22 & 2/24)		
Readings	Black Faces, White Spaces Chapter 5	Pt. 1 resubmissions due 2/22 Reflection Essay #5 due 2/22
Activities	Guest Lecture: Jan-Michael Archer	

Week 9: Who is trusted in science? (3/1 & 3/3)		
Readings	The Hidden Bias of Science's Universal Language English is the Language of Science: That Isn't Always a Good Thing (see Canvas for links to articles)	Reflection Essay #6 due 3/1
Activities	Guest Lecture: Dr. Emilio Bruna	
Week 10: Traditional Ecological Knowledge (3/15 & 3/17)		
Readings	None	Reflection Essay #7 due 3/15
Activities	Documentary- *Tending the Wild: Native American Knowledge and the Management of California's Natural Resources* & Discussion	
Week 11: Indigenous issues in Conservation (3/22 & 3/24)		
Readings	TBD	Bias in Publishing assignment due 3/22
Activities	Guest lecture: Dr. Wendy Smythe	
Week 12: Engaging with Diverse Stakeholders for Conservation Management (3/29 & 3/31)		
Readings	TBD	Reflection Essay #8 due 3/29
Activities	Guest speaker Dr. Cecilia Suarez	
Week 13: Collaborative/Participatory Methods for Inclusive Conservation (4/5 & 4/7)		
Readings	Background material for simulation	Reflection Essay #9 due 4/5
Activities	Role-play simulation to experience collaborative governance	
Week 14: Addressing Diversity, Equity, and Inclusion in the Academic to Career Pipeline (4/12 & 4/14)		
Readings	Haynes, N., S.K. Jacobson, and D.Wald. 2015. Morales, N., K. Bisbee O'Connell, S. McNulty, A. Berkowitz, G. Bowser, M. Giamellaro, and M. N. Miriti. 2020.	Reflection Essay #10 due 4/12 Role Play Peer Review and Situation Matrix due 4/12
Activities	Lecture & Discussion	
Week 15: Where do We Go from Here? (4/19)		
Readings	TBD	Term Paper Pt 2 due 4/19
Activities	Lecture & Discussion	

III. Grading

3. Statement on Attendance and Participation

Attendance and Participation:

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/UGRD/academic-regulations/attendance-policies/

Attendance: will be taken daily and recorded. You are allowed four "personal days" for the semester, after which each absence that does not meet university criteria for "excused" will result in a two-point deduction from your final grade.

Participation: Consistent informed, thoughtful, and considerate class participation is expected and will be evaluated using the rubric below.

NOTE: If you have personal issues that prohibit you from joining freely in class discussion, e.g., shyness, language barriers, etc., see the instructor as soon as possible to discuss alternative modes of participation.

Participation Grading Rubric:

Informed: Shows evidence of having done the assigned work.			
Thoughtful: Shows evidence of having understood and considered issues raised.			
Considerate: Takes the perspective others into account.			
Present: Shows evidence of regular attendance. (Reminder: you may have up to 4 excused absences)			
	High Quality	**Average**	**Needs Improvement**
Total Points	**15**	**10**	**5**

4. Grading Scale

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

A	94.0 – 100% of possible points		C	74.0 – 76.9%
A-	90.0 – 93.9%		C-	70.0– 73.9%
B+	87.0 – 89.9%		D+	67.0 – 69.9%
B	84.0 – 86.9%		D	64.0 – 66.9%
B-	80.0 – 83.9%		D-	60.0 – 63.9%
C+	77.0 – 79.9%		E	<60

IV. Required Policies

5. 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.

6. 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/.

7. 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.

8. Campus Resources

Health and Wellness

U Matter, We Care:

If you or a friend is in distress, please contact umatter@ufl.edu or 352 392-1575 so that a team member can reach out to the student.

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

Sexual Assault Recovery Services (SARS)

Student Health Care Center, 392-1161.

University Police Department at 392-1111 (or 9-1-1 for emergencies), or police.ufl.edu.

Academic Resources

E-learning technical support, 352-392-4357 (select option 2) or e-mail to Learning-support@ufl.edu.

Career Resource Center, Reitz Union, 392-1601. Career assistance and counseling.

Library Support, Various ways to receive assistance with respect to using the libraries or finding resources.

Teaching Center, Broward Hall, 392-2010 or 392-6420. General study skills and tutoring.

Writing Studio, 302 Tigert Hall, 846-1138. Help brainstorming, formatting, and writing papers.

Student Complaints

Residential Course:

https://www.dso.ufl.edu/documents/UF_Complaints_policy.pdf

Online Course:

http://www.distance.ufl.edu/student-complaint-proces

9. 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.

10. COVID Response Statements

We will have face-to-face instructional sessions to accomplish the student learning objectives of this course. In response to COVID-19, the following policies and requirements are in place to maintain your learning environment and to enhance the safety of our in-classroom interactions.

- You are required to wear approved face coverings at all times during class and within buildings. Following and enforcing these policies and requirements are all of our responsibility. Failure to do so will lead to a report to the Office of Student Conduct and Conflict Resolution.
- This course has been assigned a physical classroom with enough capacity to maintain physical distancing (6 feet between individuals) requirements. Please utilize designated seats and maintain appropriate spacing between students. Please do not move desks or stations.
- Sanitizing supplies are available in the classroom if you wish to wipe down your desks prior to sitting down and at the end of the class.
- Follow your instructor's guidance on how to enter and exit the classroom. Practice physical distancing to the extent possible when entering and exiting the classroom.

- If you are experiencing COVID-19 symptoms (Click here for guidance from the CDC on symptoms of coronavirus), please use the UF Health screening system and follow the instructions on whether you are able to attend class. Click here for UF Health guidance on what to do if you have been exposed to or are experiencing Covid-19 symptoms.
- Course materials will be provided to you with an excused absence, and you will be given a reasonable amount of time to make up work. Find more information in the university attendance policies.

Cover Sheet: Request 17050

Prerequisite change for FOS4427C

Info

Process	Course|Modify|Ugrad/Pro
Status	Pending at CALS - College of Agricultural and Life Sciences
Submitter	Laura Acosta ljacosta@ufl.edu
Created	2/9/2022 8:54:22 AM
Updated	2/15/2022 1:19:16 PM
Description of request	Request to add recently developed course as prerequisite and eliminate options that are no longer relevant.

Actions

Step	Status	Group	User	Comment	Updated
Department	Approved	CALS - Food Science and Human Nutrition 60150000	Susan Percival		2/9/2022
No document changes					
College	Pending	CALS - College of Agricultural and Life Sciences			2/9/2022
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					

Original file: Cover sheet.pdf

Course|Modify for request 17050

Info

Request: Prerequisite change for FOS4427C
Description of request: Request to add recently developed course as prerequisite and eliminate options that are no longer relevant.
Submitter: Laura Acosta ljacosta@ufl.edu
Created: 2/9/2022 8:38:02 AM
Form version: 1

Responses

Current Prefix FOS
Course Level 4
Number 427
Lab Code C
Course Title Principles of Food Processing
Effective Term Earliest Available
Effective Year Earliest Available
Requested Action Other (selecting this option opens additional form fields below)
Change Course Prefix? No

Change Course Level? No

Change Course Number? No

Change Lab Code? No

Change Course Title? No

Change Transcript Title? No

Change Credit Hours? No

Change Variable Credit? No

Change S/U Only? No

Change Contact Type? No

Course Type Lecture

Change Rotating Topic Designation? No

Change Repeatable Credit? No

Change Course Description? No

Original file: Submitted form version 1.pdf

Change Prerequisites? Yes
Current Prerequisites AOM4062 or FOS4222 or FOS4311
Proposed Prerequisites FOS4410C
Change Co-requisites? No

Rationale (Per Instructor Dr. MacIntosh) FOS4427C has always included aspects of FOS4410C (Formerly AOM4062), however, the course has evolved to rely on these concepts more than previous iterations. It is no longer reasonable to have students attempt the course without having a foundation in the required concepts. While the former prerequisites (FOS4222 or FOS4311) provide context to the information being conveyed, they are not relied upon and are therefore not required as prerequisites.

Original file: Submitted form version 1.pdf

CALS Curriculum Committee
Submission Checklist

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/faculty-staff/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.

X 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.

X The course description on the UCC form and in the syllabus must match. Any other information you wish to include needs to be under a different heading such as background or additional 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-course-objectives.pdf). Do not use the words demonstrate or understand when listing learning objectives.

Original file: CALS CC Checklist - FOS4427C.pdf

__x__ 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 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.

__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 is 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. Joel Brendemuhl (brendj@ufl.edu) for further instruction)

Original file: CALS CC Checklist - FOS4427C.pdf

FOS 4427C Principles of Food Processing (4 credits)
Syllabus

Lecture: M W F 9:35-10:25AM Location MAEB0238
Laboratory A: F 12:50-3:50 PM Food Science Pilot Plant/Weil Hall
Laboratory B: F 3:00-6:00 PM Food Science Pilot Plant/Weil Hall

Instructors:	Dr. Andrew MacIntosh	**Phone**:	352-294-3594
Office:	AFPP (Bldg 120) Room 126	**E-mail**:	andrewmacintosh@ufl.edu

Office Hours: Thurs (14:00-15:00) These may be adjusted during the first week of class as to not conflict with the FS student schedule.

Instructors:	Dr. Katherine Thompson-Witrick	**Phone**:	352 294 3908
Office:	AFPL (Bldg 461) Room 214	**E-mail**:	kthompsonwitrick@ufl.edu

Office Hours: Thurs (10:00 – 11:00) These may be adjusted during the first week of class as to not conflict with the FS student schedule.

Course Description: Principles of processing foods: cooling, freezing, heating, dehydrating, concentrating, irradiating, fermenting and the use of chemicals

Prerequisites: FOS4410C

Required Textbook: Singh, R.P. and D.R. Heldman. 2013. Introduction to Food Engineering. 4th edition. Academic Press. Note: Supplemental notes and handouts will be distributed to class via Canvas and/or email.

Week 1	Non Thermal Intro & Hurdle
Week 2	653-658 Water Activity
Week 3	Modeling
Week 4	Evaporation 543-545, 548, 551,
Week 5	Distillation
Week 6	Fermentation bacteria & pH
Week 7	68 Brewing & CIP
Week 8	Exam I
Week 9	754-766Packaging and MAP
Week 10	Preservatives
Week 11	571-584 Psychrometrics
Week 12	663-670 Air Dry & Vapor Cycle
Week 13	455-474 Refrigeration and Freezing
Week 14	501-530 Plank and Ice Cream
Week 15	Exam II

Course Outcome*:*

1. Students will be able to apply the concepts of food engineering to food processing systems to compare methods and evaluate safety.
2. Students will test food processing theories during laboratories.
3. Students will apply food processing theories to scenarios and quantify parameters.
4. Students will analyze food processing problems and determine optimal solutions.

Original file: FOS-4427-PrinFoodProcess--MacIntosh - SYLLABUS WITH PROPOSED CHANGE.pdf

***Learning Activities**:* These include classroom lectures, laboratory sessions and reports (with application based problems), group discussions, guest lectures on select topics (as available) and a term project with presentation.

Assessment Tools: Written exam(s), laboratory reports, and performance in term project/presentation will be used to assess students' learning outcomes. In addition, observations during classroom discussion and reflections during laboratory sessions will also be conducted to determine success of the learning outcomes.

Grading Policy:

			A: 90 – 100
Lab reports (nominally 6)	36%		A-: 87-89.99
Tutorial (nominally 6)	18%		B+: 85 – 86.99
Exam I	20%		B: 80 - 84.99
Exam II	20%		C+: 75 - 79.99
Project	6%		C: 70 - 74.99
Total	100%		D+: 65 - 69.99
			D: 60 - 64.99
			E: Below 60

- ***Grades and Grade Points:*** For information on current UF Policies for assigning grade points see: https://catalog.ufl.edu/UGRD/academic-regulations/grades-grading-policies/

Lab Reports: Laboratory reports are due one week from the date of the laboratory. A 20% penalty will be assigned for late assignments or reports turned in within 3 days after the due date. No lab report will be accepted after 3 days past the due date. Reports should be started early so that any questions may be asked well in advance of the due date (ideally during office hours). It is the student's responsibility to ask any questions about the report before the last minute.

Lab reports are typically allowed to be completed in groups assigned at the beginning of term. Group work allows student to poll knowledge and skills, and the ability to compromise/communicate is invaluable in industry. However, as the consequences of poor involvements are very different in industry, if a student for any reason does not wish to work as part of a group, they may complete the report individually. A group may NOT expel a member, but all members can choose to work individually. This must be clearly communicated to the other group members/TA at least three days before the due date.

Term Project: All students in this course are required to complete a term project covering a topic related to the class content. Each individual graduate student will create an oral presentation outlining an improvement proposal for one of the laboratories. This will be presented at the end of the term.

Attendance and Make-Up Work

Requirements for class and laboratory attendance and make-up exams, assignments, and other work are consistent with university policies that can be found at:
https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx.

Other Course Information:

Participation: Students will not be assigned a grade based on their attendance, however, preparedness for the laboratory is essential and students who have not reviewed the laboratory manual will not be permitted to participate in the laboratory.

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

Original file: FOS-4427-PrinFoodProcess--MacIntosh - SYLLABUS WITH PROPOSED CHANGE.pdf

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, **www.dso.ufl.edu/drc/**

Academic Honesty: 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 academic misconduct to appropriate personnel. 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: http://www.dso.ufl.edu/sccr/process/student-conduct-honor-code

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.

Student Complaints:
Residential Course: https://sccr.dso.ufl.edu/policies/student-honor-code-studentconduct-code/.

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.

University Counseling & Wellness Center, 3190 Radio Road, 352-392-1575,
www.counseling.ufl.edu
Counseling Services
Groups and Workshops
Outreach and Consultation
Self-Help Library
Wellness Coaching

U Matter We Care, www.umatter.ufl.edu/
• Career Connections Center, First Floor JWRU, 392-1601, https://career.ufl.edu/.
• Student Success Initiative, http://studentsuccess.ufl.edu.

Approximate Class Schedule Summary (Subject to Change):

Weekly Topic		Monday	Wednesday	Friday	Friday Demo
Intro	03-Jan		Intro into processing -	Hurdle revisit	None
Aw migration and model	10-Jan	Aw as spoilage prevention	aw migration	Coatings	Aw, MC and isotherm
Aw control	17-Jan		aw measurement or regression	aw comp recipe & model	Steam Flaking
Water removal	24-Jan	extraction/concentration Brix ex:	Membranes & filtration	Evaporation	Evaporation
Vapor pressure	31-Jan	Vapor pressure	Industrial Evaporators examples	Distillation	Evaporation
Fermentation and pH	07-Feb	Control pH of food (acids)	fermentation (non yeast) & pH	micro growth model (eqn)	Fermentation
Brewing & CIP	14-Feb	Brewing (Process) overview	Yeast and Filtration (remove organis	CIP setups and chemical cleaning	Fermentation
ExamIII	21-Feb	Probiotics/Competitor organisms	Exam Prep	Previous Exam Review	
MAP	28-Feb	Food Packaging	Exam Return	Modified Atmosphere Packaging	Package Tutorial
Spring Break (woo)	07-Mar				
Preservatives	14-Mar	Preservatives when/dosing	Food preservatives (negatives)	Carbonation	Gator Bubbly
Air dry calcs	21-Mar	Dry 1	Dry 2	Dry 3	Dry
Air dry examples	28-Mar	Dry Examples	freeze/Dry	Mechanical Refrigeration	Dry
Freezing theory	04-Apr	Chilling food (refrigeration)	freeze point depression	Glass transition	Freeze Turorial
Model and example	11-Apr	freeze food	thawing food	ice cream (FP)	Freeze Lab
EXAM IV	18-Apr	Exam Prep	Previous Exam Review		

Materials and Supplies Fees: There is a $20 supplies fee, and a $20 equipment fee to support the running and maintenance of the laboratory.

Online Course Evaluation Process:

Student assessment of instruction is an important part of efforts to improve teaching and learning. At the end of the semester, students are expected to provide feedback on the quality of instruction in this course using a standard set of university and college criteria. 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/.

Class Recordings

Our class sessions will 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 in class and/or with their camera engaged or utilize a profile image are agreeing to have their video/audio 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/or 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.

COVID Addendums:

We will continue face-to-face instructional sessions to accomplish the student learning objectives of this course (subject to change at any time). In response to COVID-19, the following policies and requirements are in place to maintain your learning environment and to enhance the safety of our in-classroom interactions.
You are encouraged to wear approved face coverings at all times during class and within buildings.
Sanitizing supplies are available in the classroom if you wish to wipe down your desks prior to sitting down and at the end of the class.
If you are experiencing COVID-19 symptoms (**Click here for guidance from the CDC on symptoms of coronavirus**), please use the UF Health screening system and follow the instructions on whether you are able to attend class. **Click here for UF Health guidance on what to do if you have been exposed to or are experiencing Covid-19 symptoms.**

Original file: FOS-4427 - PrintFoodProcess--MacIntosh - SYLLABUS WITH PROPOSED CHANGE.pdf

Specific requirements:

- Requirements for students – If you choose to attend in person you must take precautions as directed by the university.
- Requirements for instructors – The professor/TAs will wear a face covering and will take other precautions as directed by the university
- As this class is small (~20) lines at doors are not expected.
- To protect your safety with respect to shared laboratory equipment make use of sanitizing solutions.
- Contingency plans for student or instructor illness –
    - If the professor becomes ill, the lecture will either be given by a TA in the same hybrid format, or by the professor via online video conference - as appropriate.
    - If a student becomes ill, or feels uncomfortable attending live, they are EXPECTED to attend via video conference ONLY, and to self-quarantine as per university instructions for an appropriate amount of time (as directed by the university). If they are too unwell to attend the remote lecture, they will make up the material via recorded lecture once recovered. If they miss a laboratory/lectures due to illness, it will be considered an acceptable reason as per university policy.

COVID Attendance addendum.

Laboratory and tutorial attendance is mandatory. A missed laboratory session will result in a grade of zero unless the absence is excused as per university policy (of which a COVID-19 absence IS acceptable). Laboratory zoom recordings will not be posted after the session. The TAs will only answer questions concerning the laboratory and tutorials during office hours, and during tutorial periods.

Lectures are expected to be attended in person, and lecture attendance is also mandatory. In the event that a student has been exposed to an individual with COVID-19 or are self-isolating, they may attend over live zoom at the scheduled time. If a student is unwell, the lectures are recorded and are made available via UF onedrive. My experience with this course has shown that classes with active participation in discussions and questions are far superior to pre-recorded lectures, and that students who attend the scheduled lectures (either in person OR through video conference) perform better on exams and during laboratories. I strongly encourage all students to attend every lecture (either in person OR zoom) and interact during the discussions and examples. This is a difficult course, and we move at a fast pace with each lecture building upon the last. I understand that there are sometimes extenuating circumstances, however if you miss more than 4 lectures (10% of the class) without acceptable reasons (https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx), you will be assigned a failing grade for excessive absences. I will make a recording of every lecture available for review to assist in exam preparation, and to give students the opportunity to review examples.

FOS 4427C Principles of Food Processing (4 credits)
Syllabus

Lecture: M W F 9:35-10:25AM Location MAEB0238
Laboratory A: F 12:50-3:50 PM Food Science Pilot Plant/Weil Hall
Laboratory B: F 3:00-6:00 PM Food Science Pilot Plant/Weil Hall

Instructors:	Dr. Andrew MacIntosh	**Phone**:	352-294-3594
Office:	AFPP (Bldg 120) Room 126	**E-mail**:	andrewmacintosh@ufl.edu

Office Hours: Thurs (14:00-15:00) These may be adjusted during the first week of class as to not conflict with the FS student schedule.

Instructors:	Dr. Katherine Thompson-Witrick	**Phone**:	352 294 3908
Office:	AFPL (Bldg 461) Room 214	**E-mail**:	kthompsonwitrick@ufl.edu

Office Hours: Thurs (10:00 – 11:00) These may be adjusted during the first week of class as to not conflict with the FS student schedule.

Course Description: Principles of processing foods: cooling, freezing, heating, dehydrating, concentrating, irradiating, fermenting and the use of chemicals

Prerequisites: AOM4062 or FOS4222 or FOS4311

Required Textbook: Singh, R.P. and D.R. Heldman. 2013. Introduction to Food Engineering. 4th edition. Academic Press. Note: Supplemental notes and handouts will be distributed to class via Canvas and/or email.

Week 1	Non Thermal Intro & Hurdle
Week 2	653-658 Water Activity
Week 3	Modeling
Week 4	Evaporation 543-545, 548, 551,
Week 5	Distillation
Week 6	Fermentation bacteria & pH
Week 7	68 Brewing & CIP
Week 8	Exam I
Week 9	754-766Packaging and MAP
Week 10	Preservatives
Week 11	571-584 Psychrometrics
Week 12	663-670 Air Dry & Vapor Cycle
Week 13	455-474 Refrigeration and Freezing
Week 14	501-530 Plank and Ice Cream
Week 15	Exam II

Course Outcome:

1. Students will be able to apply the concepts of food engineering to food processing systems to compare methods and evaluate safety.
2. Students will test food processing theories during laboratories.
3. Students will apply food processing theories to scenarios and quantify parameters.
4. Students will analyze food processing problems and determine optimal solutions.

Original file: FOS-4427-PrinFoodProcess-Spring-2022-MacIntosh - CURRENT SYLLABUS.pdf

***Learning Activities**:* These include classroom lectures, laboratory sessions and reports (with application based problems), group discussions, guest lectures on select topics (as available) and a term project with presentation.

Assessment Tools: Written exam(s), laboratory reports, and performance in term project/presentation will be used to assess students' learning outcomes. In addition, observations during classroom discussion and reflections during laboratory sessions will also be conducted to determine success of the learning outcomes.

Grading Policy:

			A: 90 – 100
Lab reports (nominally 6)	36%		A-: 87-89.99
Tutorial (nominally 6)	18%		B+: 85 – 86.99
Exam I	20%		B: 80 - 84.99
Exam II	20%		C+: 75 - 79.99
Project	6%		C: 70 - 74.99
Total	100%		D+: 65 - 69.99
			D: 60 - 64.99
			E: Below 60

- ***Grades and Grade Points:*** For information on current UF Policies for assigning grade points see: https://catalog.ufl.edu/UGRD/academic-regulations/grades-grading-policies/

Lab Reports: Laboratory reports are due one week from the date of the laboratory. A 20% penalty will be assigned for late assignments or reports turned in within 3 days after the due date. No lab report will be accepted after 3 days past the due date. Reports should be started early so that any questions may be asked well in advance of the due date (ideally during office hours). It is the student's responsibility to ask any questions about the report before the last minute.

Lab reports are typically allowed to be completed in groups assigned at the beginning of term. Group work allows student to poll knowledge and skills, and the ability to compromise/communicate is invaluable in industry. However, as the consequences of poor involvements are very different in industry, if a student for any reason does not wish to work as part of a group, they may complete the report individually. A group may NOT expel a member, but all members can choose to work individually. This must be clearly communicated to the other group members/TA at least three days before the due date.

Term Project: All students in this course are required to complete a term project covering a topic related to the class content. Each individual graduate student will create an oral presentation outlining an improvement proposal for one of the laboratories. This will be presented at the end of the term.

Attendance and Make-Up Work

Requirements for class and laboratory attendance and make-up exams, assignments, and other work are consistent with university policies that can be found at:
https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx.

Other Course Information:

Participation: Students will not be assigned a grade based on their attendance, however, preparedness for the laboratory is essential and students who have not reviewed the laboratory manual will not be permitted to participate in the laboratory.

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, **www.dso.ufl.edu/drc/**

Academic Honesty: 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 academic misconduct to appropriate personnel. 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: http://www.dso.ufl.edu/sccr/process/student-conduct-honor-code

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.

Student Complaints:
Residential Course: https://sccr.dso.ufl.edu/policies/student-honor-code-studentconduct-code/.

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.

University Counseling & Wellness Center, 3190 Radio Road, 352-392-1575,
www.counseling.ufl.edu
Counseling Services
Groups and Workshops
Outreach and Consultation
Self-Help Library
Wellness Coaching

U Matter We Care, www.umatter.ufl.edu/
• Career Connections Center, First Floor JWRU, 392-1601, https://career.ufl.edu/.
• Student Success Initiative, http://studentsuccess.ufl.edu.

Approximate Class Schedule Summary (Subject to Change):

Weekly Topic		Monday	Wednesday	Friday	Friday Demo
Intro	03-Jan		Intro into processing -	Hurdle revisit	None
Aw migration and model	10-Jan	Aw as spoilage prevention	aw migration	Coatings	Aw, MC and isotherm
Aw control	17-Jan		aw measurement or regression	aw comp recipe & model	Steam Flaking
Water removal	24-Jan	extraction/concentration Brix ex:	Membranes & filtration	Evaporation	Evaporation
Vapor pressure	31-Jan	Vapor pressure	Industrial Evaporators examples	Distillation	Evaporation
Fermentation and pH	07-Feb	Control pH of food (acids)	fermentation (non yeast) & pH	micro growth model (eqn)	Fermentation
Brewing & CIP	14-Feb	Brewing (Process) overview	Yeast and Filtration (remove organis	CIP setups and chemical cleaning	Fermentation
ExamIII	21-Feb	Probiotics/Competitor organisms	Exam Prep	Previous Exam Review	
MAP	28-Feb	Food Packaging	Exam Return	Modified Atmosphere Packaging	Package Tutorial
Spring Break (woo)	07-Mar				
Preservatives	14-Mar	Preservatives when/dosing	Food preservatives (negatives)	Carbonation	Gator Bubbly
Air dry calcs	21-Mar	Dry 1	Dry 2	Dry 3	Dry
Air dry examples	28-Mar	Dry Examples	freeze/Dry	Mechanical Refrigeration	Dry
Freezing theory	04-Apr	Chilling food (refrigeration)	freeze point depression	Glass transition	Freeze Turorial
Model and example	11-Apr	freeze food	thawing food	ice cream (FP)	Freeze Lab
EXAM IV	18-Apr	Exam Prep	Previous Exam Review		

Materials and Supplies Fees: There is a $20 supplies fee, and a $20 equipment fee to support the running and maintenance of the laboratory.

Online Course Evaluation Process:

Student assessment of instruction is an important part of efforts to improve teaching and learning. At the end of the semester, students are expected to provide feedback on the quality of instruction in this course using a standard set of university and college criteria. 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/.

Class Recordings

Our class sessions will 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 in class and/or with their camera engaged or utilize a profile image are agreeing to have their video/audio 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/or 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.

COVID Addendums:

We will continue face-to-face instructional sessions to accomplish the student learning objectives of this course (subject to change at any time). In response to COVID-19, the following policies and requirements are in place to maintain your learning environment and to enhance the safety of our in-classroom interactions.
You are encouraged to wear approved face coverings at all times during class and within buildings.
Sanitizing supplies are available in the classroom if you wish to wipe down your desks prior to sitting down and at the end of the class.
If you are experiencing COVID-19 symptoms (**Click here for guidance from the CDC on symptoms of coronavirus**), please use the UF Health screening system and follow the instructions on whether you are able to attend class. **Click here for UF Health guidance on what to do if you have been exposed to or are experiencing Covid-19 symptoms.**

Original file: FOS-4427-FrmFoodProcess-Spring-2022-MacIntosh - CURRENT SYLLABUS.pdf

Specific requirements:

- Requirements for students – If you choose to attend in person you must take precautions as directed by the university.
- Requirements for instructors – The professor/TAs will wear a face covering and will take other precautions as directed by the university
- As this class is small (~20) lines at doors are not expected.
- To protect your safety with respect to shared laboratory equipment make use of sanitizing solutions.
- Contingency plans for student or instructor illness –
    - If the professor becomes ill, the lecture will either be given by a TA in the same hybrid format, or by the professor via online video conference - as appropriate.
    - If a student becomes ill, or feels uncomfortable attending live, they are EXPECTED to attend via video conference ONLY, and to self-quarantine as per university instructions for an appropriate amount of time (as directed by the university). If they are too unwell to attend the remote lecture, they will make up the material via recorded lecture once recovered. If they miss a laboratory/lectures due to illness, it will be considered an acceptable reason as per university policy.

COVID Attendance addendum.

Laboratory and tutorial attendance is mandatory. A missed laboratory session will result in a grade of zero unless the absence is excused as per university policy (of which a COVID-19 absence IS acceptable). Laboratory zoom recordings will not be posted after the session. The TAs will only answer questions concerning the laboratory and tutorials during office hours, and during tutorial periods.

[redacted]

Lectures are expected to be attended in person, and lecture attendance is also mandatory. In the event that a student has been exposed to an individual with COVID-19 or are self-isolating, they may attend over live zoom at the scheduled time. If a student is unwell, the lectures are recorded and are made available via UF onedrive. My experience with this course has shown that classes with active participation in discussions and questions are far superior to pre-recorded lectures, and that students who attend the scheduled lectures (either in person OR through video conference) perform better on exams and during laboratories. I strongly encourage all students to attend every lecture (either in person OR zoom) and interact during the discussions and examples. This is a difficult course, and we move at a fast pace with each lecture building upon the last. I understand that there are sometimes extenuating circumstances, however if you miss more than 4 lectures (10% of the class) without acceptable reasons (https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx), you will be assigned a failing grade for excessive absences. I will make a recording of every lecture available for review to assist in exam preparation, and to give students the opportunity to review examples.

Original file: FOS-4427-PrinFoodProcess-Spring-2022-MacIntosh - CURRENT SYLLABUS.pdf

Cover Sheet: Request 16940

WIS 3553C Introduction to Conservation Genetics

Info

Process	Course|Modify|Ugrad/Pro
Status	Pending at CALS - College of Agricultural and Life Sciences
Submitter	Kelley Graff kelleygraff@ufl.edu
Created	1/12/2022 2:27:28 PM
Updated	2/23/2022 8:53:28 AM
Description of request	Update pre-requisite list to include WIS 3404 as an acceptable general ecology course.

Actions

Step	Status	Group	User	Comment	Updated
Department	Approved	CALS - Wildlife Ecology and Conservation 60470000	Eric Hellgren		1/12/2022
WIS3553C_2021_syllabus.pdf CALS Curriculum Committee Submission Checklist.pdf					1/12/2022 1/12/2022
College	Pending	CALS - College of Agricultural and Life Sciences			1/12/2022
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					

Original file: Cover sheet.pdf

Course|Modify for request 16940

Info

Request: WIS 3553C Introduction to Conservation Genetics
Description of request: Update pre-requisite list to include WIS 3404 as an acceptable general ecology course.
Submitter: Kelley Graff kelleygraff@ufl.edu
Created: 1/12/2022 2:15:58 PM
Form version: 1

Responses

Current Prefix WIS
Course Level 3
Number 355
Lab Code C
Course Title Introduction of Conservation Genetics
Effective Term Earliest Available
Effective Year Earliest Available
Requested Action Other (selecting this option opens additional form fields below)
Change Course Prefix? No

Change Course Level? No

Change Course Number? No

Change Lab Code? No

Change Course Title? No

Change Transcript Title? No

Change Credit Hours? No

Change Variable Credit? No

Change S/U Only? No

Change Contact Type? No

Course Type Lecture

Change Rotating Topic Designation? No

Change Repeatable Credit? No

Change Course Description? No

Original file: Submitted form version 1.pdf

Change Prerequisites? Yes
Current Prerequisites STA 2023 & FOR 3153C OR PCB 3601C OR PCB 4043C
Proposed Prerequisites STA 2023 & FOR 3153C OR PCB 3601C OR PCB 4043C OR WIS 3404
Change Co-requisites? No

Rationale Wildlife Ecology and Conservation is teaching a general ecology course, WIS 3404 Natural Resource Ecology. This class should be added to the list of acceptable general ecology course options.

Original file: Submitted form version 1.pdf

CALS Curriculum Committee
Submission Checklist

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.

KG 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/.

KG 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/faculty-staff/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.

KG The course description on the UCC form and in the syllabus must match. Any other information you wish to include needs to be under a different heading such as background or additional information.

KG 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-course-objectives.pdf). Do not use the words demonstrate or understand when listing learning objectives.

Original file: CALS Curriculum Committee Submission Checklist.pdf

KG 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 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/.

KG 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.

KG 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.

KG 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 is included in the CALS Syllabus Statements. For the approval process the college suggests a less is more view when it comes to this policy.

KG 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. Joel Brendemuhl (brendj@ufl.edu) for further instruction)

Original file: CALS Curriculum Committee Submission Checklist.pdf

Introduction to Conservation Genetics (WIS 3553)

Course Syllabus, Spring 2021

Instructor: Dr. James Austin

T.A. Ms. Celine Carneiro

contact us through Canvas

Course format:

This is a hybrid class and much of the work will require students to view lectures, videos and assigned readings ahead of meeting with instructors at synchronous times (Mondays and Wednesdays). Assignments (quizzes, data analyses and lab write ups) will take place asynchronously. There will be a series of quizzes in each module that will reinforce the material presented. Meeting times with instructors will involve discussions, genetic analyses tutorials using the R environment, and other exercises.

Course description:

This course will provide students with a conceptual overview of basic population genetics and a practical understanding of examples of how genetics can be applied to the study of wildlife. This is not a go at your own pace course. Students will be expected to complete each modules' requirements by the specified date. Modules will include recorded lectures, online quizzes, discussions, tutorials and exercises using R.

This course is designed for Wildlife Ecology and Conservation majors. This does not mean non-majors should drop the class, but rather understand that we will take a decidedly applied, wildlife approach to the application of genetics. (My definition of wildlife includes all wild species; vertebrates, invertebrates, plants, fishes, terrestrial, etc., that occur in the wild.)

In this class you will develop an appreciation for and learn how to apply and interpret genetic principles to wildlife research and management problems. It is not an adequate genetics course for you if you intend to progress into veterinary sciences or medicine, as we only take a cursory look at important topics such as transmission genetics and molecular genetics.

Virtual Office hours: Office hours will only be held on Zoom. There will be weekly 20 min. windows available on a first come basis. These will be posted weekly on the course calendar. Office hours may be subject to change from week to week depending on our work schedules. Use the calendar tool in Canvas to see the availability of time slots. TA office hours will be posted as we move further into the course.

Original file: WIS3553C_2021_syllabus.pdf

Class meeting:

When we meet will depend on your registered section. I cannot move you between sections, so you will be expected to attend at your registered times.

Due to the pandemic I will reserve the right to move face-to-face sections to online only as needed. The first week of class will be entirely online only.

Class # 19770 (sect. 08D1): Monday, periods 6-7, 12:50-2:45; Room – MCCB 3086*
Wednesday, period 7, 1:55-2:45; Room - MCCB 3096
Class # 19796 (sect. 08D2): Monday, periods 8-9, 3:00-4:55; Room – MCCB 3086*
Wednesday, period 8 3:00-3:50; Room - MCCB 3096
Class # 26407 (sect. 08D3): Monday, periods 6-7, 12:50-2:45; online
Wednesday, period 7, 1:55-2:45; online
Class # 26409 (sect. 08D4): Monday, periods 8-9, 3:00-4:55; online
Wednesday, period 8 3:00-3:50; online

*Note that “face-to-face” sections will depend on the availability of HyFlex in the assigned classrooms, and on the scheduled activity. **The location of face-to-face meetings are subject to change depending on Hyflex resources**.

R tutorials will be done online only (all four sections) to simplify instruction. These dates will be clearly marked in the respective modules within Canvas. Similarly, **our face-to-face meetings in January will be determined based on the prevalence of the Covid19 in Alachua County at that time.**

Week 1 (January 11 and 13) will be done online for all sections.

Registrar-controlled final exam schedule:

All Sections April 29, 10-12 noon.

Course prerequisites:

Introduction to Statistics (STA 2023) and one of the introductory ecology courses (PCB 3034C, PCB 4044C, PCB 3601C, or FOR 3153C). Requests for waivers on pre-requisites are generally denied.

These prerequisites are set for the following reasons: some of what you will be mastering requires a basic understanding of statistics (means, variance, interpreting statistical significance), and much of what we are going to be learning about relates to organismal ecology (e.g. using genetics to understand mating systems, movement, impacts of environmental change). Thus, a basic background in ecology will help you to appreciate what you are learning.

Students will be required to attend class regardless of whether taking the course face-to-face or online. All online participants will be **required to have a camera on** to be considered present. Attendance will be worth 5% of your final grade. Read the UF

Original file: WIS3553C_2021_syllabus.pdf

absence policy here: https://catalog.ufl.edu/UGRD/academic-regulations/attendance-policies/ (Links to an external site.)

Course goals:

1. To teach students the foundations of population genetics.

2. To familiarize students with some key applications of genetics to the conservation and management of wildlife.

3. To help students develop communication skills related to the application of genetics in wildlife management.

Course learning objectives:

Week(s)*	Module	Main learning objectives:	Exercises and assignments
1 (Jan 11)	"Start here"	• Recall key aspects of the course presented in the syllabus • Define and describe conservation genetics	• Syllabus quiz • Knowledge pre-test
1-2 (Jan 13-25)	Understanding genetic polymorphisms	• Describe the difference between genotype and phenotype • Dominance • Define key polymorphisms • Discuss the utility of polymorphisms • Calculate allele frequencies from genotypes and phenotypes • Why sex?	• Overview of R (RStudio) • Quantifying genetic diversity using R
3-5 (Jan 27-Feb 8)	Understanding populations	• Explain and give examples of different types of models • Identify and discuss the relationship between allele frequencies and genotype frequencies • Summarize the assumptions of the random mating model • Define the Hardy Weinberg Principle • Simulate single gene evolution in populations and assess the impact of assumptions of the random mating model • Define linkage disequilibrium (LD) and identify key population processes that produce LD	• Modeling population genetic dynamics using R
5-7 (Feb 10-22)	Inbreeding	• Explain the effect of inbreeding with respect to allele frequencies and genotype frequencies • Differentiate between allozygous and autozygous alleles • Calculate an inbreeding coefficient from a pedigree • Give examples of harmful effects of inbreeding • Express the difference between close inbreeding (F) and remote inbreeding (F_{ST}) • Describe the meaning of coalescence	• Genetic rescue • Inbreeding depression

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7-8 (Feb 24-Mar 3)	Population structure	• Articulate the effect of population admixture on heterozygosity • Apply and interpret *F*-statistics for a given hierarchical population structure with known allele frequencies	• Distinct Population Segments
9 (Mar 8-10)	Review and MT		
10-11 (Mar 15-22)	Effective population size	• Identify key methods of estimating Ne	• Genetic erosion in captivity
11-12 (Mar 24-31)	Migration, Selection, Genetic drift	• Discuss how migration limits genetic divergence • Calculate and compare estimates of migration • Differentiate between deterministic and stochastic mechanisms of evolution • Model and compare the effect of selection, migration and drift on allele frequencies	• Calculating recent and long-term gene flow and connectivity
Apr 5-7	Hybridization	• Differentiate among natural and anthropogenic hybridization	Hybrid analysis of natural populations
Apr 12-14	Parentage and relatedness	• How to estimate kinship and relatedness • Genomic applications for relatedness	Using kinship to assess genetic structure
Apr 19	RStudio practicum	• Timed exam where students will use R to analyze and interpret data	Assigned during regular class times
Apr 21	Review		
Apr 28	Final	Sections 08D2 & 08D4	
Apr 29	Final	Sections 08D1 & 08D3	

*Dates are subject to change.

The core objectives for students completing this course are:

- Determine and articulate ways in which genetics/genomics are applied to wildlife management and conservation.
- Understand how genetic variation arises; why it is important for organisms to change or adapt.
- Be able to articulate the significance of population size to conservation and management.
- Critically evaluate contemporary wildlife management issues involving genetics and genomics
- Become efficient with R and RStudio as tools for exploring genetic (and other types of) data.

Specific learning objectives will accompany each module. These will be clearly identified in eLearning.

Assignment types:

Lecture quizzes: These will consist of short (3-5 questions) quizzes that will be taken after viewing a lecture (or other select content). These are to test your comprehension of presented material. Completion of individual quizzes is required to move onto the

Original file: WIS3553C_2021_syllabus.pdf

next item in the module. These queizzes are not graded but you will receive a point for attempting. Quizzes must be completed prior to the relevant meeting time (e.g., A lecture assigned to be viewed for a Monday class must be viewed and quiz take before the start of class. Quizzes will be available after such time but will be graded as a 0). This is to encourage you to keep up with the material.

Module quizzes: These quizzes cover the basic concepts learned in each module (lectures, readings, tutorials and discussions) and are open from Friday at 1:00 am to Sunday at 11:55pm at the completion of each module. **Once you begin the conceptual quiz, you have ~15-30 mins (depending on the number and type of questions) from that time to complete it.** These cannot be re-taken, so ensure that you have 30 mins of uninterrupted time.

Online discussion boards: Periodic discussion boards will be assigned to groups of students. We expect students to engage and provide meaningful contributions (posting questions, answers, or additional resources) to the weekly discussion boards. There will be minimal participation required for points. Participation in the discussion board will be factored into grading when students are on the cusp of a letter grade (e.g., B+). *Thus, the discussion board is an opportunity for you to help yourself but will not count against you in any way*.

Exercise assignments: You will be provided datasets to analyze and interpret based on the tutorials done during the Monday online synchronous sessions. These will be due by the end of the Friday that week (specific dates will be indicated in Canvas). You are encouraged to work with your assigned group to discuss, troubleshoot and peer-evaluate your analysis and interpretation. 99.9% of problems encountered with R should be solved within your group. In the off chance that no one in your group can solve your problem, email your T.A.

I do not grant extra credit assignments.

A Midterm exam will be held the week of March 10 and the final exam on the provost-assigned date for your section. These are taken online and are ‘open book’. These will consist of MC, matching, problems, and/or short answer questions.

Original file: WIS3553C_2021_syllabus.pdf

Assessments: Quizzes and assignments may be worth different amounts from one to the next, but all point grades will be weighted to count for the following percent of the final grade:

Assessment	percentage of grade
Lecture/reading quizzes	5%
Attendance	5%
Module quizzes	15%
Midterm (Mar 10)	20%
Lab exercises	15%
Lab practicum (Apr 19)	25%
Final exam (see above)	15%
Total	100%

Grading Scale: A >= 94%, A- = 90 -92.99%, B+ = 86-89.99%, B = 83-85.99%, B- = 80-82.99%; C+ =76-79.99%, C =73- 75.99%, C- = 70-72.99%; D+ = 66-69.99%, D = 63-65.99%, D- =60-62.99%, E<=60%

Campus resources:

Resolving technical issues:

Canvas issues - e-Learning Support Services
E-mail: learning-support@ufl.edu
Phone: (352) 392-4357 -> option 2 (Students)

Problems with R:

99.9% of problems with R should be solved within your group. In the off chance that no one in your group can solve your problem, email your T.A.

Students should seek assistance with technical issues from the UFIT help desk at helpdesk.ufl.edu, 352-392-4357

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 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 counseling.ufl.edu/ or call 352-392-1575 for information on crisis services as well as non-crisis services.

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Student Health Care Center: Call 352-392-1161 for 24/7 information to help you find the care you need, or visit shcc.ufl.edu/.

University Police Department: Visit 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; ufhealth.org/emergency-room-trauma-center

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 career.ufl.edu/.

Library Support: cms.uflib.ufl.edu/ask 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. teachingcenter.ufl.edu/

Writing Studio: 2215 Turlington Hall, 352-846-1138. Help brainstorming, formatting, and writing papers. writing.ufl.edu/writing-studio/

Student Complaints On-Campus: sccr.dso.ufl.edu/policies/student-honor- codestudent-conduct-code/

Course Syllabus
Introduction to Conservation Genetics (WIS 3553)

Spring 2022

Instructor: Dr. James Austin

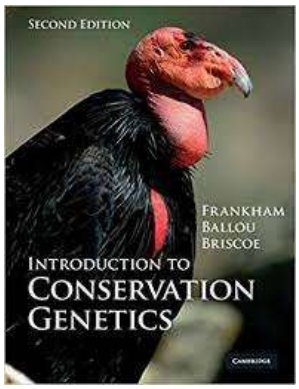
T.A. Charles Gumbi

contact us through Canvas

Lectures: Wed. & Fri., 3:00 PM (period 8 – 3:00-3:50) MCCB room G086 (ground floor)

Lecture/lab Mon. MCCB room 3086 (08D1 – 11:45-1:40; 08D2 – 9:35-11:30)

Texbook : Intro to Conservation Genetics, 2nd Ed.



Course description:

This course provides students with a conceptual overview of basic population genetics and a practical understanding of examples of how genetics are applied to the study of wildlife.

This course is designed for Wildlife Ecology and Conservation majors. The course is open to non-majors, but please understand that the course is not sufficient as a genetics course for aspiring veterinarians. Apart from discussions about evolution and an overview of population genetics, we will take a decidedly applied approach to the relevance of genetics to aspects wildlife ecology and management. This course is a prerequisite for Conservation Biology (WIS 4501 and WIS 4554)

Office hours: Due to the remote location of my office I will hold office hours on Fridays during a portion of the hour prior to class (2-2:45 PM). At this time, I will be available to meet in the Newins Ziegler breezeway. Making an appointment ahead of time is strongly recommended. Additional office hours will be done via Zoom. Use the calendar tool in Canvas to see the availability of time slots.

The final exam will be a take home assignment. Details will be provided after Spring break. Due date and time for the final correspond to the Registrar's office exam period: 4/28/2022 @ 9:30 AM

Course goals:

1. To teach students the foundations of population genetics.

2. To familiarize students with some key applications of genetics to the conservation and management of wildlife.

3. To help students develop communication skills related to the application of genetics in wildlife management.

The core objectives for students completing this course are:

- Determine and articulate ways in which genetics/genomics are applied to wildlife management and conservation.
- Understand how genetic variation arises; why it is important for organisms to change or adapt.
- Be able to articulate the significance of population size to conservation and management.
- Critically evaluate contemporary wildlife management issues involving genetics and genomics
- Become efficient with R and RStudio as tools for exploring genetic (and other types of) data.

Specific learning objectives will accompany each module. These will be clearly identified in eLearning.

Course prerequisites:

Introduction to Statistics (STA 2023) and one of the introductory ecology courses (WIS3404, PCB 3601C, PCB 4043C, or FOR 3153C). Requests for waivers on pre-requisites are generally denied.

These prerequisites are set for the following reasons: some of what you will be mastering requires a basic understanding of statistics (means, variance, interpreting statistical significance), and much of what we are going to be learning about relates to organismal ecology (e.g. using genetics to understand mating systems, movement, impacts of environmental change). Thus, a basic background in ecology will help you to appreciate what you are learning.

Attendance is not mandatory, although we grade attendance and participation during Monday's sessions. Attendance will be scored at the end of the session, not at the start. Students whom are not visible online will be required to respond verbally to roll call in order to receive a 'present'.
Read the UF absence policy here: https://catalog.ufl.edu/UGRD/academic-regulations/attendance-policies/ (Links to an external site.)

Assignment types:

Lab assignments: You will be provided datasets to analyze and interpret based on the tutorials done during the Monday online synchronous sessions. Answers to these will be due by the end of the Friday that week (specific dates will be indicated in Canvas).

Wakelet Assignment: Students will create a Wakelet (http://wakelet.com/) on a chosen "hot topic" in conservation genetics/molecular ecology. Wakelets are online information portals that summarize content on a given issue. They include embedded links to a wide variety of online content including articles, blogs, images, twitter, and Youtube. This assignment will also involve providing peer feedback/reflection on two wakelets created by other classmates.

Mid-term exams: There will be two in class midterms, consisting of multiple format questions (MC, short answer, etc).

Take-home final: A take-home (open book/open notes) exam will be administered at the end of the course. The exam should be completed individually (not in groups). There will be three open-ended short essay questions (~ 1 page response each). The exam is designed to synthesize information learned during the semester.

Assessments: Quizzes and assignments may be worth different amounts from one to the next, but all point grades will be weighted to count for the following percent of the final grade:

Assessment	Points	% of grade
Midterm 1 (Feb 18, in class)	50	17%
Midterm 2 (Mar 25, in class)	50	17%
Lab exercises	100	33%
Wakelet assignment	50	17%
Wakelet peer-reviews	10	3%
Final exam (see above)	40	13%
Total	300	100%

Grading Scale: A >= 93%, A- = 90-92.99%, B+ = 86-89.99%, B = 83-85.99%, B- = 80-82.99%; C+ =76-79.99%, C =73- 75.99%, C- = 70-72.99%; D+ = 66-69.99%, D = 63-65.99%, D- =60-62.99%, E<=60%

Week(s)*	Module	Main learning objectives:
1	"Start here"	• Recall key aspects of the course presented in the syllabus • Define and describe conservation genetics

1-2	Understanding genetic polymorphisms	• Describe the difference between genotype and phenotype • Dominance • Define key polymorphisms • Discuss the utility of polymorphisms • Calculate allele frequencies from genotypes and phenotypes • Why sex?
3-5	Understanding populations	• Explain and give examples of different types of models • Identify and discuss the relationship between allele frequencies and genotype frequencies • Summarize the assumptions of the random mating model • Define the Hardy Weinberg Principle • Simulate single gene evolution in populations and assess the impact of assumptions of the random mating model • Define linkage disequilibrium (LD) and identify key population processes that produce LD
5-7	Inbreeding	• Explain the effect of inbreeding with respect to allele frequencies and genotype frequencies • Differentiate between allozygous and autozygous alleles • Calculate an inbreeding coefficient from a pedigree • Give examples of harmful effects of inbreeding • Express the difference between close inbreeding (F) and remote inbreeding (F_{ST}) • Describe the meaning of coalescence
7-8	Population structure	• Articulate the effect of population admixture on heterozygosity • Apply and interpret F-statistics for a given hierarchical population structure with known allele frequencies
10-11	Effective population size	• Identify key methods of estimating Ne
11-12	Migration, Selection, Genetic drift	• Discuss how migration limits genetic divergence • Calculate and compare estimates of migration • Differentiate between deterministic and stochastic mechanisms of evolution • Model and compare the effect of selection, migration and drift on allele frequencies
13	Hybridization	• Differentiate among natural and anthropogenic hybridization
14-15	Parentage and relatedness	• How to estimate kinship and relatedness • Genomic applications for relatedness

*Dates are subject to change.

The core objectives for students completing this course are:

- Determine and articulate ways in which genetics/genomics are applied to wildlife management and conservation.
- Understand how genetic variation arises; why it is important for organisms to change or adapt.
- Be able to articulate the significance of population size to conservation and management.
- Critically evaluate contemporary wildlife management issues involving genetics and genomics
- Become efficient with R and RStudio as tools for exploring genetic (and other types of) data.

Specific learning objectives will accompany each module. These will be clearly identified in eLearning.

Attendance and Make-Up Work

Attendance is recommend although lectures will be recorded and posted in elearning. Labs will be heald on line and are expected to be attended by all. I do not provide make up assignments for late or missing work.

Our lecture 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.

Online Course Evaluation 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/.

Academic Honesty

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 academic misconduct to appropriate personnel. 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: http://www.dso.ufl.edu/sccr/process/student-conduct-honor-code.

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.

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, https://disability.ufl.edu/

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.

- *University Counseling & Wellness Center, 3190 Radio Road, 352-392-1575,* **www.counseling.ufl.edu**

  Counseling Services Groups and Workshops Outreach and Consultation Self-Help Library Wellness Coaching

- U Matter We Care, **www.umatter.ufl.edu/**
- *Career Connections Center,* First Floor JWRU, 392-1601, https://career.ufl.edu/.
- Student Success Initiative, http://studentsuccess.ufl.edu.
- Student Complaints:

• Residential Course: https://sccr.dso.ufl.edu/policies/student-honor-code-student- conduct-code/.

• Online Course: http://www.distance.ufl.edu/student-complaint-process

Cover Sheet: Request 17040

Modify WIS 4203C

Info

Process	Course|Modify|Ugrad/Pro
Status	Pending at CALS - College of Agricultural and Life Sciences
Submitter	Kelley Graff kelleygraff@ufl.edu
Created	2/4/2022 12:26:13 PM
Updated	2/16/2022 8:07:48 AM
Description of request	Add another general ecology course to the list of approved options. The new list will be FOR 3153C or PCB 3601C or PCB 4043C or WIS 3404. All other pre-requisites will remain the same.

Actions

Step	Status	Group	User	Comment	Updated
Department	Approved	CALS - Wildlife Ecology and Conservation 60470000	Eric Hellgren		2/4/2022
WIS 4203C 2022.pdf CALS Curriculum Committee Submission Checklist.pdf					2/4/2022 2/4/2022
College	Pending	CALS - College of Agricultural and Life Sciences			2/4/2022
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					

Original file: Cover sheet.pdf

Course|Modify for request 17040

Info

Request: Modify WIS 4203C
Description of request: Add another general ecology course to the list of approved options. The new list will be FOR 3153C or PCB 3601C or PCB 4043C or WIS 3404. All other pre-requisites will remain the same.
Submitter: Kelley Graff kelleygraff@ufl.edu
Created: 2/4/2022 12:17:54 PM
Form version: 1

Responses

Current Prefix WIS
Course Level 4
Number 203
Lab Code C
Course Title Landscape Ecology and Conservation
Effective Term Earliest Available
Effective Year Earliest Available
Requested Action Other (selecting this option opens additional form fields below)
Change Course Prefix? No

Change Course Level? No

Change Course Number? No

Change Lab Code? No

Change Course Title? No

Change Transcript Title? No

Change Credit Hours? No

Change Variable Credit? No

Change S/U Only? No

Change Contact Type? No

Course Type Lecture

Change Rotating Topic Designation? No

Change Repeatable Credit? No

Change Course Description? No

Original file: Submitted form version 1.pdf

Change Prerequisites? Yes
Current Prerequisites STA 2023 and (For 3153 or PCB 3601C or PCB 4043C) and (FOR 3434C or GIS 3043 or GIS 3072C or URP 4273)
Proposed Prerequisites STA 2023 & (For 3153 or PCB 3601C or PCB 4043C or WIS 3404) & (FOR 3434C or GIS 3043 or GIS 3072C or URP 4273)
Change Co-requisites? No

Rationale WEC wishes to add another general ecology common course (WIS 3404) to the list of ecology options.

Original file: Submitted form version 1.pdf

CALS Curriculum Committee
Submission Checklist

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.

KG 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/.

KG 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/faculty-staff/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.

KG The course description on the UCC form and in the syllabus must match. Any other information you wish to include needs to be under a different heading such as background or additional information.

KG 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-course-objectives.pdf). Do not use the words demonstrate or understand when listing learning objectives.

Original file: CALS Curriculum Committee Submission Checklist.pdf

KG 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 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/.

KG 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.

KG 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.

KG 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 is included in the CALS Syllabus Statements. For the approval process the college suggests a less is more view when it comes to this policy.

KG 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. Joel Brendemuhl (brendj@ufl.edu) for further instruction)

Original file: CALS Curriculum Committee Submission Checklist.pdf

Landscape Ecology and Conservation: WIS 4203C

Course Syllabus, Spring 2022, 3 Credits
Lecture: MW, period 5 (11:45-12:35), ARCH 215
Lab: F, periods 5-6 (11:45-1:40), McCarty B 3086

Instructor:
Dr. Robert Fletcher
E-mail: robert.fletcher@ufl.edu
Office: 318 Newins-Ziegler
Office Ph: 846-0632
Office hours : Wed 1-2pm or by appointment

Teaching Assistant:
Haqiq Rahmani
E-mail: hrahmani@ufl.edu
Office: 218 Newins-Ziegler
Office Ph: 846-0648
Office hours : Thurs 1-2pm or by appointment

Course Description

In this course, we will identify and evaluate the central constructs and methods of landscape ecology and their relevance to conservation and management. Landscape ecology is a relatively new branch of ecology that focuses specifically on how spatial heterogeneity influences ecological patterns and processes. Landscape ecology has both basic and applied elements, and it is predominately grounded in interpreting ongoing anthropogenic change and providing guidance for conservation and management. In the first half of the semester, we will learn common frameworks for studying landscape ecology, how to quantify landscape pattern, and we will identify general drivers of landscape pattern. In the second half of the semester, we will focus on how landscape patterns influence wildlife ecology, management, and conservation. Throughout, we will discuss both real-world problems in ecology, management, and conservation, as well as basic theory relevant for using landscape ecology as an effective framework for ecology and conservation.

Course Objectives

There are several major objectives for this course. Specifically, the objectives are for students to:

1) Identify the historical events leading to the development of landscape ecology;
2) Learn and implement basic designs and tools (e.g., Geographic Information Systems, GIS) relevant to studying landscape ecology;
3) Determine ways in which landscape ecological perspectives can be applied to wildlife management and conservation;
4) Critically evaluate important, current issues facing landscape ecology; and
5) Develop and refine critical thinking and communication skills.

A COVID-19 and online note

This course will be delivered in person. However, the COVID-19 pandemic continues to create uncertainty, hardship, and various levels of anxiety for many people. To address these concerns, we will also provide online-based materials, including online lecture videos and online video instructions for labs. These videos were primarily created in 2021 when this course was moved online but should be helpful for students that have concerns about attending in person due to COVID-related complications.

As things may change over the semester, the overriding culture we would like us to create for this course is that of compassion and adaptability. We will plan on the schedule outlined in this syllabus below, but there

may be changes that are required. We would like for us to be able to adjust to what we learn as a team as we proceed through the semester. If you have any questions, concerns, or suggestions, please do let us know.

Online material will be delivered through asynchronous videos that we expect you to view on your own time. There will be a breakdown of asynchronous materials available on E-learning, organized by week.

Prerequisites

One upper division course in ecology (FOR 3153C, PCB 3601C, PCB 4043C, or WIS 3404), one in statistics (e.g., STA 2023), and one course in GIS (GIS 3043, GIS 3072C, FOR 3434C or URP 4273).

Assigned Readings and Course Notes

There are no required textbooks, but the following text may be useful:

Turner, M. G., and Gardner, R. H. 2015. Landscape Ecology in Theory and Practice: Pattern and Process. Springer-Verlag, New York.

Selected articles and book chapters from recent literature in landscape ecology will be required most weeks, which I will make available on *E-Learning*. Lecture notes and lab information will also be available there. Simply point your browser to http://elearning.ufl.edu/, and on the right-hand portion of the site, select the *LOG IN TO E-LEARNING*, and then use your GatorLink user name and password to login.

Assessments, Grading, and Policies

There will be a variety of assessment tools used during this course, ranging from lab assignments, to debates, to exams. The following table breaks down how each type of assessment will be weighted in your final grade:

	# of points	**% of Grade**
Lecture:		
Weekly lecture quizzes (6 pts/quiz)	72	9
Lecture discussion (6 pts/quiz + 4/participation)	30	4
Debate (bibliography = 10; participation = 10; evaluation = 30)	50	6
Lab:		
Lab assignments (lab handouts; 15 pts/assignment)	135	18
Lab practical	70	9
Exams:		
Exam 1 (potential exam questions = 5; exam = 125)	130	17
Exam 2 (potential exam questions = 5; exam = 125)	130	17
Cumulative Final Exam (potential exam questions = 5; exam = 150)	155	20
Total Points	**777**	**100%**

Grading Scale: A $\geq$ 92%, A- = 90-91.9%, B+ = 87-89.9%, B = 82-86.9%, B- = 80-81.9%; C+ =77-79.9%, C =72-76.9%, C- = 70-71.9%; D+ = 67-69.9%, D = 62-66.9%, D- =60-61.9%, E<60%

Original file: WIS 4203C 2022.pdf

Lab assignments—Throughout the course there will be a number of miscellaneous lab assignments relevant to each week's material that will be completed in lab or handed in the Monday following class. *There will be no make-up labs, but you will be able to drop the lowest score of your lab assignments.*

Lab practical—The last lab of the semester will be devoted to a lab practical. The goal of the practical is for you to show how to use GIS to solve landscape-scale problems. This practical will involve short-answer questions regarding the use of GIS for wildlife management and conservation.

Lecture quizzes—Each week, there will be short, online quizzes that will cover the lecture material for that week. You will be quizzed on lecture material to make sure that you keep up with topics (either in person or via online lecture videos). *Quizzes will generally be due on Fridays before lab (11 am), except for exam weeks (due Wednesday before class; 11 am). There will be no make-up quizzes, but you will be able to drop the lowest score of your quiz assignments.*

Lecture discussion—For some weeks, students will be required to discuss articles on landscape ecology and conservation. To come prepared, students will need to *read the articles and take a short quiz* on the material. The purpose of discussing the articles is for students to better learn how to critique scientific literature and current controversial topics. The article will be assigned at least one week in advance. During lab, we will break into groups to discuss the article. *You will also be graded on attendance and participation* during discussion. See E-Learning for the document on "Participating in a Discussion".

Debates—At various times during the semester, we will have debates on contentious topics. *Each student will pick **one** of the debate topics* and then we will place students in a group that either argues 'for' or 'against' the argument. For each debate, the group of students (roughly 4-5 students per group) will work together to initially find relevant peer-reviewed articles on the topic and to decide how they will develop their arguments for the issues. I will provide each group with a short list of potential articles, but each group will need to look more broadly, and boldly, for other resources.

One class period prior to the debate, each student participating in the debate must hand in an annotated bibliography of two relevant, peer-reviewed articles that the student plans to use in developing arguments for the debate. For each article, the bibliography should be ~0.5 page (double-spaced, 12 point font), and it should include a short summary of the article that emphasizes the points that the student will use in the debate to argue for their group.

Students that are not actively debating the topic will form the jury. These students will need to ask questions to the groups to better interpret the issues. At the end of each debate, these students will be given evaluation forms that will allow students to assess whether groups came prepared, developed convincing arguments that were logical, and drew on relevant science-based information.

Exams—There will be two exams and one final exam. *The first two exams will not be cumulative, but the final exam will be cumulative.* Exams will include a combination of short answer, multiple choice, and essay questions. Questions may test you on your knowledge of the topic, your ability to reason through a problem

related to landscape ecology, and, in some cases, the ability to express your understanding using symbolic logic (graphs and figures).

Students will actively contribute to the exam materials. The Monday prior to each exam, *each student will be required to hand-in two potential questions to be included on the exam*. These questions should reflect your perspective on the important materials over the covered time period. The purpose of this exercise is not for students to necessarily produce 'easy' or 'tricky' questions for other students. Instead, it is an opportunity for students to review the material and determine crucial pieces of information that he/she thinks all students should know in landscape ecology.

Exam grading policy—If there is an adding error on an exam, see me immediately and I'll change the score. Otherwise, the overall quality of your test answers relative to the answers of others in the class is probably accurately reflected in the test score you receive. When possible, I always give partial credit if the possible number of points for a question is greater than one, but I also use the full range of possible points to reflect differences in the quality of answers that I read.

Invariably, some questions will be graded a bit too harshly and others a bit too leniently. Nonetheless, if you believe that your test was graded too harshly overall, and that you should have received a greater point total, you may return the test for re-evaluation. Be warned, however...if I only re-evaluate those individual questions that you believe were graded too harshly, it would lead to an inaccurate total relative to others who choose not to contest points, and who, therefore, still retain a loss of some points due to questions that they may have had graded overly harshly. Therefore, to be fair to those who may not wish to approach the instructors about points, and to discourage rewarding aggressive behavior for its own sake, I should review and re-grade your entire test. I will be happy to do so, if you wish. Simply note the question(s) of particular concern, and note why you feel the scoring may have been incorrect. I will review every question, with an eye toward finding errors due to both overly lenient and overly harsh grading. Point gains and/or point losses will be noted, and the new point total recorded. I will then return the re-graded test in a day or two.

General notice to students

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(also see: https://catalog.ufl.edu/UGRD/dates-deadlines/2021-2022/#spring22text)

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Feb 16	Students in Debate 1: hand in annotated bibliography
Feb 18	Debate 1
Feb 21	Students in Debate 2: hand in annotated bibliography
Feb 23	Debate 2
Mar 7-11	*Spring Break—no class*
Mar 21	Hand in 2 potential questions for exam
Mar 25	Exam 2
Apr 4	Students in Debate 3: hand in annotated bibliography
Apr 6	Debate 3
Apr 8	Drop/withdraw without failing grade
Apr 15	Lab practical
Apr 20	Hand in 2 potential questions for final exam
Apr 20	Last day of class
April 28	Final Exam 10:00-12:00

Tentative Lecture and Lab Schedule

Week of	Topic	Readings (on E-Learning)
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Jan 24	Lecture: Causes of landscape pattern (including discussion) Lab: Interpreting causes of landscape pattern	Franklin and Forman 1987
Jan 31	Lecture: Causes of pattern 2 Lab: **First Exam**	*None*
Feb 7	Lecture: Doing landscape ecology Discussion--experiments in landscape ecology (Ims 2005) Lab: Sampling across landscapes	Ims 2005
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Feb 28	Lecture: Behavioral landscape ecology Lab: Animal movement and space use	Knowlton and Graham 2010
Mar 7-11	*Spring break*	
Mar 14	Lecture: Species distributions & habitat suitability in landscapes (including discussion) Lab: Assessing habitat suitability at large scales	Guisan et al. 2013
Mar 21	Lecture: Metapopulations Lab: **Second Exam**	*None*
Mar 28	Lecture: Source-sink dynamics & landscape reserve design Lab: Landscape prioritization and conservation planning	Driscoll 2007
Apr 4	Lecture: land-use planning and working landscapes *Debate—Land sharing versus land sparing* Lab: Hotspots, land use, and conservation planning	Fischer et al. 2008
Apr 11	Lecture: Landscape genetics in human-modified landscapes Discussion—the value of genetics for conservation Lab: Lab practical	Keyghobadi 2007
April 18	Lecture: Conclusions and the future of landscape ecology Lab: reading days (Apr 21-22)—no lab	*None*
April 28	**Final Exam 10:00am-12:00 pm (Thursday)**	

Original file: WIS 4203C 2022.pdf

Landscape Ecology and Conservation: WIS 4203C

Course Syllabus, Spring 2022, 3 Credits
Lecture: MW, period 5 (11:45-12:35), ARCH 215
Lab: F, periods 5-6 (11:45-1:40), McCarty B 3086

Instructor:
Dr. Robert Fletcher
E-mail: robert.fletcher@ufl.edu
Office: 318 Newins-Ziegler
Office Ph: 846-0632
Office hours : Wed 1-2pm or by appointment

Teaching Assistant:
Haqiq Rahmani
E-mail: hrahmani@ufl.edu
Office: 218 Newins-Ziegler
Office Ph: 846-0648
Office hours : Thurs 1-2pm or by appointment

Course Description

In this course, we will identify and evaluate the central constructs and methods of landscape ecology and their relevance to conservation and management. Landscape ecology is a relatively new branch of ecology that focuses specifically on how spatial heterogeneity influences ecological patterns and processes. Landscape ecology has both basic and applied elements, and it is predominately grounded in interpreting ongoing anthropogenic change and providing guidance for conservation and management. In the first half of the semester, we will learn common frameworks for studying landscape ecology, how to quantify landscape pattern, and we will identify general drivers of landscape pattern. In the second half of the semester, we will focus on how landscape patterns influence wildlife ecology, management, and conservation. Throughout, we will discuss both real-world problems in ecology, management, and conservation, as well as basic theory relevant for using landscape ecology as an effective framework for ecology and conservation.

Course Objectives

There are several major objectives for this course. Specifically, the objectives are for students to:

1) Identify the historical events leading to the development of landscape ecology;
2) Learn and implement basic designs and tools (e.g., Geographic Information Systems, GIS) relevant to studying landscape ecology;
3) Determine ways in which landscape ecological perspectives can be applied to wildlife management and conservation;
4) Critically evaluate important, current issues facing landscape ecology; and
5) Develop and refine critical thinking and communication skills.

A COVID-19 and online note

This course will be delivered in person. However, the COVID-19 pandemic continues to create uncertainty, hardship, and various levels of anxiety for many people. To address these concerns, we will also provide online-based materials, including online lecture videos and online video instructions for labs. These videos were primarily created in 2021 when this course was moved online but should be helpful for students that have concerns about attending in person due to COVID-related complications.

As things may change over the semester, the overriding culture we would like us to create for this course is that of compassion and adaptability. We will plan on the schedule outlined in this syllabus below, but there

may be changes that are required. We would like for us to be able to adjust to what we learn as a team as we proceed through the semester. If you have any questions, concerns, or suggestions, please do let us know.

Online material will be delivered through asynchronous videos that we expect you to view on your own time. There will be a breakdown of asynchronous materials available on E-learning, organized by week.

Prerequisites

One upper division course in ecology (FOR 3153C, PCB 3601C, or PCB 4043C), one in statistics (e.g., STA 2023), and one course in GIS (GIS 3043, GIS 3072C, FOR 3434C or URP 4273).

Assigned Readings and Course Notes

There are no required textbooks, but the following text may be useful:

Turner, M. G., and Gardner, R. H. 2015. Landscape Ecology in Theory and Practice: Pattern and Process. Springer-Verlag, New York.

Selected articles and book chapters from recent literature in landscape ecology will be required most weeks, which I will make available on *E-Learning*. Lecture notes and lab information will also be available there. Simply point your browser to http://elearning.ufl.edu/, and on the right-hand portion of the site, select the *LOG IN TO E-LEARNING*, and then use your GatorLink user name and password to login.

Assessments, Grading, and Policies

There will be a variety of assessment tools used during this course, ranging from lab assignments, to debates, to exams. The following table breaks down how each type of assessment will be weighted in your final grade:

	# of points	**% of Grade**
Lecture:		
Weekly lecture quizzes (6 pts/quiz)	72	9
Lecture discussion (6 pts/quiz + 4/participation)	30	4
Debate (bibliography = 10; participation = 10; evaluation = 30)	50	6
Lab:		
Lab assignments (lab handouts; 15 pts/assignment)	135	18
Lab practical	70	9
Exams:		
Exam 1 (potential exam questions = 5; exam = 125)	130	17
Exam 2 (potential exam questions = 5; exam = 125)	130	17
Cumulative Final Exam (potential exam questions = 5; exam = 150)	155	20
Total Points	**777**	**100%**

Grading Scale: A $\geq$ 92%, A- = 90-91.9%, B+ = 87-89.9%, B = 82-86.9%, B- = 80-81.9%; C+ =77-79.9%, C =72-76.9%, C- = 70-71.9%; D+ = 67-69.9%, D = 62-66.9%, D- =60-61.9%, E<60%

Lab assignments—Throughout the course there will be a number of miscellaneous lab assignments relevant to each week's material that will be completed in lab or handed in the Monday following class. *There will be no make-up labs, but you will be able to drop the lowest score of your lab assignments.*

Lab practical—The last lab of the semester will be devoted to a lab practical. The goal of the practical is for you to show how to use GIS to solve landscape-scale problems. This practical will involve short-answer questions regarding the use of GIS for wildlife management and conservation.

Lecture quizzes—Each week, there will be short, online quizzes that will cover the lecture material for that week. You will be quizzed on lecture material to make sure that you keep up with topics (either in person or via online lecture videos). *Quizzes will generally be due on Fridays before lab (11 am), except for exam weeks (due Wednesday before class; 11 am). There will be no make-up quizzes, but you will be able to drop the lowest score of your quiz assignments.*

Lecture discussion—For some weeks, students will be required to discuss articles on landscape ecology and conservation. To come prepared, students will need to *read the articles and take a short quiz* on the material. The purpose of discussing the articles is for students to better learn how to critique scientific literature and current controversial topics. The article will be assigned at least one week in advance. During lab, we will break into groups to discuss the article. *You will also be graded on attendance and participation* during discussion. See E-Learning for the document on "Participating in a Discussion".

Debates—At various times during the semester, we will have debates on contentious topics. *Each student will pick **one** of the debate topics* and then we will place students in a group that either argues 'for' or 'against' the argument. For each debate, the group of students (roughly 4-5 students per group) will work together to initially find relevant peer-reviewed articles on the topic and to decide how they will develop their arguments for the issues. I will provide each group with a short list of potential articles, but each group will need to look more broadly, and boldly, for other resources.

One class period prior to the debate, each student participating in the debate must hand in an annotated bibliography of two relevant, peer-reviewed articles that the student plans to use in developing arguments for the debate. For each article, the bibliography should be ~0.5 page (double-spaced, 12 point font), and it should include a short summary of the article that emphasizes the points that the student will use in the debate to argue for their group.

Students that are not actively debating the topic will form the jury. These students will need to ask questions to the groups to better interpret the issues. At the end of each debate, these students will be given evaluation forms that will allow students to assess whether groups came prepared, developed convincing arguments that were logical, and drew on relevant science-based information.

Exams—There will be two exams and one final exam. *The first two exams will not be cumulative, but the final exam will be cumulative.* Exams will include a combination of short answer, multiple choice, and essay questions. Questions may test you on your knowledge of the topic, your ability to reason through a problem

related to landscape ecology, and, in some cases, the ability to express your understanding using symbolic logic (graphs and figures).

Students will actively contribute to the exam materials. The Monday prior to each exam, *each student will be required to hand-in two potential questions to be included on the exam*. These questions should reflect your perspective on the important materials over the covered time period. The purpose of this exercise is not for students to necessarily produce 'easy' or 'tricky' questions for other students. Instead, it is an opportunity for students to review the material and determine crucial pieces of information that he/she thinks all students should know in landscape ecology.

Exam grading policy—If there is an adding error on an exam, see me immediately and I'll change the score. Otherwise, the overall quality of your test answers relative to the answers of others in the class is probably accurately reflected in the test score you receive. When possible, I always give partial credit if the possible number of points for a question is greater than one, but I also use the full range of possible points to reflect differences in the quality of answers that I read.

Invariably, some questions will be graded a bit too harshly and others a bit too leniently. Nonetheless, if you believe that your test was graded too harshly overall, and that you should have received a greater point total, you may return the test for re-evaluation. Be warned, however...if I only re-evaluate those individual questions that you believe were graded too harshly, it would lead to an inaccurate total relative to others who choose not to contest points, and who, therefore, still retain a loss of some points due to questions that they may have had graded overly harshly. Therefore, to be fair to those who may not wish to approach the instructors about points, and to discourage rewarding aggressive behavior for its own sake, I should review and re-grade your entire test. I will be happy to do so, if you wish. Simply note the question(s) of particular concern, and note why you feel the scoring may have been incorrect. I will review every question, with an eye toward finding errors due to both overly lenient and overly harsh grading. Point gains and/or point losses will be noted, and the new point total recorded. I will then return the re-graded test in a day or two.

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Apr 11	Lecture: Landscape genetics in human-modified landscapes Discussion—the value of genetics for conservation Lab: Lab practical	Keyghobadi 2007
April 18	Lecture: Conclusions and the future of landscape ecology Lab: reading days (Apr 21-22)—no lab	*None*
April 28	**Final Exam 10:00am-12:00 pm (Thursday)**	

Original file: WIS 4203C 2022.pdf

Cover Sheet: Request 17008

Close Certificate: Personal and Family Financial Planning

Info

Process	Certificate|Close/Modify|Grad|Revised
Status	Pending at CALS - College of Agricultural and Life Sciences
Submitter	Nicole Sloan nlsloan@ufl.edu
Created	1/27/2022 9:47:51 AM
Updated	1/27/2022 11:00:18 AM
Description of request	Request to close the Graduate-level certificate Personal and Family Financial Planning offered by the Department of Family, Youth and Community Sciences. This certificate has been inactive for several years with the last enrollment and graduate being in 2016.

Actions

Step	Status	Group	User	Comment	Updated
Department	Approved	CALS - Family, Youth and Community Sciences 60320000	Tracy Irani		1/27/2022
No document changes					
College	Pending	CALS - College of Agricultural and Life Sciences			1/27/2022
No document changes					
Graduate Council					
No document changes					
Graduate School Notified					
No document changes					
University Curriculum Committee Notified					
No document changes					
Office of the Registrar					
No document changes					
OIPR Notified					
No document changes					
Academic Assessment Committee Notified					
No document changes					
Student Academic Support System					
No document changes					
College Notified					
No document changes					

Original file: Cover sheet.pdf

Certificate|Close-Modify for request 17008

Info

Request: Close Certificate: Personal and Family Financial Planning
Description of request: Request to close the Graduate-level certificate Personal and Family Financial Planning offered by the Department of Family, Youth and Community Sciences. This certificate has been inactive for several years with the last enrollment and graduate being in 2016.
Submitter: Nicole Sloan nlsloan@ufl.edu
Created: 1/27/2022 9:36:58 AM
Form version: 1

Responses

Current Certificate Name Personal and Family Financial Planning
Effective Term Earliest Available
Effective Year Earliest Available
Requested Action Terminate Certificate

Current Transcript Name FFP

Assessment Data Review PFFP Certificate Program Goal:
Program Goal report (results/use of results) for the Personal & Family Planning Certificate. The goal is (To increase the number of enrolled students by at least 10% per year.)
The program stopped enrolling students and the last student graduated the program in Summer 2016. We are not currently enrolling students in this program and are not actively offering this certificate,

Original file: Submitted form version 1.pdf

Cover Sheet: Request 17052

Curriculum Updates for Food Science Minor

Info

Process	Minor|Modify/Ugrad
Status	Pending at CALS - College of Agricultural and Life Sciences
Submitter	Laura Acosta ljacosta@ufl.edu
Created	2/9/2022 9:50:19 AM
Updated	2/9/2022 12:27:02 PM
Description of request	Adding and updating course options for the discipline.

Actions

Step	Status	Group	User	Comment	Updated
Department	Approved	CALS - Food Science and Human Nutrition 60150000	Susan Percival		2/9/2022
FOOD SCIENCE MINOR CURRICULUM.docx					2/9/2022
College	Pending	CALS - College of Agricultural and Life Sciences			2/9/2022
No document changes					
Associate Provost for Undergraduate Affairs					
No document changes					
University 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					

Original file: Cover sheet.pdf

Minor|Modify for request 17052

Info

Request: Curriculum Updates for Food Science Minor
Description of request: Adding and updating course options for the discipline.
Submitter: Laura Acosta ljacosta@ufl.edu
Created: 2/9/2022 9:40:35 AM
Form version: 1

Responses

Name Food Science
Code FOS
Effective Term Earliest Available
Effective Year Earliest Available
Proposed Changes Adding new courses relevant to the discipline, and updating changed course numbers.

Specifically:
1. Replace AOM4062 (Food Engineering) with FOS4410C (Intro to Food Processing).
2. Add FOS4223 (Food and Environmental Virology)
3. Add FOS4290 (Food Safety Systems)
4. Add 4318 (Flavor Chemistry)
Pedagogical Rationale/Justification 1. Replace AOM4062 (Food Engineering) with FOS4410C (Intro to Food Processing).
Rational: AOM4062 is no longer offered and has been replaced by newly approved FOS4410C.

2. Add FOS4223 (Food and Environmental Virology)
Rationale: FOS4223 is a recently developed upper-level FOS course that would provide value options for the minor.

3. Add FOS4290 (Food Safety Systems)
Rationale: FOS4290 is a recently assigned permanent course number (previously a Special Topics course, FOS4936). Course offers value option for minor.

4. Add 4318 (Flavor Chemistry)
Rationale: This course was not previously listed as an option for the Food Science minor, but it is relevant and offers value option for the minor.
Impact on Other Programs None
Catalog Copy Yes

Original file: Submitted form version 1.pdf

FOOD SCIENCE

MINOR

REQUIRED COURSES

Suggested Courses

More suitable for students with minimal science backgrounds

Code	Title	Credits
FOS 2001	Man's Food	3
FOS 3042	Introductory Food Science	3
FOS 4202	Food Safety and Sanitation	2
FOS 4722C	Quality Control in Food Systems	3
FOS 4731	Government Regulations and the Food Industry	2
FOS4290 ~~FOS 4936~~	Principles of Food Safety Systems ~~Topics in Food Science (HAACP Systems)~~	2
Total Credits		**15**
Course List		

Optional Courses

More suitable for students with extensive science backgrounds

Code	Title	Credits
FOS4410C ~~AOM 4062~~	Introduction to Unit Operations in Food Processing ~~Principles of Food Engineering~~	4
FOS 4222	Food Microbiology	3
FOS 4222L	Food Microbiology Laboratory	2
FOS4223	Food and Environmental Virology	2
FOS 4311	Food Chemistry	3
FOS 4311L	Food Chemistry Laboratory	1
FOS4318	Flavor Chemistry	3
FOS 4321C	Food Analysis	4
FOS 4427C	Principles of Food Processing	4
FOS 4522C	Seafood Technology	3
Course List		

Cover Sheet: Request 17053

Curriculum Updates for Nutritional Sciences Minor

Info

Process	Minor|Modify/Ugrad
Status	Pending at CALS - College of Agricultural and Life Sciences
Submitter	Laura Acosta ljacosta@ufl.edu
Created	2/9/2022 10:01:17 AM
Updated	2/22/2022 1:09:59 PM
Description of request	Removing courses that are no longer offered, and adding a recently developed course that adds value as an elective.

Actions

Step	Status	Group	User	Comment	Updated
Department	Approved	CALS - Food Science and Human Nutrition 60150000	Susan Percival		2/9/2022
No document changes					
College	Pending	CALS - College of Agricultural and Life Sciences			2/9/2022
No document changes					
Associate Provost for Undergraduate Affairs					
No document changes					
University 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					

Original file: Cover sheet.pdf

Minor|Modify for request 17053

Info

Request: Curriculum Updates for Nutritional Sciences Minor
Description of request: Removing courses that are no longer offered, and adding a recently developed course that adds value as an elective.
Submitter: Laura Acosta ljacosta@ufl.edu
Created: 2/22/2022 1:06:30 PM
Form version: 2

Responses

Name Nutritional Sciences
Code NUT
Effective Term Earliest Available
Effective Year Earliest Available
Proposed Changes Changes to elective course options for the minor; removing elective courses that are no longer offered, and adding a new course.

Specifically:
1. Remove HUN4936 (Topics in Human Nutrition: Nutrition Communication and Education in Health Care)
2. Add new course HUN4813C (Laboratory Techniques in Molecular Nutrition)
Pedagogical Rationale/Justification 1. Remove HUN4936 (Topics in Human Nutrition: Nutrition Communication and Education in Health Care).
Rationale: This course is no longer offered.
2. Add new course HUN4813C (Laboratory Techniques in Molecular Nutrition)
Rationale: HUN4813C is a recently developed course in our department that adds value to the discipline as an elective option for the Nutritional Sciences minor.
Impact on Other Programs None
Catalog Copy Yes

Original file: Submitted form version 2.pdf

NUTRITIONAL SCIENCES

MINOR

REQUIRED COURSES

Proposed new plan, pending approval of request **#17053**

Code	Title	Credits
HUN 2201	Fundamentals of Human Nutrition	3
HUN 3403	Nutrition through the Life Cycle	2
HUN 4221	Nutrition and Metabolism	3
HUN 4445	Nutrition and Disease: Part 1	2
Approved electives		5-6
Total Credits		**15-16**
Course List		

APPROVED ELECTIVES

Code	Title	Credits
FOS 3042	Introductory Food Science	3
HUN 4446	Nutrition and Disease: Part 2	3
HUN4813C	Laboratory Techniques in Molecular Nutrition	3

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Code	Title	Credits
HUN 4905	Special Problems in Human Nutrition	1-3
~~HUN 4936~~	~~Topics in Human Nutrition (Nutrition Communication and Education in Health Care)~~	~~3~~
HUN 4936	Topics in Human Nutrition (Preventative Health)	2
HUN 4936	Topics in Human Nutrition	3
Course List		

Formatted Table

Cover Sheet: Request 17051

Removing curriculum requirement option

Info

Process	Major Curriculum|Modify|Ugrad/Pro
Status	Pending at CALS - College of Agricultural and Life Sciences
Submitter	Laura Acosta ljacosta@ufl.edu
Created	2/9/2022 9:37:00 AM
Updated	2/22/2022 1:01:55 PM
Description of request	Request to remove curriculum requirement option for organic chemistry.

Actions

Step	Status	Group	User	Comment	Updated
Department	Approved	CALS - Food Science and Human Nutrition 60150000	Susan Percival		2/9/2022
No document changes					
College	Pending	CALS - College of Agricultural and Life Sciences			2/9/2022
No document changes					
Associate Provost for Undergraduate Affairs					
No document changes					
University Curriculum Committee					
No document changes					
Office of the Registrar					
No document changes					
Catalog					
No document changes					
Student Academic Support System					
No document changes					
Academic Assessment Committee Notified					
No document changes					
College Notified					
No document changes					

Original file: Cover sheet.pdf

Major|Modify_Curriculum for request 17051

Info

Request: Removing curriculum requirement option
Description of request: Request to remove curriculum requirement option for organic chemistry.
Submitter: Laura Acosta ljacosta@ufl.edu
Created: 2/22/2022 12:56:46 PM
Form version: 2

Responses

Major Name Food Science
Major Code FOS
Degree Program Name FOS_BS
Undergraduate Innovation Academy Program No
Effective Term Earliest Available
Effective Year Earliest Available
Current Curriculum for Major Take (CHM 2210 and CHM 2211/CHM 2211L) or (MAC 2312 and CHM 2200/CHM 2200L)

(Full curriculum attached as 8-semester plan)
Proposed Curriculum Changes Take CHM 2210 and CHM 2211/CHM 2211L
UF Online Curriculum Change No
Pedagogical Rationale/Justification Remove CHM2200/L as requirement option
Rationale: Content of one semester Organic Chemistry does not provide the same depth as two semester sequences with CHM2210/CHM2211/CHM2211L toward support of upper-level FOS courses.

Remove MAC2312 as requirement option
Rationale: Was paired with CHM2200/L as degree exception to replace CHM2210/CHM2211/CHM2211L. MAC2312 content is not a necessity for success in upper-level FOS courses.

Outcome: MAC2311 and CHM2210/2211/2211L satisfy program needs for Calculus and Organic Chemistry.
Impact on Enrollment, Retention, Graduation None
Assessment Data Review Program Goal #1 is to "Graduate students who successfully enter graduate or professional school, or pursue food, nutrition or health-related careers." The course description for CHM 2200 states that it is "An elementary course embracing the more important aspects of organic chemistry. Intended for students in programs requiring only one semester of organic chemistry. Not intended for pre-med, pre-dentistry or pre-vet students," implying that CHM 2200 does not align well with the goals of the Food Science major.

In contrast, the course descriptions for CHM2210 and CHM2211 speak to the level of depth that appropriately aligns with the goals of the Food Science major.

CHM 2210 Organic Chemistry 1: 3 Credits
"The first half of the CHM 2210/CHM 2211 sequence intended for majors and preprofessional students. A study of the structures, syntheses and reactions of organic compounds."

CHM 2211 Organic Chemistry 2: 3 Credits
"The second half of the CHM 2210/CHM 2211 sequence intended for majors and preprofessional students. A study of the structures, syntheses and reactions of organic compounds."

MAC2312 is not a required component to support learning outcomes. Course was added to supplement credits with one-semester organic chemistry option.
Academic Learning Compact and Academic Assessment Plan None
Catalog Copy Yes

Original file: Submitted form version 2.pdf

FOOD SCIENCE

MAJOR

Proposed New Plan, Pending Approval of Request **#17051**

SEMESTER ONE	
AEB 3114L	Introduction to Agricultural Computer Applications
CHM 2045 & 2045L	General Chemistry 1 and General Chemistry 1 Laboratory (**Critical Tracking**; State Core Gen Ed Biologica and Physical Sciences)
MAC 2311	Analytic Geometry and Calculus 1 (**Critical Tracking**; State Core Gen Ed Mathematics)
State Core Gen Ed Composition; Writing Requirement	
State Core Gen Ed Humanities	
	Credits
SEMESTER TWO	
Quest 1 (Gen Ed Humanities)	
Select one:	
AEB 2014	Economic Issues, Food and You
AEB 3103	Principles of Food and Resource Economics
ECO 2013	Principles of Macroeconomics
ECO 2023	Principles of Microeconomics (Gen Ed Social and Behavioral Sciences)
CHM 2046 & 2046L	General Chemistry 2 and General Chemistry 2 Laboratory (**Critical Tracking**; Gen Ed Physical Sciences)
Elective	
	Credits

SEMESTER THREE	
BSC 2010 & 2010L	Integrated Principles of Biology 1 and Integrated Principles of Biology Laboratory 1 (**Critical Tracking**; Gen Ed Biological Sciences)
PHY 2053 & 2053L	Physics 1 and Laboratory for Physics 1 (Gen Ed Physical Sciences)
State Core Gen Ed Social and Behavioral Sciences	
Gen Ed Composition; Writing Requirement	
	Credits
SEMESTER FOUR	
Quest 2	
BSC 2011 & 2011L	Integrated Principles of Biology 2 and Integrated Principles of Biology Laboratory 2 (**Critical Tracking**; Gen Ed Biological Sciences)
CHM 2210	Organic Chemistry 1 (minimum grade of C within two attempts, including withdrawals)[1]
FOS 3042	Introductory Food Science
STA 2023	Introduction to Statistics 1 (Gen Ed Mathematics)
	Credits
SEMESTER FIVE	
AEC 3030C	Effective Oral Communication
CHM 2211 & 2211L	Organic Chemistry 2 and Organic Chemistry Laboratory
FOS 3060	Life After Graduation
FOS 4722C	Quality Control in Food Systems (**Critical Tracking**)
Elective	
	Credits
SEMESTER SIX	

FOS 4311 & 4311L	Food Chemistry and Food Chemistry Laboratory (**Critical Tracking**)
FOS 4731	Government Regulations and the Food Industry
HUN 2201	Fundamentals of Human Nutrition
MCB 2000 & 2000L	Microbiology and Microbiology Laboratory
Elective	
	Credits
SEMESTER SEVEN	
AEC 3033C	Research and Business Writing in Agricultural and Life Sciences (Writing Requirement)
BCH 3025	Fundamentals of Biochemistry
FOS 4321C	Food Analysis (**Critical Tracking**)
FOS 4410C	Introduction to Unit Operations in Food Processing
	Credits
SEMESTER EIGHT	
FOS 4222 & 4222L	Food Microbiology and Food Microbiology Laboratory
FOS 4427C	Principles of Food Processing
FOS 4435C	Food Product Development (**Critical Tracking**)
Elective	
	Credits
	Total Credits

[1] ~~Take (CHM 2210 and CHM 2211/CHM 2211L) or (MAC 2312 and CHM 2200/CHM 2200L).~~

Additional electives may be needed to complete the 120 credits required for graduation.

Cover Sheet: Request 17068

ALC updates to FYCS Major

Info

Process	ALC/SLO|New/Change|Ugrad
Status	Pending at CALS - College of Agricultural and Life Sciences
Submitter	Kathryn Ivey kbeaty@ufl.edu
Created	2/11/2022 12:10:22 PM
Updated	2/11/2022 1:22:52 PM
Description of request	Updating ALC with previously approved SLOs and Assessment Methods.

Actions

Step	Status	Group	User	Comment	Updated
Department	Approved	CALS - Family, Youth and Community Sciences 60320000	Tracy Irani		2/11/2022
FYCS_UG_Academic Learning Compact changes w.track changes.docx FYCS_UG_Academic Learning Compact - OLD version.docx FYCS_UG_Academic Learning Compact changes - new version.docx					2/11/2022 2/11/2022 2/11/2022
College	Pending	CALS - College of Agricultural and Life Sciences			2/11/2022
No document changes					
Academic Assessment Committee					
No document changes					
University Curriculum Committee Notified					
No document changes					
Catalog					
No document changes					
Student Academic Support System					
No document changes					
College Notified					
No document changes					

Original file: Cover sheet.pdf

SLO-AAP|Modify for request 17068

Info

Request: ALC updates to FYCS Major
Description of request: Updating ALC with previously approved SLOs and Assessment Methods.
Submitter: Kathryn Ivey kbeaty@ufl.edu
Created: 2/11/2022 11:21:25 AM
Form version: 1

Responses

Name of Major Family, Youth and Community Sciences
College Agricultural and Life Sciences
Effective Term Earliest Available
Effective Year Earliest Available
Request Type Modify Undergraduate Academic Assessment Plan

Plan Component Modify Academic Learning Compact (ALC), Modify Student Learning Outcome (SLO)
Academic Assessment Plan Modifications Curriculum Map, Delete SLO/Add SLO, Measurement Tools
ALC Modifications Graduation Requirements
SLO Modifications SLO, Assessment Measures
What Types of Assessments Are or Will Be Used? Final Paper/Project/Presentation, Other
Describe the Other Assessment Type: Practicum Supervisors performance evaluations (FYC4941)
What Assessment Methods Will Be Used? Rubric, Exam

Who Applies the Assessment Method? Single Faculty Member
Individual Student Assessments Assessment by SLO:
SLO 1: FYC Practicum performance evaluations (assessment method: rubric)
SLO 2: Program Planning and Evaluation project in FYC 4622 (assessment method: rubric) and Quizzes/exams in FYC 4622 (assessment method: exam)
SLO 3: Group Research Project in FYC 4801 (assessment method: rubric)
SLO 4: The oral presentation assignment that is part of their Logic Model and Program Development group assignment in FYC4622. (assessment method: rubric)
SLO 5: The scientific research paper assignment in FYC4801. (assessment method: rubric)
Description and Rationale The FYCS department has submitted a revision for their undergraduate curriculum modifying degree requirements. As such, we are submitting an updated ALC. The modifications to the Student-Learning Outcomes and Assessment Methods included in this submission were previously approved through the University Assessment Committee via SACSSOC but the changes were not made in the ALC at the time. The new degree requirements do not necessitate any additional changes to the previously approved SLOs, Assessment Methods, or Curriculum Map.

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This major takes an interdisciplinary approach to the applied social sciences and prepares students for a career in professions that strengthen families, children, youth and communities. Students' knowledge and skills will be developed through foundation courses in sociology, psychology and economics; through advanced courses in family, youth and community development; and through specialized courses in prevention and intervention. Students will be able to evaluate strategies, integrate knowledge of ethical standards and use professional skills for handling contemporary problems.

BEFORE GRADUATING STUDENTS MUST

- Pass an exam on fundamental concepts given as part of FYC 4931.
- Achieve minimum grades of C in AEC 3030C and AEC 3033C. These courses are graded using rubrics developed by a faculty committee.
- Complete a final project in FYC 4931, including a written report and oral presentation.
- Complete the practicum course FYC 4941 with performance evaluations completed by agency supervisors.
- Complete requirements for the baccalaureate degree, as determined by faculty.

STUDENTS IN THE MAJOR WILL LEARN TO

Student Learning Outcomes (SLOs)

Content

1. Apply the guiding framework of human ecology and other related theories to contribute to positive outcomes for diverse families, youth and communities at home and abroad.
2. Apply strategies for prevention and intervention in contemporary family, youth and community problems and issues.

Critical Thinking

3. Apply current research findings relevant to families, youth and communities.
4. Integrate professional skills, ethical standards and knowledge needed to participate in and to provide leadership in civic and professional life.

Communication

5. Create, interpret and analyze written text, oral messages and multimedia presentations used in agricultural and life sciences and in family, youth and community sciences.

Curriculum Map

I = Introduced; R = Reinforced; A = Assessed

Courses	SLO 1	SLO 2	SLO 3	SLO 4	SLO 5
AEC 3030C					I
AEC 3033C					I
FYC 3001	I	I	I		
FYC 3101 or SYG 2403	I	R	I		R
FYC 3112	R	R	R		A
FYC 3201	I	I	I		R
FYC 3401	I	I	I		R
FYC 4126	R	R			
FYC 4212	R	R	R		A
FYC 4622		A	R		R
FYC 4801	R		A	R	
FYC 4931	A				
FYC 4941				A	R
Academic Learning Compact 5					

ASSESSMENT TYPES

- Final paper
- Project
- Presentation

This major takes an interdisciplinary approach to the applied social sciences and prepares students for a career in professions that strengthen families, children, youth and communities. Students' knowledge and skills will be developed through foundation courses in sociology, psychology and economics; through advanced courses in family, youth and community development; and through specialized courses in prevention and intervention. Students will be able to evaluate strategies, integrate knowledge of ethical standards and use professional skills for handling contemporary problems.

BEFORE GRADUATING STUDENTS MUST

- Complete a final project in FYC 4931, including a written report and oral presentation.
- Complete the practicum course FYC 4941 with performance evaluations completed by agency supervisors.
- Complete requirements for the baccalaureate degree, as determined by faculty.

Commented [IB1]: Removed this exam several years ago during SACS revisions

Commented [IB2]: These are CALS requirements not FYCS

STUDENTS IN THE MAJOR WILL LEARN TO

Student Learning Outcomes (SLOs)

Commented [IB3]: FYCS adjusted our SLOs in recent years via the Approval system for SACS Accreditation and we failed to update the ALC. The University Assessment Committee has already approved the SLOs in February 2020.

Content

1. Apply the guiding framework of Family, Youth and Community Sciences disciplines to contribute to positive outcomes.
2. Apply strategies for prevention and intervention in contemporary family, youth and community problems and issues.

Critical Thinking

3. Apply current research findings relevant to families, youth and communities.

Communication

4. Students interpret and analyze data and text and apply speaking skills to communicate their findings in formal settings related to family, youth and community sciences organizations using multimedia software.
5. Students interpret and analyze data and text and apply this to write effectively in a manner appropriate to conventions of social science research.

Curriculum Map

I = Introduced; R = Reinforced; A = Assessed

Courses	SLO 1	SLO 2	SLO 3	SLO 4	SLO 5
FYC 3001	I	I	I	I	I
FYC 3112	I	I	I	I	I
FYC3115	R	R	R	R	R
FYC 3201	I	I	I	I	I
FYC 3401	I	I	I	I	I
FYC4114	R	R	R	R	R
FYC 4622	R	A	R	A	R
FYC 4801	R	R	A	R	A
FYC 4931	R	R	R	R	R
FYC 4941	A	R	R	R	R

Commented [IB4]: Added A

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Commented [IB6]: Added A

Commented [IB7]: Changed from A to R

ASSESSMENT TYPES

- Final paper
- Project
- Presentation
- Practicum Supervisor's Performance Evaluations

This major takes an interdisciplinary approach to the applied social sciences and prepares students for a career in professions that strengthen families, children, youth and communities. Students' knowledge and skills will be developed through foundation courses in sociology, psychology and economics; through advanced courses in family, youth and community development; and through specialized courses in prevention and intervention. Students will be able to evaluate strategies, integrate knowledge of ethical standards and use professional skills for handling contemporary problems.

BEFORE GRADUATING STUDENTS MUST

- ~~Pass an exam on fundamental concepts given as part of FYC 4931.~~
- ~~Achieve minimum grades of C in AEC 3030C and AEC 3033C. These courses are graded using rubrics developed by a faculty committee.~~
- Complete a final project in FYC 4931, including a written report and oral presentation.
- Complete the practicum course FYC 4941 with performance evaluations completed by agency supervisors.
- Complete requirements for the baccalaureate degree, as determined by faculty.

STUDENTS IN THE MAJOR WILL LEARN TO

Student Learning Outcomes (SLOs)

Content

1. ~~Apply the guiding framework of human ecology and other related theories to contribute to positive outcomes for diverse families, youth and communities at home and abroad.~~
1. Apply the guiding framework of Family, Youth and Community Sciences disciplines to contribute to positive outcomes.
2. Apply strategies for prevention and intervention in contemporary family, youth and community problems and issues.

Critical Thinking

3. Apply current research findings relevant to families, youth and communities.
4. ~~Integrate professional skills, ethical standards and knowledge needed to participate in and to provide leadership in civic and professional life.~~

Communication

4. Students interpret and analyze data and text and apply speaking skills to communicate their findings in formal settings related to family, youth and community sciences organizations using multimedia software.

Commented [IB1]: Removed this exam several years ago during SACS revisions

Commented [IB2]: These are CALS requirements not FYCS

Commented [IB3]: FYCS adjusted our SLOs in recent years via the Approval system for SACS Accreditation and we failed to update the ALC. The University Assessment Committee has already approved the SLOs in February 2020.

5. Students interpret and analyze data and text and apply this to write effectively in a manner appropriate to conventions of social science research.

~~5. Create, interpret and analyze written text, oral messages and multimedia presentations used in agricultural and life sciences and in family, youth and community sciences.~~

Curriculum Map

I = Introduced; R = Reinforced; A = Assessed

Courses	SLO 1	SLO 2	SLO 3	SLO 4	SLO 5
AEC 3030C					~~I~~
AEC 3033C					~~I~~
FYC 3001	I	I	I	I	I
~~FYC 3101 or SYG 2403~~	~~I~~	~~R~~	~~I~~		~~R~~
FYC 3112	I~~R~~	I~~R~~	I~~R~~	I	A~~I~~
FYC3115	R	R	R	R	R
FYC 3201	I	I	I	I	I~~R~~
FYC 3401	I	I	I	I	I~~R~~
FYC4114	R	R	R	R	R
~~FYC 4126~~	~~R~~	~~R~~			
~~FYC 4212~~	~~R~~	~~R~~	~~R~~		~~A~~
FYC 4622	R	A	R	A	R
FYC 4801	R	R	A	R	A
FYC 4931	A~~R~~	R	R	R	R
FYC 4941	A	R	R	A~~R~~	R
~~Academic Learning Compact 5~~					

Commented [IB4]: Change from A to I

Commented [IB5]: Added A

Commented [IB6]: Changed from A to R

Commented [IB7]: Added A

Commented [IB8]: Changed from A to R

ASSESSMENT TYPES

- Final paper

- Project
- Presentation
- Practicum Supervisor’s Performance Evaluations

Cover Sheet: Request 15942

Disease and Wildlife

Info

Process	Course|New|Grad
Status	Pending at CALS - College of Agricultural and Life Sciences
Submitter	Kuttichantran Subramaniam kuttichantran@ufl.edu
Created	3/8/2021 12:34:50 PM
Updated	2/22/2022 2:27:39 PM
Description of request	Requesting a permanent number for WIS6934.

Actions

Step	Status	Group	User	Comment	Updated
Department	Approved	CALS - Wildlife Ecology and Conservation 60470000	Eric Hellgren		3/8/2021
CALS CC Checklist.pdf					3/8/2021
College	Pending	CALS - College of Agricultural and Life Sciences			3/8/2021
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					

Original file: Cover sheet.pdf

Course|New for request 15942

Info

Request: Disease and Wildlife
Description of request: Requesting a permanent number for WIS6934.
Submitter: Kuttichantran Subramaniam kuttichantran@ufl.edu
Created: 2/22/2022 2:27:17 PM
Form version: 5

Responses

Recommended Prefix WIS
Course Level 6
Course Number XXX
Category of Instruction Joint (Ugrad/Grad)
Lab Code None
Course Title Disease and Wildlife
Transcript Title Disease and Wildlife
Degree Type Graduate

Delivery Method(s) On-Campus
Co-Listing Yes
Co-Listing Explanation 1. Additional readings will be recommended for the graduate students. 2. Graduate students will be required to write a term paper and do a presentation on a particular wildlife disease (instructor approved).

Effective Term Earliest Available
Effective Year Earliest Available
Rotating Topic? No
Repeatable Credit? No

Amount of Credit 3

S/U Only? No
Contact Type Regularly Scheduled
Weekly Contact Hours 3.0
Course Description This course will provide an overview of the importance of wildlife diseases in the context of disease management using an ecological framework. Diseases will be discussed for each of the major terrestrial and aquatic groups of animals. Guest lectures will be provided by experts in their fields.
Prerequisites None
Co-requisites N/A
Rationale and Placement in Curriculum The proposed course will provide an overview of the importance of wildlife diseases in the context of disease management using an ecological framework. At the end of the course students will be able to identify important infectious and non-infectious diseases of various wildlife species in the southeastern United States and beyond, including diseases transmissible to domestic animals and humans. This course will be a good introductory course for students interested in wildlife management, conservation, veterinary care, and public health.
Course Objectives • Describe common disease processes

• Differentiate the normal and abnormal appearance of various wildlife species

• Identify important infectious and non-infectious diseases of various wildlife species in the southeastern United States and beyond, including diseases transmissible to domestic animals and humans

• Assess wildlife disease outbreak investigations and compare methods of diagnosis, prevention, and control of wildlife diseases

Original file: Submitted form version 5.pdf

- Integrate wildlife diseases into principles of wildlife management, conservation, veterinary care, and public health

- Identify threatened or vulnerable wildlife species in the southeastern United States and beyond, understand the diseases and ecological process that led to the decrease of this species, and what efforts are being done to reverse this process

- Develop and communicate the disease process in wildlife species and the impact of this disease in those species to a technical audience

Course Textbook(s) and/or Other Assigned Reading Parasites and Disease of Wild Mammals in Florida, Don J. Forrester, 1992, University of Florida Press, ISBN: 9780813010724

Parasites and Diseases of Wild Birds in Florida, Donald J. Forrester, Marilyn Spalding, 2003, University Press of Florida, ISBN: 0813025605

Fish Disease: Diagnosis and Treatment, Edward J. Noga, Wiley-Blackwell, 2nd Edition, 2010, ISBN: 0813806976

Tyson-Pello SJ, Olsen GH. 2020. Emerging Diseases of Avian Wildlife. Veterinary Clinics of North America: Exotic Animal Practice 23: 383-395.

Gleeson M, Petritz OA. 2020. Emerging Infectious Diseases of Rabbits. Veterinary Clinics of North America: Exotic Animal Practice 23: 249-261.

Latney LV, Klaphake E. 2020. Selected Emerging Infectious Diseases of Amphibians. Veterinary Clinics of North America: Exotic Animal Practice 23: 397-412.

Rodino KG, Theel ES, Pritt BS. 2020. Tick-Borne Diseases in the United States. Clinical Chemistry 66: 537-548.

Sleeman JM, Richgels K, White CL, Stephen C. 2019. Integration of wildlife and environmental health into a One Health approach. Revue scientifique et technique (International Office of Epizootics) 38: 91-102.

Weekly Schedule of Topics Week 1

Lecture 1 The Nature and Significance of Disease
Lecture 2 The Nature and Significance of Disease.
Lecture 3 The Disease Process

Week 2
Lecture 4 The Disease Process
Lecture 5 Introduction to Infectious Diseases
Lecture 6 Introduction to Non-infectious Diseases

Week 3
Lecture 7 One Health - Take Home Quiz 1
Lecture 8 Parasites of Wild Fish - Take Home Quiz 1 Due
Lecture 9 Viruses of Wild Fish

Week 4
Lecture 10 Amphibian Diseases
Lecture 11 Reptile Diseases
Lecture 12 Fibropapillomatosis in Sea Turtles

Week 5
Lecture 13 Aquatic zoonoses
Lecture 14 Marine Mammal Diseases
Lecture 15 Aquatic Toxicology - Take Home Quiz 2

Week 6
Lecture 16 Diseases of Galliformes - Take Home Quiz 2 Due
Lecture 17 Diseases of Raptors
Lecture 18 Diseases of Raptors

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Week 7
Lecture 19 Diseases of Columbiformes
Lecture 20 Diseases of Passerines
Lecture 21 Diseases of Passerines

Week 8
Lecture 22 Waterfowl Diseases
Lecture 23 Waterfowl Diseases - Take Home Quiz 3
Lecture 24 Diseases of Mustelids - Take Home Quiz 3 Due

Week 9
Lecture 25 Diseases of Lagomorphs and Rodents
Lecture 26 Diseases of Lagomorphs and Rodents.
Lecture 27 Diseases of Ungulates

Week 10
Lecture 28 Diseases of White-tailed Deer
Lecture 29 Diseases of Florida the Florida Panther
Lecture 30 Diseases of Black Bear

Week 11
Lecture 31 Diseases of Marsupials, Armadillos, and Bats - Take Home Quiz 4
Lecture 32 Graduate Student Presentations - Take Home Quiz 4 Due
Lecture 33 Graduate Student Presentations

Grading Scheme Students will be graded based on their performance on four take-home quizzes, a term paper, and a final presentation. All written quiz answers must be completed in the student's own words. For take-home quizzes, students are permitted to use their notes from the course, textbooks, and online resources. Copying from other sources is not acceptable and will be considered plagiarism and receive a score of 0 (zero) for that quiz. Completed take-home quizzes will be collected at the beginning of the next class and students should reach out to the instructor should more time be needed to complete the quizzes. Additionally, students are required to write a term paper and complete a 20 min final presentation. The term paper and presentation should be on a wildlife disease that you are currently studying (or would like to study) and include current knowledge gaps and future research directions that would allow for a better understanding of the disease you are addressing.

Points breakdown:
Quizzes (20 pts/quiz x 4 quizzes = 80 pts)
Term paper = 10 pts
Final presentation = 10 pts

Total Points = 100

Grades will be assigned as follows:

Letter Grade Percentage Points
A

100.0-93.0 100.0-93.0
A-

92.9-90.0

92.9-90.0
B+

89.9-87.0

89.9-87.0
B

86.9-83.0

Original file: Submitted form version 5.pdf

86.9-83.0
B-

82.9-80.0

82.9-80.0
C+

79.9-77.0

79.9-77.0
C

76.9-73.0

76.9-73.0
C-

72.9-70.0

72.9-70.0
D+

69.9-67.0

69.9-67.0
D

66.9-63.0

66.9-63.0
D-

62.9-60.0

62.9-60.0
E

<59.9

<59.9

Instructor(s) Instructor: Kuttichantran Subramaniam, MS, PhD; kuttichantran@ufl.edu
Co-instructor: Bridget B. Baker, MS, DVM; bridgetbaker@ufl.edu
Attendance & Make-up Yes
Accomodations Yes
UF Grading Policies for assigning Grade Points Yes
Course Evaluation Policy Yes

Original file: Submitted form version 5.pdf

CALS Curriculum Committee
Submission Checklist

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.

VH 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/.

VH 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/faculty-staff/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.

VH Joint course submissions must include both graduate and undergraduate syllabuses and a separate statement 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.

VH The course description on the UCC form and in the syllabus must match. Any other information you wish to include needs to be under a different heading such as background or additional information.

VH 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-course-objectives.pdf). Do not use the words demonstrate or understand when listing learning objectives.

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

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VH 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.

VH Outside consultations are required if there is a possibility of the proposed course covering 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://registrar.ufl.edu/pdf/uccconsult.pdf.

VH 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.

VH 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.

VH 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 is included in the CALS Syllabus Statements. For the approval process the college suggests a less is more view when it comes to this policy.

VH 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. Joel Brendemuhl (brendj@ufl.edu) for further instruction)

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DISEASE AND WILDLIFE
WIS4934
3 credits

Instructors:
Instructor/Coordinator: Kuttichantran Subramaniam, MS, PhD; kuttichantran@ufl.edu
Co-instructor: Bridget B. Baker, MS, DVM; bridgetbaker@ufl.edu
Co-coordinator: Pedro H.O. Viadanna, MS, DVM, PhD; pedro@ufl.edu

Course Prerequisites: Junior standing

Time: 3:00 - 3.50 PM on Monday, Wednesday, and Friday

Location: 100 McCarty C Building

Office hours: Tuesday 10:00-11:00 AM (or by appointment) at Aquatic Pathobiology Laboratory (Bldg #: 1379; Room #: 203)

Recommended Texts:

Parasites and Disease of Wild Mammals in Florida, Don J. Forrester, 1992, University of Florida Press, ISBN: 9780813010724

Parasites and Diseases of Wild Birds in Florida, Donald J. Forrester, Marilyn Spalding, 2003, University Press of Florida, ISBN: 0813025605

Fish Disease: Diagnosis and Treatment, Edward J. Noga, Wiley-Blackwell, 2nd Edition, 2010, ISBN: 0813806976

Course Description:

This course will provide an overview of the importance of wildlife diseases in the context of disease management using an ecological framework. Diseases will be discussed for each of the major terrestrial and aquatic groups of animals. Guest lectures will be provided by experts in their fields.

Course Learning Objectives:

- Describe common disease processes
- Recognize the normal and abnormal appearance of various wildlife species
- Identify important infectious and non-infectious diseases of various wildlife species in the southeastern United States and beyond, including diseases transmissible to domestic animals and humans

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- Outline wildlife disease outbreak investigations and describe methods of diagnosis, prevention, and control of wildlife diseases

- Integrate wildlife diseases into principles of wildlife management, conservation, veterinary care, and public health

Topics:

Date	Topic
UNIT 1	
Lecture 1	The Nature and Significance of Disease - Subramaniam, K.
Lecture 2	The Nature and Significance of Disease - Subramaniam, K.
Lecture 3	The Disease Process - Viadanna, P.H.O.
Lecture 4	The Disease Process - Viadanna, P.H.O.
Lecture 5	Introduction to Infectious Diseases - Subramaniam, K.
Lecture 6	Introduction to Non-infectious Diseases - Baker, T. R.
Lecture 7	One Health - Baker, B.B./ Take Home Quiz 1
UNIT 2	
Lecture 8	Parasites of Wild Fish - Viadanna, P.H.O./ Take Home Quiz 1 Due
Lecture 9	Viruses of Wild Fish - Subramaniam, K.
Lecture 10	Amphibian Diseases - Ossiboff, R.J.
Lecture 11	Reptile Diseases - Ossiboff, R.J.
Lecture 12	Fibropapillomatosis in Sea Turtles - Stacy, B.A.
Lecture 13	Aquatic zoonoses - Baker, B.B.
Lecture 14	Marine Mammal Diseases - Baker, B.B.
Lecture 15	Aquatic Toxicology - Martyniuk C.J./ Take Home Quiz 2
UNIT 3	
Lecture 16	Diseases of Galliformes - Baker, B.B./ Take Home Quiz 2 Due
Lecture 17	Diseases of Raptors - Viadanna, P.H.O.
Lecture 18	Diseases of Raptors - Viadanna, P.H.O.
Lecture 19	Diseases of Columbiformes - Viadanna, P.H.O.
Lecture 20	Diseases of Passerines - Viadanna, P.H.O.
Lecture 21	Diseases of Passerines - Viadanna, P.H.O.
Lecture 22	Waterfowl Diseases - Subramaniam, K.
Lecture 23	Waterfowl Diseases - Subramaniam, K./ Take Home Quiz 3
UNIT 4	
Lecture 24	Diseases of Mustelids - Wisely, S./ Take Home Quiz 3 Due
Lecture 25	Diseases of Lagomorphs and Rodents - Subramaniam, K.
Lecture 26	Diseases of Lagomorphs and Rodents - Subramaniam, K.
Lecture 27	Diseases of Ungulates - Krauer, J.M.C.
Lecture 28	Diseases of White-tailed Deer - Cunningham, M.

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Lecture 29	Diseases of Florida the Florida Panther - Cunningham, M.
Lecture 30	Diseases of Black Bear - Cunningham, M.
Lecture 31	Diseases of Marsupials, Armadillos, and Bats - Baker, B.B./ Take Home Quiz 4
Lecture 32	Graduate Student Presentations/ Take Home Quiz 4 Due
Lecture 33	Graduate Student Presentations

Grading:
Students will be graded based on their performance on four take-home quizzes. All written quiz answers must be completed in the student's own words. For take-home quizzes, students are permitted to use their notes from the course, textbooks, and online resources. Copying from other sources is not acceptable and will be considered plagiarism and receive a score of 0 (zero) for that quiz. Completed take-home quizzes will be collected at the beginning of the next class and students should reach out to the instructor should more time be needed to complete the quiz.

Points breakdown:
Quizzes (20 pts/quiz x 4 quizzes **= 80 pts)**

Total Points = 80

Grades will be assigned as follows:

Letter Grade	Percentage	Points
A	100.0-93.0	80-74.4
A-	92.9-90.0	74.3-72
B+	89.9-87.0	71.9-69.6
B	86.9-83.0	69.5-66.4
B-	82.9-80.0	66.3-64
C+	79.9-77.0	63.9-61.6
C	76.9-73.0	61.5-58.4
C-	72.9-70.0	58.3-56
D+	69.9-67.0	55.9-53.6
D	66.9-63.0	53.5-50.4
D-	62.9-60.0	50.3-48
E	<59.9	<47.9

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

Attendance and Make-Up Work:
Requirements for class attendance and make-up exams, assignments and other work areconsistent with university policies that can be found at:

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https://catalog.ufl.edu/UGRD/academic-regulations/attendance-policies/.

Online Course Evaluation Process:
Student assessment of instruction is an important part of efforts to improve teaching and learning. At the end of the semester, students are expected to provide feedback on the quality of instruction in this course using a standard set of university and college criteria.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 evaluationperiod 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/.

Academic Honesty
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 academic misconduct to appropriate personnel. 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:http://www.dso.ufl.edu/sccr/process/student-conduct-honor-code.

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.

Services for Students with Disabilities
The Disability Resource Center coordinates the needed accommodations of students withdisabilities. 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.

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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, https://disability.ufl.edu/

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 academicperformance.

- *University Counseling & Wellness Center, 3190 Radio Road, 352-392-1575,* **www.counseling.ufl.edu**
  Counseling Services
  Groups and Workshops
  Outreach and Consultation
  Self-Help Library
  Wellness Coaching

- *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.

- *Career Connections Center,* First Floor JWRU, 392-1601, https://career.ufl.edu/.

- Student Success Initiative, http://studentsuccess.ufl.edu.

- *Student Health Care Center*: Call 352-392-1161 for 24/7 information to help you find the care you need, or visit https://shcc.ufl.edu/

- *University Police Department*: Visit 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; 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 https://gatorwell.ufsa.ufl.edu/ or call 352-273-4450.

Academic Resources:

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- 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. https://career.ufl.edu/

- Library Support: Various ways to receive assistance with respect to using the libraries or finding resources. https://cms.uflib.ufl.edu/ask

- Teaching Center: Broward Hall, 352-392-2010 or to make an appointment 352-392-6420. General study skills and tutoring. https://teachingcenter.ufl.edu/

- Writing Studio: 2215 Turlington Hall, 352-846-1138. Help brainstorming, formatting, and writing papers. https://writing.ufl.edu/writing-studio/

Student Complaints:

- Residential Course: https://sccr.dso.ufl.edu/policies/student-honor-code-student-conduct-code/.

- Online Course: http://www.distance.ufl.edu/student-complaint-process

Additional information

Instructors may choose to clarify in their syllabus their teaching philosophy, expectations for classroom behavior, utilization of e-learning, and other information that will help students succeed in the course.

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DISEASE AND WILDLIFE
WIS6934
3 credits

Instructors:
Instructor/Coordinator: Kuttichantran Subramaniam, MS, PhD; kuttichantran@ufl.edu
Co-instructor: Bridget B. Baker, MS, DVM; bridgetbaker@ufl.edu
Co-coordinator: Pedro H.O. Viadanna, MS, DVM, PhD; pedro@ufl.edu

Course Prerequisites: None

Time: 3:00 - 3.50 PM on Monday, Wednesday, and Friday

Location: 100 McCarty C Building

Office hours: Tuesday 10:00-11:00 AM (or by appointment) at Aquatic Pathobiology Laboratory (Bldg #: 1379; Room #: 203)

Recommended Texts:

Parasites and Disease of Wild Mammals in Florida, Don J. Forrester, 1992, University of Florida Press, ISBN: 9780813010724

Parasites and Diseases of Wild Birds in Florida, Donald J. Forrester, Marilyn Spalding, 2003, University Press of Florida, ISBN: 0813025605

Fish Disease: Diagnosis and Treatment, Edward J. Noga, Wiley-Blackwell, 2nd Edition, 2010, ISBN: 0813806976

Required Reading Texts:

Tyson-Pello SJ, Olsen GH. 2020. Emerging Diseases of Avian Wildlife. *Veterinary Clinics of North America: Exotic Animal Practice* 23: 383-395.

Gleeson M, Petritz OA. 2020. Emerging Infectious Diseases of Rabbits. *Veterinary Clinics of North America: Exotic Animal Practice* 23: 249-261.

Latney LV, Klaphake E. 2020. Selected Emerging Infectious Diseases of Amphibians. *Veterinary Clinics of North America: Exotic Animal Practice* 23: 397-412.

Rodino KG, Theel ES, Pritt BS. 2020. Tick-Borne Diseases in the United States. *Clinical Chemistry* 66: 537-548.

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Sleeman JM, Richgels K, White CL, Stephen C. 2019. Integration of wildlife and environmental health into a One Health approach. *Revue scientifique et technique (International Office of Epizootics)* 38: 91-102.

Course Description:

This course will provide an overview of the importance of wildlife diseases in the context of disease management using an ecological framework. Diseases will be discussed for each of the major terrestrial and aquatic groups of animals. Guest lectures will be provided by experts in their fields.

Course Learning Objectives:

- Describe common disease processes
- Differentiate the normal and abnormal appearance of various wildlife species
- Identify important infectious and non-infectious diseases of various wildlife species in the southeastern United States and beyond, including diseases transmissible to domestic animals and humans
- Assess wildlife disease outbreak investigations and compare methods of diagnosis, prevention, and control of wildlife diseases
- Integrate wildlife diseases into principles of wildlife management, conservation, veterinary care, and public health
- Identify threatened or vulnerable wildlife species in the southeastern United States and beyond, understand the diseases and ecological process that led to the decrease of this species, and what efforts are being done to reverse this process
- Develop and communicate the disease process in wildlife species and the impact of this disease in those species to a technical audience

Topics:

Date	Topic
UNIT 1	
Lecture 1	The Nature and Significance of Disease - Subramaniam, K.
Lecture 2	The Nature and Significance of Disease - Subramaniam, K.
Lecture 3	The Disease Process - Viadanna, P.H.O.
Lecture 4	The Disease Process - Viadanna, P.H.O.
Lecture 5	Introduction to Infectious Diseases - Subramaniam, K.
Lecture 6	Introduction to Non-infectious Diseases - Baker, T. R.
Lecture 7	One Health - Baker, B.B./ Take Home Quiz 1

Original file: Disease and Wildlife Syllabus 2020-2021 WIS6934_Graduate (2-22).pdf

UNIT 2	
Lecture 8	Parasites of Wild Fish - Viadanna, P.H.O./ Take Home Quiz 1 Due
Lecture 9	Viruses of Wild Fish - Subramaniam, K.
Lecture 10	Amphibian Diseases - Ossiboff, R.J.
Lecture 11	Reptile Diseases - Ossiboff, R.J.
Lecture 12	Fibropapillomatosis in Sea Turtles - Stacy, B.A.
Lecture 13	Aquatic zoonoses - Baker, B.B.
Lecture 14	Marine Mammal Diseases - Baker, B.B.
Lecture 15	Aquatic Toxicology - Martyniuk C.J./ Take Home Quiz 2
UNIT 3	
Lecture 16	Diseases of Galliformes - Baker, B.B./ Take Home Quiz 2 Due
Lecture 17	Diseases of Raptors - Viadanna, P.H.O.
Lecture 18	Diseases of Raptors - Viadanna, P.H.O.
Lecture 19	Diseases of Columbiformes - Viadanna, P.H.O.
Lecture 20	Diseases of Passerines - Viadanna, P.H.O.
Lecture 21	Diseases of Passerines - Viadanna, P.H.O.
Lecture 22	Waterfowl Diseases - Subramaniam, K.
Lecture 23	Waterfowl Diseases - Subramaniam, K./ Take Home Quiz 3
UNIT 4	
Lecture 24	Diseases of Mustelids - Wisely, S./ Take Home Quiz 3 Due
Lecture 25	Diseases of Lagomorphs and Rodents - Subramaniam, K.
Lecture 26	Diseases of Lagomorphs and Rodents - Subramaniam, K.
Lecture 27	Diseases of Ungulates - Krauer, J.M.C.
Lecture 28	Diseases of White-tailed Deer - Cunningham, M.
Lecture 29	Diseases of Florida the Florida Panther - Cunningham, M.
Lecture 30	Diseases of Black Bear - Cunningham, M.
Lecture 31	Diseases of Marsupials, Armadillos, and Bats - Baker, B.B./ Take Home Quiz 4
Lecture 32	Graduate Student Presentations/ Take Home Quiz 4 Due
Lecture 33	Graduate Student Presentations

Grading:
Students will be graded based on their performance on four take-home quizzes, a term paper, and a final presentation. All written quiz answers must be completed in the student's own words. For take-home quizzes, students are permitted to use their notes from the course, textbooks, and online resources. Copying from other sources is not acceptable and will be considered plagiarism and receive a score of 0 (zero) for that quiz. Completed take-home quizzes will be collected at the beginning of the next class and students should reach out to the instructor should more time be needed to complete the quizzes. Additionally, students are required to write a term paper and complete a 20 min final presentation. The term paper and presentation should be on a wildlife disease that you are currently studying (or would like to study) and include current knowledge gaps

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and future research directions that would allow for a better understanding of the disease you are addressing.

Points breakdown:
Quizzes (20 pts/quiz x 4 quizzes **= 80 pts)**
Term paper = **10 pts**
Final presentation = **10 pts**

Total Points = 100

Grades will be assigned as follows:

Letter Grade	Percentage	Points
A	100.0-93.0	100.0-93.0
A-	92.9-90.0	92.9-90.0
B+	89.9-87.0	89.9-87.0
B	86.9-83.0	86.9-83.0
B-	82.9-80.0	82.9-80.0
C+	79.9-77.0	79.9-77.0
C	76.9-73.0	76.9-73.0
C-	72.9-70.0	72.9-70.0
D+	69.9-67.0	69.9-67.0
D	66.9-63.0	66.9-63.0
D-	62.9-60.0	62.9-60.0
E	<59.9	<59.9

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

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

Online Course Evaluation Process:
Student assessment of instruction is an important part of efforts to improve teaching and learning. At the end of the semester, students are expected to provide feedback on the quality of instruction in this course using a standard set of university and college criteria.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

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evaluationperiod 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/.

Academic Honesty
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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 academic misconduct to appropriate personnel. 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:http://www.dso.ufl.edu/sccr/process/student-conduct-honor-code.

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Services for Students with Disabilities
The Disability Resource Center coordinates the needed accommodations of students withdisabilities. 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, https://disability.ufl.edu/

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

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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 academicperformance.

- *University Counseling & Wellness Center, 3190 Radio Road, 352-392-1575,* **www.counseling.ufl.edu**
  Counseling Services
  Groups and Workshops
  Outreach and Consultation
  Self-Help Library
  Wellness Coaching

- *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.

- *Career Connections Center*, First Floor JWRU, 392-1601, https://career.ufl.edu/.

- Student Success Initiative, http://studentsuccess.ufl.edu.

- *Student Health Care Center*: Call 352-392-1161 for 24/7 information to help you find the care you need, or visit https://shcc.ufl.edu/

- *University Police Department*: Visit 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; 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 https://gatorwell.ufsa.ufl.edu/ 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. https://career.ufl.edu/

- Library Support: Various ways to receive assistance with respect to using the libraries or finding resources. https://cms.uflib.ufl.edu/ask

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- Teaching Center: Broward Hall, 352-392-2010 or to make an appointment 352-392-6420. General study skills and tutoring. https://teachingcenter.ufl.edu/

- Writing Studio: 2215 Turlington Hall, 352-846-1138. Help brainstorming, formatting, and writing papers. https://writing.ufl.edu/writing-studio/

Student Complaints:

- Residential Course: https://sccr.dso.ufl.edu/policies/student-honor-code-student-conduct-code/.

- Online Course: http://www.distance.ufl.edu/student-complaint-process

Additional information
Instructors may choose to clarify in their syllabus their teaching philosophy, expectations for classroom behavior, utilization of e-learning, and other information that will help students succeed in the course.

Original file: Disease and Wildlife Syllabus 2020-2021 WIS6934_Graduate (2-22).pdf

Cover Sheet: Request 15941

Disease and Wildlife

Info

Process	Course|New|Ugrad/Pro
Status	Pending at CALS - College of Agricultural and Life Sciences
Submitter	Kuttichantran Subramaniam kuttichantran@ufl.edu
Created	3/8/2021 12:28:09 PM
Updated	2/22/2022 2:21:59 PM
Description of request	Requesting a permanent number for WIS 4934.

Actions

Step	Status	Group	User	Comment	Updated
Department	Approved	CALS - Wildlife Ecology and Conservation 60470000	Eric Hellgren		3/8/2021
CALS CC Checklist.pdf					3/8/2021
College	Pending	CALS - College of Agricultural and Life Sciences			3/8/2021
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					

Original file: Cover sheet.pdf

Course|New for request 15941

Info

Request: Disease and Wildlife
Description of request: Requesting a permanent number for WIS 4934.
Submitter: Kuttichantran Subramaniam kuttichantran@ufl.edu
Created: 2/22/2022 2:21:23 PM
Form version: 4

Responses

Recommended Prefix WIS
Course Level 4
Course Number XXX
Category of Instruction Joint (Ugrad/Grad)
Lab Code None
Course Title Disease and Wildlife
Transcript Title Disease and Wildlife
Degree Type Baccalaureate

Delivery Method(s) On-Campus
Co-Listing Yes
Co-Listing Explanation 1. Additional readings will be recommended for the graduate students. 2. Graduate students will be required to write a term paper and do a presentation on a particular wildlife disease (instructor approved).
Effective Term Earliest Available
Effective Year Earliest Available
Rotating Topic? No
Repeatable Credit? No

Amount of Credit 3

S/U Only? No
Contact Type Regularly Scheduled
Weekly Contact Hours 3.0
Course Description This course will provide an overview of the importance of wildlife diseases in the context of disease management using an ecological framework. Diseases will be discussed for each of the major terrestrial and aquatic groups of animals. Guest lectures will be provided by experts in their fields.
Prerequisites Junior standing
Co-requisites N/A
Rationale and Placement in Curriculum The proposed course will provide an overview of the importance of wildlife diseases in the context of disease management using an ecological framework. At the end of the course students will be able to identify important infectious and non-infectious diseases of various wildlife species in the southeastern United States and beyond, including diseases transmissible to domestic animals and humans. This course will be a good introductory course for students interested in wildlife management, conservation, veterinary care, and public health.
Course Objectives • Describe common disease processes

• Recognize the normal and abnormal appearance of various wildlife species

• Identify important infectious and non-infectious diseases of various wildlife species in the southeastern United States and beyond, including diseases transmissible to domestic animals and humans

• Outline wildlife disease outbreak investigations and describe methods of diagnosis, prevention, and control of wildlife diseases

Original file: Submitted form version 4.pdf

• Integrate wildlife diseases into principles of wildlife management, conservation, veterinary care, and public health

Course Textbook(s) and/or Other Assigned Reading Parasites and Disease of Wild Mammals in Florida, Don J. Forrester, 1992, University of Florida Press, ISBN: 9780813010724

Parasites and Diseases of Wild Birds in Florida, Donald J. Forrester, Marilyn Spalding, 2003, University Press of Florida, ISBN: 0813025605

Fish Disease: Diagnosis and Treatment, Edward J. Noga, Wiley-Blackwell, 2nd Edition, 2010, ISBN: 0813806976

Weekly Schedule of Topics Week 1

Lecture 1 The Nature and Significance of Disease
Lecture 2 The Nature and Significance of Disease.
Lecture 3 The Disease Process

Week 2
Lecture 4 The Disease Process
Lecture 5 Introduction to Infectious Diseases
Lecture 6 Introduction to Non-infectious Diseases

Week 3
Lecture 7 One Health - Take Home Quiz 1
Lecture 8 Parasites of Wild Fish - Take Home Quiz 1 Due
Lecture 9 Viruses of Wild Fish

Week 4
Lecture 10 Amphibian Diseases
Lecture 11 Reptile Diseases
Lecture 12 Fibropapillomatosis in Sea Turtles

Week 5
Lecture 13 Aquatic zoonoses
Lecture 14 Marine Mammal Diseases
Lecture 15 Aquatic Toxicology - Take Home Quiz 2

Week 6
Lecture 16 Diseases of Galliformes - Take Home Quiz 2 Due
Lecture 17 Diseases of Raptors
Lecture 18 Diseases of Raptors

Week 7
Lecture 19 Diseases of Columbiformes
Lecture 20 Diseases of Passerines
Lecture 21 Diseases of Passerines

Week 8
Lecture 22 Waterfowl Diseases
Lecture 23 Waterfowl Diseases - Take Home Quiz 3
Lecture 24 Diseases of Mustelids - Take Home Quiz 3 Due

Week 9
Lecture 25 Diseases of Lagomorphs and Rodents
Lecture 26 Diseases of Lagomorphs and Rodents.
Lecture 27 Diseases of Ungulates

Week 10
Lecture 28 Diseases of White-tailed Deer
Lecture 29 Diseases of Florida the Florida Panther
Lecture 30 Diseases of Black Bear

Week 11
Lecture 31 Diseases of Marsupials, Armadillos, and Bats - Take Home Quiz 4

Original file: Submitted form version 4.pdf

Lecture 32 Graduate Student Presentations - Take Home Quiz 4 Due
Lecture 33 Graduate Student Presentations

Grading Scheme Students will be graded based on their performance on four take-home quizzes. All written quiz answers must be completed in the student's own words. For take-home quizzes, students are permitted to use their notes from the course, textbooks, and online resources. Copying from other sources is not acceptable and will be considered plagiarism and receive a score of 0 (zero) for that quiz. Completed take-home quizzes will be collected at the beginning of the next class and students should reach out to the instructor should more time be needed to complete the quiz.

Points breakdown:
Quizzes (20 pts/quiz x 4 quizzes = 80 pts)

Total Points = 80

Grades will be assigned as follows:

Grades will be assigned as follows:

Letter Grade Percentage Points
A

100.0-93.0 80-74.4
A-

92.9-90.0

74.3-72
B+

89.9-87.0

71.9-69.6
B

86.9-83.0

69.5-66.4
B-

82.9-80.0

66.3-64
C+

79.9-77.0

63.9-61.6
C

76.9-73.0

61.5-58.4
C-

72.9-70.0

58.3-56
D+

69.9-67.0

55.9-53.6

Original file: Submitted form version 4.pdf

D

66.9-63.0

53.5-50.4
D-

62.9-60.0

50.3-48
E

<59.9

<47.9
Instructor(s) Instructor: Kuttichantran Subramaniam, MS, PhD; kuttichantran@ufl.edu
Co-instructor: Bridget B. Baker, MS, DVM; bridgetbaker@ufl.edu

Attendance & Make-up Yes
Accomodations Yes
UF Grading Policies for assigning Grade Points Yes
Course Evaluation Policy Yes

Original file: Submitted form version 4.pdf

CALS Curriculum Committee
Submission Checklist

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.

VH 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/.

VH 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/faculty-staff/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.

VH Joint course submissions must include both graduate and undergraduate syllabuses and a separate statement 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.

VH The course description on the UCC form and in the syllabus must match. Any other information you wish to include needs to be under a different heading such as background or additional information.

VH 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-course-objectives.pdf). Do not use the words demonstrate or understand when listing learning objectives.

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

Original file: CALS CC Checklist.pdf

VH 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.

VH Outside consultations are required if there is a possibility of the proposed course covering 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://registrar.ufl.edu/pdf/uccconsult.pdf.

VH 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.

VH 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.

VH 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 is included in the CALS Syllabus Statements. For the approval process the college suggests a less is more view when it comes to this policy.

VH 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. Joel Brendemuhl (brendj@ufl.edu) for further instruction)

Original file: CALS CC Checklist.pdf

DISEASE AND WILDLIFE
WIS4934
3 credits

Instructors:
Instructor/Coordinator: Kuttichantran Subramaniam, MS, PhD; kuttichantran@ufl.edu
Co-instructor: Bridget B. Baker, MS, DVM; bridgetbaker@ufl.edu
Co-coordinator: Pedro H.O. Viadanna, MS, DVM, PhD; pedro@ufl.edu

Course Prerequisites: Junior standing

Time: 3:00 - 3.50 PM on Monday, Wednesday, and Friday

Location: 100 McCarty C Building

Office hours: Tuesday 10:00-11:00 AM (or by appointment) at Aquatic Pathobiology Laboratory (Bldg #: 1379; Room #: 203)

Recommended Texts:

Parasites and Disease of Wild Mammals in Florida, Don J. Forrester, 1992, University of Florida Press, ISBN: 9780813010724

Parasites and Diseases of Wild Birds in Florida, Donald J. Forrester, Marilyn Spalding, 2003, University Press of Florida, ISBN: 0813025605

Fish Disease: Diagnosis and Treatment, Edward J. Noga, Wiley-Blackwell, 2nd Edition, 2010, ISBN: 0813806976

Course Description:

This course will provide an overview of the importance of wildlife diseases in the context of disease management using an ecological framework. Diseases will be discussed for each of the major terrestrial and aquatic groups of animals. Guest lectures will be provided by experts in their fields.

Course Learning Objectives:

- Describe common disease processes
- Recognize the normal and abnormal appearance of various wildlife species
- Identify important infectious and non-infectious diseases of various wildlife species in the southeastern United States and beyond, including diseases transmissible to domestic animals and humans

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- Outline wildlife disease outbreak investigations and describe methods of diagnosis, prevention, and control of wildlife diseases

- Integrate wildlife diseases into principles of wildlife management, conservation, veterinary care, and public health

Topics:

Date	Topic
UNIT 1	
Lecture 1	The Nature and Significance of Disease - Subramaniam, K.
Lecture 2	The Nature and Significance of Disease - Subramaniam, K.
Lecture 3	The Disease Process - Viadanna, P.H.O.
Lecture 4	The Disease Process - Viadanna, P.H.O.
Lecture 5	Introduction to Infectious Diseases - Subramaniam, K.
Lecture 6	Introduction to Non-infectious Diseases - Baker, T. R.
Lecture 7	One Health - Baker, B.B./ Take Home Quiz 1
UNIT 2	
Lecture 8	Parasites of Wild Fish - Viadanna, P.H.O./ Take Home Quiz 1 Due
Lecture 9	Viruses of Wild Fish - Subramaniam, K.
Lecture 10	Amphibian Diseases - Ossiboff, R.J.
Lecture 11	Reptile Diseases - Ossiboff, R.J.
Lecture 12	Fibropapillomatosis in Sea Turtles - Stacy, B.A.
Lecture 13	Aquatic zoonoses - Baker, B.B.
Lecture 14	Marine Mammal Diseases - Baker, B.B.
Lecture 15	Aquatic Toxicology - Martyniuk C.J./ Take Home Quiz 2
UNIT 3	
Lecture 16	Diseases of Galliformes - Baker, B.B./ Take Home Quiz 2 Due
Lecture 17	Diseases of Raptors - Viadanna, P.H.O.
Lecture 18	Diseases of Raptors - Viadanna, P.H.O.
Lecture 19	Diseases of Columbiformes - Viadanna, P.H.O.
Lecture 20	Diseases of Passerines - Viadanna, P.H.O.
Lecture 21	Diseases of Passerines - Viadanna, P.H.O.
Lecture 22	Waterfowl Diseases - Subramaniam, K.
Lecture 23	Waterfowl Diseases - Subramaniam, K./ Take Home Quiz 3
UNIT 4	
Lecture 24	Diseases of Mustelids - Wisely, S./ Take Home Quiz 3 Due
Lecture 25	Diseases of Lagomorphs and Rodents - Subramaniam, K.
Lecture 26	Diseases of Lagomorphs and Rodents - Subramaniam, K.
Lecture 27	Diseases of Ungulates - Krauer, J.M.C.
Lecture 28	Diseases of White-tailed Deer - Cunningham, M.

Lecture 29	Diseases of Florida the Florida Panther - Cunningham, M.
Lecture 30	Diseases of Black Bear - Cunningham, M.
Lecture 31	Diseases of Marsupials, Armadillos, and Bats - Baker, B.B./ Take Home Quiz 4
Lecture 32	Graduate Student Presentations/ Take Home Quiz 4 Due
Lecture 33	Graduate Student Presentations

Grading:
Students will be graded based on their performance on four take-home quizzes. All written quiz answers must be completed in the student's own words. For take-home quizzes, students are permitted to use their notes from the course, textbooks, and online resources. Copying from other sources is not acceptable and will be considered plagiarism and receive a score of 0 (zero) for that quiz. Completed take-home quizzes will be collected at the beginning of the next class and students should reach out to the instructor should more time be needed to complete the quiz.

Points breakdown:
Quizzes (20 pts/quiz x 4 quizzes **= 80 pts)**

Total Points = 80

Grades will be assigned as follows:

Letter Grade	Percentage	Points
A	100.0-93.0	80-74.4
A-	92.9-90.0	74.3-72
B+	89.9-87.0	71.9-69.6
B	86.9-83.0	69.5-66.4
B-	82.9-80.0	66.3-64
C+	79.9-77.0	63.9-61.6
C	76.9-73.0	61.5-58.4
C-	72.9-70.0	58.3-56
D+	69.9-67.0	55.9-53.6
D	66.9-63.0	53.5-50.4
D-	62.9-60.0	50.3-48
E	<59.9	<47.9

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

Attendance and Make-Up Work:
Requirements for class attendance and make-up exams, assignments and other work areconsistent with university policies that can be found at:

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https://catalog.ufl.edu/UGRD/academic-regulations/attendance-policies/.

Online Course Evaluation Process:
Student assessment of instruction is an important part of efforts to improve teaching and learning. At the end of the semester, students are expected to provide feedback on the quality of instruction in this course using a standard set of university and college criteria.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 evaluationperiod 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/.

Academic Honesty
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 academic misconduct to appropriate personnel. 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:http://www.dso.ufl.edu/sccr/process/student-conduct-honor-code.

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.

Services for Students with Disabilities
The Disability Resource Center coordinates the needed accommodations of students withdisabilities. 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.

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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, https://disability.ufl.edu/

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 academicperformance.

- *University Counseling & Wellness Center, 3190 Radio Road, 352-392-1575,* **www.counseling.ufl.edu**
  Counseling Services
  Groups and Workshops
  Outreach and Consultation
  Self-Help Library
  Wellness Coaching

- *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.

- *Career Connections Center,* First Floor JWRU, 392-1601, https://career.ufl.edu/.

- Student Success Initiative, http://studentsuccess.ufl.edu.

- *Student Health Care Center*: Call 352-392-1161 for 24/7 information to help you find the care you need, or visit https://shcc.ufl.edu/

- *University Police Department*: Visit 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; 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 https://gatorwell.ufsa.ufl.edu/ or call 352-273-4450.

Academic Resources:

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- 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. https://career.ufl.edu/

- Library Support: Various ways to receive assistance with respect to using the libraries or finding resources. https://cms.uflib.ufl.edu/ask

- Teaching Center: Broward Hall, 352-392-2010 or to make an appointment 352-392-6420. General study skills and tutoring. https://teachingcenter.ufl.edu/

- Writing Studio: 2215 Turlington Hall, 352-846-1138. Help brainstorming, formatting, and writing papers. https://writing.ufl.edu/writing-studio/

Student Complaints:

- Residential Course: https://sccr.dso.ufl.edu/policies/student-honor-code-student-conduct-code/.

- Online Course: http://www.distance.ufl.edu/student-complaint-process

Additional information

Instructors may choose to clarify in their syllabus their teaching philosophy, expectations for classroom behavior, utilization of e-learning, and other information that will help students succeed in the course.

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DISEASE AND WILDLIFE
WIS6934
3 credits

Instructors:
Instructor/Coordinator: Kuttichantran Subramaniam, MS, PhD; kuttichantran@ufl.edu
Co-instructor: Bridget B. Baker, MS, DVM; bridgetbaker@ufl.edu
Co-coordinator: Pedro H.O. Viadanna, MS, DVM, PhD; pedro@ufl.edu

Course Prerequisites: None

Time: 3:00 - 3.50 PM on Monday, Wednesday, and Friday

Location: 100 McCarty C Building

Office hours: Tuesday 10:00-11:00 AM (or by appointment) at Aquatic Pathobiology Laboratory (Bldg #: 1379; Room #: 203)

Recommended Texts:

Parasites and Disease of Wild Mammals in Florida, Don J. Forrester, 1992, University of Florida Press, ISBN: 9780813010724

Parasites and Diseases of Wild Birds in Florida, Donald J. Forrester, Marilyn Spalding, 2003, University Press of Florida, ISBN: 0813025605

Fish Disease: Diagnosis and Treatment, Edward J. Noga, Wiley-Blackwell, 2nd Edition, 2010, ISBN: 0813806976

Required Reading Texts:

Tyson-Pello SJ, Olsen GH. 2020. Emerging Diseases of Avian Wildlife. *Veterinary Clinics of North America: Exotic Animal Practice* 23: 383-395.

Gleeson M, Petritz OA. 2020. Emerging Infectious Diseases of Rabbits. *Veterinary Clinics of North America: Exotic Animal Practice* 23: 249-261.

Latney LV, Klaphake E. 2020. Selected Emerging Infectious Diseases of Amphibians. *Veterinary Clinics of North America: Exotic Animal Practice* 23: 397-412.

Rodino KG, Theel ES, Pritt BS. 2020. Tick-Borne Diseases in the United States. *Clinical Chemistry* 66: 537-548.

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Sleeman JM, Richgels K, White CL, Stephen C. 2019. Integration of wildlife and environmental health into a One Health approach. *Revue scientifique et technique (International Office of Epizootics)* 38: 91-102.

Course Description:

This course will provide an overview of the importance of wildlife diseases in the context of disease management using an ecological framework. Diseases will be discussed for each of the major terrestrial and aquatic groups of animals. Guest lectures will be provided by experts in their fields.

Course Learning Objectives:

- Describe common disease processes
- Differentiate the normal and abnormal appearance of various wildlife species
- Identify important infectious and non-infectious diseases of various wildlife species in the southeastern United States and beyond, including diseases transmissible to domestic animals and humans
- Assess wildlife disease outbreak investigations and compare methods of diagnosis, prevention, and control of wildlife diseases
- Integrate wildlife diseases into principles of wildlife management, conservation, veterinary care, and public health
- Identify threatened or vulnerable wildlife species in the southeastern United States and beyond, understand the diseases and ecological process that led to the decrease of this species, and what efforts are being done to reverse this process
- Develop and communicate the disease process in wildlife species and the impact of this disease in those species to a technical audience

Topics:

Date	Topic
UNIT 1	
Lecture 1	The Nature and Significance of Disease - Subramaniam, K.
Lecture 2	The Nature and Significance of Disease - Subramaniam, K.
Lecture 3	The Disease Process - Viadanna, P.H.O.
Lecture 4	The Disease Process - Viadanna, P.H.O.
Lecture 5	Introduction to Infectious Diseases - Subramaniam, K.
Lecture 6	Introduction to Non-infectious Diseases - Baker, T. R.
Lecture 7	One Health - Baker, B.B./ Take Home Quiz 1

Original file: Disease and Wildlife Syllabus 2020-2021 WIS6934_Graduate (2-22).pdf

UNIT 2	
Lecture 8	Parasites of Wild Fish - Viadanna, P.H.O./ Take Home Quiz 1 Due
Lecture 9	Viruses of Wild Fish - Subramaniam, K.
Lecture 10	Amphibian Diseases - Ossiboff, R.J.
Lecture 11	Reptile Diseases - Ossiboff, R.J.
Lecture 12	Fibropapillomatosis in Sea Turtles - Stacy, B.A.
Lecture 13	Aquatic zoonoses - Baker, B.B.
Lecture 14	Marine Mammal Diseases - Baker, B.B.
Lecture 15	Aquatic Toxicology - Martyniuk C.J./ Take Home Quiz 2
UNIT 3	
Lecture 16	Diseases of Galliformes - Baker, B.B./ Take Home Quiz 2 Due
Lecture 17	Diseases of Raptors - Viadanna, P.H.O.
Lecture 18	Diseases of Raptors - Viadanna, P.H.O.
Lecture 19	Diseases of Columbiformes - Viadanna, P.H.O.
Lecture 20	Diseases of Passerines - Viadanna, P.H.O.
Lecture 21	Diseases of Passerines - Viadanna, P.H.O.
Lecture 22	Waterfowl Diseases - Subramaniam, K.
Lecture 23	Waterfowl Diseases - Subramaniam, K./ Take Home Quiz 3
UNIT 4	
Lecture 24	Diseases of Mustelids - Wisely, S./ Take Home Quiz 3 Due
Lecture 25	Diseases of Lagomorphs and Rodents - Subramaniam, K.
Lecture 26	Diseases of Lagomorphs and Rodents - Subramaniam, K.
Lecture 27	Diseases of Ungulates - Krauer, J.M.C.
Lecture 28	Diseases of White-tailed Deer - Cunningham, M.
Lecture 29	Diseases of Florida the Florida Panther - Cunningham, M.
Lecture 30	Diseases of Black Bear - Cunningham, M.
Lecture 31	Diseases of Marsupials, Armadillos, and Bats - Baker, B.B./ Take Home Quiz 4
Lecture 32	Graduate Student Presentations/ Take Home Quiz 4 Due
Lecture 33	Graduate Student Presentations

Grading:
Students will be graded based on their performance on four take-home quizzes, a term paper, and a final presentation. All written quiz answers must be completed in the student's own words. For take-home quizzes, students are permitted to use their notes from the course, textbooks, and online resources. Copying from other sources is not acceptable and will be considered plagiarism and receive a score of 0 (zero) for that quiz. Completed take-home quizzes will be collected at the beginning of the next class and students should reach out to the instructor should more time be needed to complete the quizzes. Additionally, students are required to write a term paper and complete a 20 min final presentation. The term paper and presentation should be on a wildlife disease that you are currently studying (or would like to study) and include current knowledge gaps

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and future research directions that would allow for a better understanding of the disease you are addressing.

Points breakdown:
Quizzes (20 pts/quiz x 4 quizzes **= 80 pts)**
Term paper = **10 pts**
Final presentation = **10 pts**

Total Points = 100

Grades will be assigned as follows:

Letter Grade	Percentage	Points
A	100.0-93.0	100.0-93.0
A-	92.9-90.0	92.9-90.0
B+	89.9-87.0	89.9-87.0
B	86.9-83.0	86.9-83.0
B-	82.9-80.0	82.9-80.0
C+	79.9-77.0	79.9-77.0
C	76.9-73.0	76.9-73.0
C-	72.9-70.0	72.9-70.0
D+	69.9-67.0	69.9-67.0
D	66.9-63.0	66.9-63.0
D-	62.9-60.0	62.9-60.0
E	<59.9	<59.9

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

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

Online Course Evaluation Process:
Student assessment of instruction is an important part of efforts to improve teaching and learning. At the end of the semester, students are expected to provide feedback on the quality of instruction in this course using a standard set of university and college criteria.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

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evaluationperiod 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/.

Academic Honesty
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 academic misconduct to appropriate personnel. 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:http://www.dso.ufl.edu/sccr/process/student-conduct-honor-code.

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.

Services for Students with Disabilities
The Disability Resource Center coordinates the needed accommodations of students withdisabilities. 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, https://disability.ufl.edu/

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

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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 academicperformance.

- *University Counseling & Wellness Center, 3190 Radio Road, 352-392-1575,* **www.counseling.ufl.edu**
  Counseling Services
  Groups and Workshops
  Outreach and Consultation
  Self-Help Library
  Wellness Coaching

- *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.

- *Career Connections Center*, First Floor JWRU, 392-1601, https://career.ufl.edu/.

- Student Success Initiative, http://studentsuccess.ufl.edu.

- *Student Health Care Center*: Call 352-392-1161 for 24/7 information to help you find the care you need, or visit https://shcc.ufl.edu/

- *University Police Department*: Visit 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; 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 https://gatorwell.ufsa.ufl.edu/ 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. https://career.ufl.edu/

- Library Support: Various ways to receive assistance with respect to using the libraries or finding resources. https://cms.uflib.ufl.edu/ask

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- Teaching Center: Broward Hall, 352-392-2010 or to make an appointment 352-392-6420. General study skills and tutoring. https://teachingcenter.ufl.edu/

- Writing Studio: 2215 Turlington Hall, 352-846-1138. Help brainstorming, formatting, and writing papers. https://writing.ufl.edu/writing-studio/

Student Complaints:

- Residential Course: https://sccr.dso.ufl.edu/policies/student-honor-code-student-conduct-code/.

- Online Course: http://www.distance.ufl.edu/student-complaint-process

Additional information
Instructors may choose to clarify in their syllabus their teaching philosophy, expectations for classroom behavior, utilization of e-learning, and other information that will help students succeed in the course.

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