CALS Curriculum Committee Meeting
January 10, 2020
2:00 p.m.
1044 McCarty Hall D


Agenda and Index for Materials

Announcement: CALS CC February 14th meeting will be held in 3042 McCarty D.

Approve Minutes from December 13, 2019 meeting

Dr. Brendemuhl: Update from UCC

Graduate New Course Proposals

1. AGR 5XXX – Plant Chromosomes and Genomes (req. #14511)

2. AGR 6XXX – Supervised Extension (req. #14556)

Undergraduate New Course Proposal

3. ENY 3XXX – Spider Biology (req. #14508)

Curriculum

4. SLO Change for the Family, Youth, and Community Sciences Undergraduate Major (req. #14538)

Gen-Ed Proposal

5. MCB 2006 – Microbes without Borders (req. #14576)
CALS Curriculum Committee Meeting
December 13, 2019
Submitted by James Fant


Substitute: Scott Sager for T. Martin

Guests: Lisa Lundy, James Estrada

Call to Order: The College of Agricultural and Life Sciences Curriculum Committee met on December 13, 2019 in Rm. 1044 McCarty Hall D. Dr. Inglett called the meeting to order at 2:00 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. Wilson to approve the minutes from the November 15, 2019 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/
Syllabus Statements – https://cals.ufl.edu/content/PDF/Faculty_Staff/CALS-Syllabus-Policy.pdf
Writing Learning Objectives - https://cals.ufl.edu/content/PDF/Faculty_Staff/cals-course-objectives.pdf.

Update from UCC: Dr. Brendemuhl noted the following items approved at the NOVEMBER meeting of the UCC: 1) Program changes to the EMANR major both campus and UFO; 2) Proposed changes to UG courses: a) ALS 4161-Exotic Species and Biosecurity Issues; b) FYC 4941-Practicum in Family, Youth and Community Sciences; 3) New UG joint courses: a) ENY 4XXX-Insect Pest and Vector Management; b) ENY 4XXX-Beekeeping II; c) FAS 4XXX-Algae Biology and Ecology; 4) Proposed changes to joint courses: a) ENY 4573 Beekeeping; 5) New graduate course: a) WIS 6XXX-Applied Wildlife Forensic Genetics. The new undergraduate course FYC 4XXX Youth Development, Service-Learning and Irish Culture was recycled. Items pending for the DECEMBER UCC are: 1) Two Graduate Certificates: a) Agriscience Secondary Teaching Preparation; and b) Weed Science; 2) New UG course; a) MCB 4XXX-Applications and Technologies of Synthetic Biology; and 3) Changes to graduate course; a) AEC 6543-Teaching and Learning Theory: Applications in Agricultural Education. Lastly, he mentioned that there are new policies being discussed: 1) Risk to Exposure – Animals, Animal Tissues and Insects; 2) Credit while a non-degree seeking student; and 3) On-line proctoring of
exams. In addition, he noted that two task forces have been established to address the SACSCOC concern of combination, dual or joint degrees.

**Graduate New Course Proposal**

1. FOR 6XXX – Forest Ecosystem Resilience (req. #14492)
   A motion was made by Dr. Porter to approve this item with changes required. The motion was approved. Some of the reading assignments from the module list in the syllabus need to be included on the UCC form under the course textbook section since no text is required.

**Undergraduate Course Change Proposal**

2. AEC 4930 – Communication and Leadership Capstone Experience (req. #14438)
   A motion was made by Scott Sager to approve this item with changes required. The motion was approved. Since only the portfolio and weekly work make up the grade for this course explain the weekly work assignments in more detail and indicate how many there are. The complete CALS Syllabus Statements boilerplate needs to be included in the syllabus. This can be found at: https://cals.ufl.edu/content/PDF/Faculty_Staff/CALS-Syllabus-Policy.pdf.

**Certificate Proposal**

3. Proposed Gateway to Agroecology Undergraduate Certificate (req. #14493)
   A motion was made by Dr. Porter to approve this item as submitted. The motion was approved.

**Curriculum**

4. Proposed change to AEC-CLD Capstone Course Requirement (req. #14437)
   A motion was made by Dr. Porter to approve this item with a change required. The motion was approved. A proposed 8-semester plan needs to be included with the submission.

5. Proposed change to SLO method for SLO4 for the Mapping with Unmanned Aerial Systems Graduate Certificate (req. #14445)
   Items #5 and #6 were reviewed together. The comments apply to both items unless otherwise stated. A motion was made by Dr. Porter to approve these items as submitted. The motion was approved.

6. Proposed change to SLO assessment method for SLO4 and SLO5 for the Mapping with Small Unmanned Aerial Systems (req. #14446)
   See item #5.

The meeting was adjourned at 2:55 p.m.
# Cover Sheet: Request 14511

Request a new introductory graduate course AGR5xxx

## Info

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## Actions

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Course|New for request 14511

Info

Request: Request a new introductory graduate course AGR5xxx
Description of request: The course materials in Plant Chromosomes and Genomes had been offered to undergraduate students with a course ID, AGR4304 and to graduate students with a temporal course ID AGR6932 Special Topic in Agronomy. With the steady enrollment in past years and development of a new Plant Breeding degree program, this course is expected to be formally listed in the graduate curriculum with a permanent course ID.
Submitter: Jianping Wang wangjp@ufl.edu
Created: 12/5/2017 12:27:16 PM
Form version: 1

Responses

Recommended Prefix AGR
Course Level 5
Number xxx
Category of Instruction Joint (Ugrad/Grad)
Lab Code C
Course Title Plant Chromosomes and Genomes
Transcript Title Pkt Chrom Genom
Degree Type Graduate

Delivery Method(s) On-Campus
Co-Listing Yes
Co-Listing Explanation AGR4303 Plant Chromosomes and Genomes will be co-listed with this requested course AGR5xxx
The differences between the two courses are:
1. Homework assignments: AGR5xxx has additional homework questions in each homework assignment, which will not present in AGR4304's homework assignment.
2. Exam: AGR5xxx has additional exam questions, which will not present in AGR4304's exams.
3. Leading paper discussion: AGR5xxx requires students to lead a group discussion on literature papers by prepare questions/topics/issues based on the literature, leading and promoting discussion among a group of students, and summarizing the discussion points. AGR4304 has no such requirement.
4. Course objectives: AGR5xxx has two additional course objectives comparing with AGR4304
Effective Term Spring
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
Course Description This course is designed to introduce students to plant chromosome structures, inheritance, basic genomic tools to analyze plant genomes. Main topics include DNA organization in chromosomes, cytogenetics, genomic DNA structure and function, DNA sequencing technologies, transcriptome, basic bioinformatic tools, high throughput DNA marker development, and genomic database exploring.
Prerequisites AGR3303 or PCB3063
Co-requisites No
Rationale and Placement in Curriculum This course is a combination of cytogenetics and genomics. About a quarter of the course materials is on cytogenetics, which is updated and integrated from a graduate course AGR 6353, Cytogenetics (to be dropped off the AGR curriculum). The rest of the three-quarters of the course materials are on plant genomics at an introductory level. Thus this course is expected to bridge the gap between basic genetics at the undergraduate level and advanced
genetics, genomics, and bioinformatics at the graduate level. This course will fit into graduate curricular of Agronomy, Horticultural Sciences, and Biology to meet the students' needs in basic cytogenetics and plant genomics.

**Course Objectives** By the end of this course students will be able to:

1. Describe and organize chromosome structure
2. Explain how chromosome number and structure variations are associated with abnormal inheritance patterns and disorders.
3. Identify appropriate cytogenetic techniques to address cytogenetic questions.
4. Relate alterations in chromosome structure with epigenetics
5. Describe current DNA sequencing technologies and how to obtain genomic data
6. Apply next generation sequencing (NGS) technologies for marker development and genotyping
7. Explain the principles and applications of genome editing tools
8. Annotate the plant genome and analyze genomic sequences using basic bioinformatics
10. Evaluate and discuss current literature in plant genetics and genomics
11. Design projects to solve a biological problem utilizing NGS technologies and bioinformatics skills

**Course Textbook(s) and/or Other Assigned Reading** No textbook is required; instead various reading materials primarily a collection of recently published articles in scientific journals will be assigned according to each topic. Assigned reading will be posted on the course website. Students are expected to read the assignments for improved understanding and class participation.

Eg.

Polyplody-Meiosis-Chromosome Abnormalities
1-  http://journals.plos.org/plosonline/article/file?id=10.1371/journal.pone.0181767&type=printable

Polyplody-Speciation and Interspecific cross compatibility
2-  https://academic.oup.com/aob/article/120/2/183/3959620

2n gametes and Autopolyploids – flow Cytometry. Second paper is old, but very good review (cited

Polyplody –Sequencing (RNA) – Duplicated Genes

Flow Cytometry – Apomixis (very old paper, but the methodology is highly used and valuable).

Apomixis (little old, but excellent paper).

GISH and FISH – Interspecific Hybrids
8-  https://link.springer.com/article/10.1007/s10681-017-1909-1

**Weekly Schedule of Topics** Date  Lectures  Topics
Jan. 7  Lecture 1  Course introduction and basic concepts review
Jan. 7  Lecture 2  Chromosome structure
Jan. 9  Lecture 3  Epigenetics
Jan. 14  Lecture 4  Epigenetics; group paper discussion
Jan. 14  Lecture 5*  Meiosis analysis for chromosome abnormalities
Jan. 16  Lecture 6*  Polyploid and speciation
Jan. 21  Lecture 7*  2n gametes and autopolyplod genetics
Jan. 21  Lecture 8*  Interspecific cross compatibility and allopolyploid genetics
Jan. 23  Lecture 9*  Apomixis
Jan. 28  Lecture 10*  Group paper discussion. Cytogenetic techniques: flow cytometry
Jan. 28 Mini lab*  Flow Cytometry mini lab (HW1 due)
Jan. 30 Lecture 11*  Cytogenetic techniques: GISH and FISH
Feb. 4 Mini lab*  Chromosome observation mini lab (in class)
Feb. 4 Lecture 12  Genomes: an introduction
Feb. 6 Lecture 13  Browse plant genomes (Demo)
Feb. 11 Lecture 14  Plant genome features
Feb. 11 Lecture 15  Plant genome features
Feb. 13 Lecture 16  Genome editing group paper discussion (HW2 due)
Feb. 18 Exam I Exam I (In class close note exam)
Feb. 20 Lecture 17  DNA sequencing technologies
Feb. 25 Lecture 18  DNA sequencing technologies
Feb. 25 Tour  NGS instruments and their features (ICBR)
Feb. 27 Lecture 19  Sequence assembly
Feb. 29-Mar. 7 Break  Spring break (No class)
Mar. 10 Lecture 20  Sequence assembly
Mar. 10 Lecture 21  Using UF HiPerGator(HPC) system for sequence assembly (Demo)
Mar. 12 Lecture 22  Genetic markers (HW3 due)
Mar. 17 Lecture 23  Developing SSR and SNP markers from genome sequences (Demo)
Mar. 17 Lecture 24  Developing SSR and SNP markers from genome sequences (Demo)
Mar. 19 Lecture 25  Genotyping by sequencing
Mar. 24 Lecture 26  Exome sequencing
Mar. 24 Lecture 27  GenBank and BLAST (Demo)
Mar. 26 Lecture 28  BLAST (Demo) (HW4 due)
Mar. 31 Lecture 29  Gene structure and gene prediction (Demo)
Mar. 31 Lecture 30  Gene structure and gene prediction (Demo)
Apr. 2 Lecture 31  Transcriptome
Apr. 7 Lecture 32  RNAseq
Apr. 7 Lecture 33  Identify DEGs from RNAseq data (Demo)
Apr. 9 Presentation  Group paper discussion and student paper presentation
Apr. 14 Presentation  Student paper presentations (HW5 due)
Apr. 14 Presentation  Student paper presentations
Apr. 16 Presentation  Student paper presentations Exam II (take home)
Apr. 21 Review Review for final exam
Final week  Final exam  Optional Final Exam (take home)
*To be given by Dr. Rios.

Links and Policies
Attendance Policy
Students are expected to attend every class and be on time. There will be five bonus pop quizzes.
Each quiz will be worth 1 point and given randomly in class throughout the semester. You must attend
class to have the opportunity to take the bonus quizzes. If you are absent or late for class, you will not
be able to make up a quiz or get extra time to complete the quiz. If you miss a class it is YOUR
RESPONSIBILITY to speak with another student to discuss what was covered in class.

Make-Up Policy
Late assignments are accepted but points will be deducted. Missed pop quizzes cannot be made up at
a later date. The two mid-term exams cannot be taken after their scheduled dates. However, if due to
any reason (serious illness, bereavement or activities that fall under the Twelve –Day Rule), you are
not able to take one of the mid-term exams, you can take the optional final comprehensive exam as a
replacement exam.

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

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.bluerin.com/ufll. 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/scrr/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 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/cwc/
- Counseling Services
- Groups and Workshops
- Outreach and Consultation
- Self-Help Library
- Wellness Coaching
- U Matter We Care, www.umatter.ufl.edu/
- Career Resource 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.

0001 Reid Hall, 352-392-8565, www.dso.ufl.edu/drc/

Grading Scheme
Grading
Final grades will be based on the total points earned from five homework assignments (125 points in total), two exams (100 points in total), a paper presentation (10 points), leading a discussion (15 points), and additional bonus points (a total of 5 points)

- A 90% (= 225 points)
- B+ 85% to 89.99% (212.5 – 224 points)
- B 80% to 84.99% (200–212 points)
C+ 75% to 79.99% (187.5 – 199 points)
C  70% to 74.99% (175 – 187 points)
D+ 65% to 69.99% (162.5 – 174 points)
D  60% to 64.99% (150 – 162 points)
E < 60% (= 149 points)

Note: no minus grades will be given
For more information on grades and grading policies, please visit:
https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx

Homework assignments
Five individual homework assignments will be given through the semester. Each assignment is worth
25 points. All assignments with due dates and point allocations will be posted on the Canvas website
under the assignment tab. Students are expected to finish the homework independently. The
assignment must be submitted to the instructor by the due date and time. Five points will be deducted
for late homework (even on the same day). Students are encouraged to make a copy of the homework
assignment before submission. Feedback for homework will be provided individually to each student
through Canvas within one week after submission.

Exam
Two 50-point mid-term exams will be given during the semester. An optional comprehensive 50-point
exam will be given during the final week. If you miss one of the two mid-term exams due to any reason
or would like to replace the lowest score of any mid-term exam, you can take the final comprehensive
exam as a makeup. Exam feedback will be provided to each student within one week in class or
through Canvas. Students are welcome to stop by the instructors’ office to discuss their exam
questions.

Paper presentation
We have a few periods at the end of semester for students to present peer reviewed literature and to
participate in the associated discussions, which are worth 10 points (a scoring sheet will be given
online). The presented paper will be selected from a list provided by the instructors. Presentations are
12 minutes and students will be assigned their date and time later in the semester. The presentation
should include a 10-min PowerPoint slide show followed by a 2-min question and discussion from the
students and instructors. Feedback will be provided to each individual student in the instructor’s office
by appointment.

Leading discussion
We have four group paper discussion sections in class (see course schedules/topics) with specific
literature to discuss. Students can choose from any topic and will lead a 10-20 min group discussion.
Students are required to prepare 10-15 questions/topics/issues based on the literature for discussion.
The class will be divided into small groups; where each group will discuss a subset of the questions
prepared prepared by the student (the student, with the assistance from instructors and TA, need to
urge the class to read the paper before discussion). Following the discussion, the student will lead the
summarization of the discussion points from each small group. The summarized discussion from the
groups should be typed and turned in for grading (15 points). Feedback will be provided to each
student in the instructor’s office by appointment.

Bonus pop quiz
Five pop quizzes will be given randomly during the semester. Each pop quiz is worth one bonus point.
To encourage class attendance, quizzes with incorrect answers will earn 0.5 bonus points. The bonus
points will be added to a student’s total points for final grades at the end of the semester. Feedback
will be provided to students immediately after the quiz.

Instructor(s) Dr. Jianping Wang (Course coordinator)
Office:
Room 337, Cancer/Genetics Research Complex, 2033 Mowry Road
Phone:
352-273-8104
E-Mail:
wangjp@ufl.edu
Office Hours: 1-2pm on Tuesdays and Thursdays

Dr. Esteban Rios
Office: Building 350 Room 5, 2005 SW 23rd Street
Phone: 352-294-3795
E-Mail: estebanrios@ufl.edu
Office Hours: 3-4pm on Tuesdays and Thursdays
External Consultation Results (departments with potential overlap or interest in proposed course, if any)

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<td>Horticultural Sciences</td>
<td>Christine D Chase, Interim Chair</td>
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<tr>
<td>352-294-6795</td>
<td><a href="mailto:cdchase@ufl.edu">cdchase@ufl.edu</a></td>
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Comments

The first part of this course fills a critical teaching void with respect to cytogenetics content. The remainder duplicates topics covered in other courses such as HOS6236, HOS4313C, HOS3305, PCB 5065, PCB 5530. There is not significant overlap with any one course, so the proposed course will likely not compete directly with any of those named above. With increased emphasis on cytogenetics topics such as mechanisms of haploid induction and physical mapping, this course would constitute a stronger addition to the portfolio of genetics/genomics courses offered.
AGR 5xxx - Plant Chromosomes and Genomes
Spring 2020, Section 096C
(3 credits)

Instructors:
Dr. Jianping Wang (Course coordinator)
Office: Room 337, Cancer/Genetics Research Complex, 2033 Mowry Road
Phone: 352-273-8104
E-Mail: wangjp@ufl.edu
Office Hours: 1-2pm on Tuesdays and Thursdays

Dr. Esteban Rios
Office: Building 350 Room 5, 2005 SW 23rd Street
Phone: 352-294-3795
E-Mail: estebanrios@ufl.edu
Office Hours: 3-4pm on Tuesdays and Thursdays

TA:
Ziliang Luo
Office: Room 399, Cancer/Genetics Research Complex, 2033 Mowry Road
Phone: 352-273-8105
E-Mail: luoziyilang@ufl.edu
Office Hours: 4-5pm on Tuesdays and Thursdays

Meeting Periods and Rooms
Tuesday, periods 3 and 4 (9:35-11:30 am); and Thursday, period 4 (10:40-11:30 am) at 351A Cancer and Genetics Research Complex.

Prerequisites
AGR3303 Genetics or PCB 3063 Genetics

Course Description
This course is designed to introduce students to plant chromosome structures, inheritance, basic genomic tools to analyze plant genomes. The main topics include DNA organization in chromosomes, cytogenetics, genomic DNA structure and function, DNA sequencing technologies, transcriptome, basic bioinformatic tools, high throughput DNA marker development, and genomic database exploring.

Course Objectives
By the end of this course students will be able to:
1. Describe and organize chromosome structure
2. Explain how chromosome number and structure variations are associated with abnormal inheritance patterns and disorders.
3. Identify appropriate cytogenetic techniques to address cytogenetic questions.
4. Relate alterations in chromosome structure with epigenetics
5. Describe current DNA sequencing technologies and how to obtain genomic data
6. Apply next generation sequencing (NGS) technologies for marker development and genotyping
7. Explain the principles and applications of genome editing tools
8. Annotate the plant genome and analyze genomic sequences using basic bioinformatics.
10. Evaluate and discuss current literature in plant genetics and genomics
11. Design projects to solve a biological problem utilizing NGS technologies and bioinformatics skills

Course Format
The course includes assigned readings, lectures, individual paper presentations and group discussions, exams, and pop quizzes.

Course Website
Lectures handouts, reading assignments, course announcements, grades and other related information and materials are available through E-Learning (Canvas) https://uf.instructure.com/courses/324474. Students must login with their GatorLink user name and password for access.

Text Book and Recommended Reading
No textbook is required; instead various reading materials primarily a collection of recently published articles in scientific journals will be assigned according to each topic. Assigned reading will be posted on the course website. Students are expected to read the assignments for improved understanding and class participation.

Grading
Final grades will be based on the total points earned from five homework assignments (125 points in total), two exams (100 points in total), a paper presentation (10 points), leading a discussion (15 points), and additional bonus points (a total of 5 points)

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<thead>
<tr>
<th>Grade</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>A</td>
<td>90% (≥ 225 points)</td>
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<tr>
<td>B+</td>
<td>85% to 89.99% (212.5 – 224 points)</td>
</tr>
<tr>
<td>B</td>
<td>80% to 84.99% (200-212 points)</td>
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<tr>
<td>C+</td>
<td>75% to 79.99% (187.5–199 points)</td>
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<tr>
<td>C</td>
<td>70% to 74.99% (175 – 187 points)</td>
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<tr>
<td>D+</td>
<td>65% to 69.99% (162.5 – 174 points)</td>
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<tr>
<td>D</td>
<td>60% to 64.99% (150 – 162 points)</td>
</tr>
<tr>
<td>E</td>
<td>&lt; 60% (≤ 149 points)</td>
</tr>
</tbody>
</table>

Note: no minus grades will be given

For more information on grades and grading policies, please visit:
https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx

Homework assignments
Five individual homework assignments will be given through the semester. Each assignment is worth 25 points. All assignments with due dates and point allocations will be posted on the Canvas website under the assignment tab. Students are expected to finish the homework independently. The assignment must be submitted to the instructor by the due date and time. Five points will be deducted for late homework (even on the
same day). Students are encouraged to make a copy of the homework assignment before submission. Feedback for homework will be provided individually to each student through Canvas within one week after submission.

**Exam**
Two 50-point mid-term exams will be given during the semester. An optional comprehensive 50-point exam will be given during the final week. If you miss one of the two mid-term exams due to any reason or would like to replace the lowest score of any mid-term exam, you can take the final comprehensive exam as a makeup. Exam feedback will be provided to each student within one week in class or through Canvas. Students are welcome to stop by the instructors’ office to discuss their exam questions.

**Paper presentation**
We have a few periods at the end of semester for students to present peer reviewed literature and to participate in the associated discussions, which are worth 10 points (a scoring sheet will be given online). The presented paper will be selected from a list provided by the instructors. Presentations are 12 minutes and students will be assigned their date and time later in the semester. The presentation should include a 10-min PowerPoint slide show followed by a 2-min question and discussion from the students and instructors. Feedback will be provided to each individual student in the instructor’s office by appointment.

**Leading discussion**
We have four group paper discussion sections in class (see course schedules/topics at page 4-5) with specific literature to discuss. Students can choose from any topic and will lead a 10-20 min group discussion. Students are required to prepare 10-15 questions/topics/issues based on the literature for discussion. The class will be divided into small groups; where each group will discuss a subset of the questions prepared prepared by the student (the student, with the assistance from instructors and TA, need to urge the class to read the paper before discussion). Following the discussion, the student will lead the summarization of the discussion points from each small group. The summarized discussion from the groups should be typed and turned in for grading (15 points). Feedback will be provided to each student in the instructor’s office by appointment.

**Bonus pop quiz**
Five pop quizzes will be given randomly during the semester. Each pop quiz is worth one bonus point. To encourage class attendance, quizzes with incorrect answers will earn 0.5 bonus points. The bonus points will be added to a student’s total points for final grades at the end of the semester. Feedback will be provided to students immediately after the quiz.

**Attendance Policy**
Students are expected to attend every class and be on time. There will be five bonus pop quizzes. Each quiz will be worth 1 point and given randomly in class throughout the semester. You must attend class to have the opportunity to take the bonus quizzes. If you are absent or late for class, you will not be able to make up a quiz or get extra time to complete the quiz. If you miss a class
it is YOUR RESPONSIBILITY to speak with another student to discuss what was covered in class.

Make-Up Policy
Late assignments are accepted but points will be deducted. Missed pop quizzes cannot be made up at a later date. The two mid-term exams cannot be taken after their scheduled dates. However, if due to any reason (serious illness, bereavement or activities that fall under the Twelve –Day Rule), you are not able to take one of the mid-term exams, you can take the optional final comprehensive exam as a replacement exam.

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.

General Class Demeanor
- Students arrive to class on time
- Students convey superior work ethic and perform to high standards
- Students share questions and ideas in and out of the class
- Students keep an open mind
- Students respect one another
- Students silent cell phones
- Computers are allowed only for note-taking and accessing the class activities. Abuse of this policy will result in not allowing in-class computer use for that particular student

<table>
<thead>
<tr>
<th>Date</th>
<th>Lectures</th>
<th>Topics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jan. 7</td>
<td>Lecture 1</td>
<td>Course introduction and basic concepts review</td>
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<tr>
<td>Jan. 7</td>
<td>Lecture 2</td>
<td>Chromosome structure</td>
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<td>Jan. 9</td>
<td>Lecture 3</td>
<td>Epigenetics</td>
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<tr>
<td>Jan. 14</td>
<td>Lecture 4</td>
<td>Epigenetics; <strong>group paper discussion</strong></td>
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<tr>
<td>Jan. 14</td>
<td>Lecture 5*</td>
<td>Meiosis analysis for chromosome abnormalities</td>
</tr>
<tr>
<td>Jan. 16</td>
<td>Lecture 6*</td>
<td>Polyploid and speciation</td>
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<tr>
<td>Jan. 21</td>
<td>Lecture 7*</td>
<td>2n gametes and autopolyplloid genetics</td>
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<tr>
<td>Jan. 21</td>
<td>Lecture 8*</td>
<td>Interspecific cross compatibility and allopolyploid genetics</td>
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<tr>
<td>Jan. 23</td>
<td>Lecture 9*</td>
<td>Apomixis</td>
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<td>Jan. 28</td>
<td>Lecture 10*</td>
<td><strong>Group paper discussion</strong>, Cytogenetic techniques: flow cytometry</td>
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<td>Jan. 28</td>
<td>Mini lab*</td>
<td>Flow Cytometry mini lab (<strong>HW1 due</strong>)</td>
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<td>Jan. 30</td>
<td>Lecture 11*</td>
<td>Cytogenetic techniques: GISH and FISH</td>
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<td>Feb. 4</td>
<td>Mini lab*</td>
<td>Chromosome observation mini lab (in class)</td>
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<tr>
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<td>Lecture 12</td>
<td>Genomes: an introduction</td>
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<td>Feb. 6</td>
<td>Lecture 13</td>
<td>Browse plant genomes (Demo)</td>
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<td>Feb. 11</td>
<td>Lecture 14</td>
<td>Plant genome features</td>
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<tr>
<td>Feb. 11</td>
<td>Lecture 15</td>
<td>Plant genome features</td>
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<td>Feb. 13</td>
<td>Lecture 16</td>
<td>Genome editing <strong>group paper discussion</strong> (<strong>HW2 due</strong>)</td>
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<td>Feb. 18</td>
<td>Exam I</td>
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<td>Feb. 20</td>
<td>Lecture 17</td>
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<td>Feb. 25</td>
<td>Tour</td>
<td>NGS instruments and their features (ICBR)</td>
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<td>Feb. 27</td>
<td>Lecture 19</td>
<td>Sequence assembly</td>
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<tr>
<td>Feb. 29-</td>
<td>Break</td>
<td>Spring break (No class)</td>
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<td>Mar. 7</td>
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<tr>
<td>Mar. 10</td>
<td>Lecture 20</td>
<td>Sequence assembly</td>
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<tr>
<td>Mar. 10</td>
<td>Lecture 21</td>
<td>Using UF HiPerGator(HPC) system for sequence assembly (Demo)</td>
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<tr>
<td>Mar. 12</td>
<td>Lecture 22</td>
<td>Genetic markers (HW3 due)</td>
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<tr>
<td>Mar. 17</td>
<td>Lecture 23</td>
<td>Developing SSR and SNP markers from genome sequences (Demo)</td>
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<tr>
<td>Mar. 17</td>
<td>Lecture 24</td>
<td>Developing SSR and SNP markers from genome sequences (Demo)</td>
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<td>Mar. 19</td>
<td>Lecture 25</td>
<td>Genotyping by sequencing</td>
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<td>Mar. 24</td>
<td>Lecture 26</td>
<td>Exome sequencing</td>
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<td>Mar. 24</td>
<td>Lecture 27</td>
<td>GenBank and BLAST (Demo)</td>
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<td>Mar. 26</td>
<td>Lecture 28</td>
<td>BLAST (Demo) (HW4 due)</td>
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<td>Mar. 31</td>
<td>Lecture 29</td>
<td>Gene structure and gene prediction (Demo)</td>
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<td>Mar. 31</td>
<td>Lecture 30</td>
<td>Gene structure and gene prediction (Demo)</td>
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<td>Apr. 2</td>
<td>Lecture 31</td>
<td>Transcriptome</td>
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<td>Apr. 7</td>
<td>Lecture 32</td>
<td>RNAseq</td>
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<td>Apr. 7</td>
<td>Lecture 33</td>
<td>Identify DEGs from RNAseq data (Demo)</td>
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<tr>
<td>Apr. 9</td>
<td>Presentation</td>
<td>Group paper discussion and student paper presentation</td>
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<tr>
<td>Apr. 14</td>
<td>Presentation</td>
<td>Student paper presentations (HW5 due)</td>
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<td>Presentation</td>
<td>Student paper presentations</td>
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<td>Apr. 16</td>
<td>Presentation</td>
<td>Student paper presentations Exam II (take home)</td>
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<td>Apr. 21</td>
<td>Review</td>
<td>Review for final exam</td>
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<tr>
<td>Final week</td>
<td>Final exam</td>
<td>Optional Final Exam (take home)</td>
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*To be given by Dr. Rios.

**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/](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.blucra.com/ufl/](https://ufl.blucra.com/ufl/). Summaries of course evaluation results are available to students at [https://gatorevals.aa.ufl.edu/public-results/](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/secr/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 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/cwc/
  Counseling Services
  Groups and Workshops
  Outreach and Consultation
  Self-Help Library
  Wellness Coaching
- U Matter We Care, www.umatter.ufl.edu/
- Career Resource 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.
The instructors reserve the right to make changes in the assignments and syllabus as needed. Notification will be via E-Learning, e-mail or class announcements.
### Cover Sheet: Request 14556

**Supervised extension course**

<table>
<thead>
<tr>
<th>Info</th>
<th></th>
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</thead>
<tbody>
<tr>
<td><strong>Process</strong></td>
<td>Course/New/Grad</td>
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<td><strong>Status</strong></td>
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<td><strong>Submitter</strong></td>
<td>Marcelo Osorio Wallau <a href="mailto:mwallau@ufl.edu">mwallau@ufl.edu</a></td>
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<td><strong>Created</strong></td>
<td>12/17/2019 6:28:47 AM</td>
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<tr>
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<td>12/26/2019 6:55:42 AM</td>
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<td><strong>Description of request</strong></td>
<td>Request for a Supervised Extension course as an opportunity for our students to learn and practice cooperative education and test their knowledge on real-world issues.</td>
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### Actions

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<th>User</th>
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<td>Joel H Brendemuhl</td>
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Course|New for request 14556

Info

Request: Supervised extension course
Description of request: Request for a Supervised Extension course as an opportunity for our students to learn and practice cooperative education and test their knowledge on real-world issues.
Submitter: Marcelo Osorio Wallau mwallau@ufl.edu
Created: 12/26/2019 6:55:17 AM
Form version: 5

Responses
Recommended Prefix AGR
Course Level 6
Course Number xxx
Category of Instruction Intermediate
Lab Code None
Course Title Supervised extension
Transcript Title Supervised extension
Degree Type Graduate

Delivery Method(s) Online, On-Campus
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 Supervision of Cooperative Education
Weekly Contact Hours 2

Course Description Learn and develop extension skills on agricultural systems issues through effective communication with growers/land managers, policymakers, and the public. Students will create and deliver (i.e. oral, written, hands-on activity) an extension project to the targeted clientele.
Prerequisites ALS 5155 - Global Agroecosystems
Co-requisites N/A

Rationale and Placement in Curriculum The rationale for this course is two-fold: first to expose traditional graduate students to real-world issues and offer them an opportunity for hands-on application of their knowledge; and second for both traditional and non-thesis students seeking a MS degree (especially those already in Extension) to learn and explore methods in extension, develop system thinking and broaden their views on agricultural systems.
Course Objectives The objective of this course is to expose graduate students to challenges faced in extension, so they learn how to identify (need assessment), analyze and propose solutions for problems on real agricultural systems and extension education.


Weekly Schedule of Topics Weeks 1 – 3
Understanding extension and functioning of agricultural systems - how does extension works; what is the role of extension in facilitating learning, creating solutions and promoting change; understanding the complex functioning of agricultural systems - beyond the biological component; how to work with and tend to our clientele;
Weeks 4 – 5 Identify the problem – need assessment to define the focus of extension project; interview/interaction with extension agents, producers and/or policymakers; create a problem statement
Weeks 6 – 10 Develop analysis and present strategy to approach the issue – review supporting literature, develop strategies on how to address the problem and possible scenarios
Weeks 10 - 13 Develop extension program/material – create written material, presentation or other teaching tools to educate clientele on the proposed problem
Weeks 14 - 15 Present in class (peer evaluation) and deliver the project to clientele/publish developed material

Grading Scheme
- Needs assessment and development of rationale 20 points
- Extension Plan 30 points
- Written Communication 20 points
- Oral Presentation 30 points

Grade distribution

Activity Assignment Planning Assignment Completion Work quality, innovation, creativity Totals
Needs assessment and development of rationale 5 points 5 points 10 points 20
Extension Plan 5 points 10 points 15 points 30
Written Communication 5 points 10 points 5 points 20
Oral Presentation 5 points 15 points 10 points 30

Instructor(s) Marcelo Wallau
Attendance & Make-up Yes
Accomodations Yes
UF Grading Policies for assigning Grade Points Yes
Course Evaluation Policy Yes
AGR 6xxx (section XXXX)
Supervised Extension, Agronomy
Credits: 3

Calculation of credit hours are based on estimated hours spent on real-world activities
90 hours = 3 credits enrollment

Letter-graded

Term: Spring 2020

Meeting days and times: T period 9 (4:05 pm – 4:55 pm)
In addition, out-of-regular-pattern activities the student chooses in the Extension Plan.

Prerequisites: None

Instructor:
Dr. Marcelo O. Wallau
2083 McCarty Hall B
Phone: (352) 273-2216
Email: mwallau@ufl.edu

Office Hours: by appointment

Course Description
Learn and develop extension skills on agricultural systems issues through effective communication with growers/land managers, policymakers, and the public. Students will create and deliver (i.e. oral, written, hands-on activity) an extension project to the targeted clientele.

Learning objectives
The objective of this course is to expose graduate students to challenges faced in extension, so they learn how to identify (need assessment), analyze and propose solutions for problems on real agricultural systems and extension education.

Student learning objectives:

- Develop a needs assessment, determine primary needs and goals, and define solving strategies
- Develop a non-formal education plan that addresses a targeted audience
- Identify scientific data to address a specific issues and translate into accessible language for targeted clientele
- Create a learning module, perform the learning module, and evaluate the impact.
- Use business skills for data management and administrative reports.
- Use media outlets as a means to share information while maintaining branding guides of the institution that is represented.
- Organize and facilitate a presentation or demonstration at a field day or similar activity
- Create effective written/visual education material.
Course rationale
The rationale for this course is two-fold: first to expose traditional graduate students to real-world issues and offer them an opportunity for hands-on application of their knowledge; and second for both traditional and non-thesis students seeking a MS degree (especially those already in Extension) to learn and explore methods in extension, develop system thinking and broaden their views on agricultural systems.

Additional information
The goal of this course is to challenge students to learn and develop extension skills on agricultural systems issues through effective communication with growers/land managers, policy makers, and the public. Students will create an extension plan and participate in written and oral extension activities. With the guidance of a UF Extension Faculty Member, the activities expose the student to how one bridges science to solutions through different communication channels.

There will be formal meeting portions at the start of the term to present basic information on extension, to examine and discuss philosophies of extension practices, and to determine guidelines on experience-based activities. Each students will develop an individual semester plan to use as a guide for real-life experiences, and the complexity within the plan is proportional to the number of credits of enrollment. This course is tailored towards extension agents taking their MS degree at the Agronomy Department and graduate students interested in pursuing careers in extension.

Weekly schedule

| Weeks 1 – 3     | Understanding extension and functioning of agricultural systems - how does extension works; what is the role of extension in facilitating learning, creating solutions and promoting change; understanding the complex functioning of agricultural systems - beyond the biological component; how to work with and tend to our clientele; |
| Weeks 4 – 5     | Identify the problem – need assessment to define the focus of extension project; interview/interaction with extension agents, producers and/or policymakers; create a problem statement |
| Weeks 6 – 10    | Develop analysis and present strategy to approach the issue – review supporting literature, develop strategies on how to address the problem and possible scenarios |
| Weeks 10 - 13   | Develop extension program/material – create written material, presentation or other teaching tools to educate clientele on the proposed problem |
| Weeks 14 - 15   | Present in class (peer evaluation) and deliver the project to clientele/publish developed material |

Course Content

<p>| Extension Plan | This plan becomes a working document for the semester focus of real-world activities. Identify a specific agronomic issue and describe it from |</p>
<table>
<thead>
<tr>
<th>Required for students enrolled in 1-3 credit hours</th>
<th>three perspectives: land owner/manager, policy maker, and public opinion. Select one or more of the people-groups to target and sketch a plan that identifies data collection and/or analysis and how the content would be shared. The plan should include each of the four activities listed below, with an estimated time based on enrollment. Combined Activities 90 hours = 3 credits enrollment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administrative Activities</td>
<td>Identify the business records associated with the semester’s activities and state how you plan to organize these records. Evaluate the overall time spent on the activities relative to credit hours of enrollment.</td>
</tr>
</tbody>
</table>
|  | • A plan to log all work hours associated with the course, track activities, log mileage and/or other expenses.  
  • Create an expense report associated with an activity performed that includes vehicle mileage and at least one additional expense. |
| Data Collection Activities | Collect data on the issue to include scientific data and publications, and non-formal education oral or written presentations. Report on how records and data are maintained. |
| Select 2 additional activities | • Interview a grower/land manager, policy administrator, or public.  
  • Compose a survey and conduct it orally with target audience.  
  • Research the impact of an extension program or activity. |
| Written Communication Activities | Become familiar with the institution’s branding guides for media communication, and select one item below to prepare for submission. |
| Select 2 activities using UF Branding in the deliverable. | • Write a one page public service announcement or press release for print, radio, or broadcast.  
  • Take an appropriate photo, identify appropriate media, and construct a outline for circulation.  
  • Compose a FAQ sheet or brochure.  
  • Write a social media post: blog, twitter, etc.  
  • Write an EDIS publication.  
  • Create a curriculum module that a County Agent could deliver. |
| Oral Presentation and/or Demonstration Activity | Select a venue, like a Field Day, and organize a presentation or demonstration for it. |
| Select 2 activities. | • Give a talk or presentation at a meeting: government, civic organization, professional society, or seminar.  
  • Compose a power point or similar tool appropriate for circulation to County Agents.  
  • Deliver an existing or new non-formal education module to an audience.  
  • Assist a faculty member in an oral presentation or demonstration.  
  • Record a Webinar for rebroadcast. |
Final Oral Exam

Oral report of the semester’s experiential activities and summary of deliverables achieved.

Critical dates:
Jan 14
Feb 1
March 10
March 31
April 14
April 21

Required readings performed.
Extension Plan due for review and approval.
Administrative and Data Collection reports due.
Written Communication reports due.
Oral Presentation and/or Demonstration reports due.
Revised Extension Plan due to accompany a final oral exam.

Textbooks:
There are no required textbooks.

Required reading list:


Recommended rebroadcasts, blogs, abstracts to view:


The faculty supervisor will recommend additional texts depending on the extension plan and activities selected.
Grades and Grade Point Distribution

<table>
<thead>
<tr>
<th>Activity</th>
<th>Assignment Planning</th>
<th>Assignment Completion</th>
<th>Work quality, innovation, creativity</th>
<th>Totals</th>
</tr>
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<tbody>
<tr>
<td>Needs assessment and development of rationale</td>
<td>5 points</td>
<td>5 points</td>
<td>10 points</td>
<td>20</td>
</tr>
<tr>
<td>Extension Plan</td>
<td>5 points</td>
<td>10 points</td>
<td>15 points</td>
<td>30</td>
</tr>
<tr>
<td>Written Communication</td>
<td>5 points</td>
<td>10 points</td>
<td>5 points</td>
<td>20</td>
</tr>
<tr>
<td>Oral Presentation</td>
<td>5 points</td>
<td>15 points</td>
<td>10 points</td>
<td>30</td>
</tr>
</tbody>
</table>

Course Grading Scale:

A = 100-94%                                       C = 76.9-73
A- = 93.9-90                                     C- = 72.9-70
B+ = 89.9-87                                     D+ = 69.9-67
B = 86.9-83                                      D = 66.9-63
B- = 82.9-80                                     D- = 62.9-60
C+ = 79.9-77                                      E < 60

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

Note: Grades issued below "C" are interpreted at UF as failing grades.

Attendance and Make-Up Work:

Class participation is by phone or video conference, and involves discussion of the preparation and execution of activities. Students with extenuating circumstances that prevent attendance of class appointments or activities should explain in advance. Instructors will make an effort to accommodate reasonable requests with a substitute assignment. A grade penalty may be assigned for unexcused absences.

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.

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/sscr/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, 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.

- **University Counseling & Wellness Center**, 3190 Radio Road, 352-392-1575, [www.counseling.ufl.edu/cwc/](http://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/](http://www.umatter.ufl.edu/)

- **Career Resource Center**, First Floor JWRU, 392-1601, [www.crc.ufl.edu/](http://www.crc.ufl.edu/)
Cover Sheet: Request 14508

new course for CALS curriculum committee (Spider Biology)

<table>
<thead>
<tr>
<th>Info</th>
</tr>
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<tr>
<td>Updated</td>
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<td>Description of request</td>
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<table>
<thead>
<tr>
<th>Actions</th>
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<tbody>
<tr>
<td>Step</td>
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<tr>
<td>Department</td>
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<tr>
<td>SPIDER BIOLOGY syllabus 2019 UCC v3.pdf</td>
</tr>
<tr>
<td>College</td>
</tr>
</tbody>
</table>

No document changes

University Curriculum Committee

No document changes

Statewide Course Numbering System

No document changes

Office of the Registrar

No document changes

Student Academic Support System

No document changes

Catalog

No document changes

College Notified

No document changes
Course|New for request 14508

Info
Request: new course for CALS curriculum committee (Spider Biology)
Description of request: This is a request for a new course (Spider Biology) to be reviewed by the CALS curriculum committee at their next meeting (Dec 13, 2019)
Submitter: Lisa Taylor lisa.taylor@ufl.edu
Created: 12/4/2019 4:37:16 PM
Form version: 1

Responses
Recommended Prefix ENY
Course Level 3
Course Number xxx
Category of Instruction Intermediate
Lab Code None
Course Title Spider Biology
Transcript Title Spider Biology
Degree Type Baccalaureate

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

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

Amount of Credit 2

S/J Only? No
Contact Type Regularly Scheduled
Weekly Contact Hours 2

Course Description Course provides an introduction to the biology of spiders and their relatives, with an emphasis on their ecology, behavior, and evolution. Students will learn to identify the members of approximately 20 common spider families as well as several common Florida species.
Prerequisites Students must have completed an introductory biology or entomology course.
Co-requisites N/A

Rationale and Placement in Curriculum The proposed Spider Biology course would fill an important gap in the current course offerings. Spiders are an incredibly diverse group of arthropods (more than 46,000 species) and they are critical players in both natural and agricultural ecosystems, yet there is currently no formal course that covers their biology.

The proposed course is lecture-based, but involves frequent field trips and hands-on activities and opportunities to interact with living and preserved spiders in both the classroom and field.
Course Objectives COURSE LEARNING OBJECTIVES: By the end of this course, students will be able to:

1. Identify and compare the morphology and biology of members of the 12 largest arachnid orders and sketch their evolutionary relationships
2. Identify and compare the biology of members of the 20 most common spider families, sketch their evolutionary relationships, and be able to find them in their natural habitat in the field
3. Identify (to species level), describe, and compare the morphology and biology of approximately 25 of the most common local Gainesville species and be able to find them in their natural habitat in the field
4. Compare different groups of spiders in terms of how they sense their environment, find mates and reproduce, find and hunt their prey, protect themselves from predators, interact in social groups, and learn about their environment
5. Describe and compare the roles of different groups of spiders in both natural and agricultural

Page 30 of 61
ecosystems
6. Keep a spider in captivity, make careful behavioral observations of their behavior, and develop hypotheses for the function of the behaviors observed
7. Describe the medical relevance of spider bites and distinguish between those that cause harm to humans (and those that do not)
8. Examine current and ongoing research in the field of spider biology and critique the methods that scientists use to study spiders
9. Critically evaluate common spider myths and misconceptions

Course Textbook(s) and/or Other Assigned Reading REQUIRED TEXT: There will be no required textbook for this course. You will be provided with information in lecture as well as handouts and will be occasionally assigned additional material to read (posied in Canvas). Even though a textbook is not required, I highly recommend the following books, which provide excellent guidance on spider identification, as well as biology and natural history.
- Recommended: Levi, H. & Levi, L. A Guide to Spiders and Their Kin. St Martins Press. (This is a tiny field guide that's great to have on hand whenever you are out in the field)

Weekly Schedule of Topics TENTATIVE COURSE SCHEDULE (FALL 2019):

<table>
<thead>
<tr>
<th>Class</th>
<th>Date</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Assignments and quizzes</td>
</tr>
<tr>
<td>1</td>
<td>21 Aug W</td>
<td>Introduction</td>
</tr>
<tr>
<td>2</td>
<td>26 Aug M</td>
<td>Overview of spider &amp; arachnid diversity</td>
</tr>
<tr>
<td>3</td>
<td>28 Aug W</td>
<td>Evolution of arachnids, overview of spider behavior project</td>
</tr>
<tr>
<td>4</td>
<td>4 Sept W</td>
<td>No class (holiday)</td>
</tr>
<tr>
<td>5</td>
<td>9 Sept M</td>
<td>Evolution, diversity, and identification of spider families (part 1)</td>
</tr>
<tr>
<td>6</td>
<td>11 Sept W</td>
<td>Canvas discussion 1 due</td>
</tr>
<tr>
<td>7</td>
<td>16 Sept M</td>
<td>Field trip #1 during class – meet at Natural Area (NATL)</td>
</tr>
<tr>
<td>8</td>
<td>18 Sept W</td>
<td>Spider mating 1</td>
</tr>
<tr>
<td>9</td>
<td>23 Sept M</td>
<td>Spider ID quiz #1 (in class)</td>
</tr>
<tr>
<td>10</td>
<td>25 Sept W</td>
<td>Campus spider walk – common Gainesville spiders</td>
</tr>
<tr>
<td>11</td>
<td>30 Sept M</td>
<td>Spider ID quiz #2 (in class)</td>
</tr>
<tr>
<td>12</td>
<td>2 Oct W</td>
<td>Diversity and ID of common Florida spiders (part 1)</td>
</tr>
<tr>
<td>13</td>
<td>7 Oct M</td>
<td>Field trip #2 during class – on campus, location TBA</td>
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<td></td>
<td></td>
<td>Review for Exam 1</td>
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<tr>
<td>No.</td>
<td>Date</td>
<td>Time</td>
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<td>15</td>
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<td>16</td>
<td>16 Oct W</td>
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<td>17</td>
<td>21 Oct M</td>
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<td>18</td>
<td>23 Oct W</td>
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<td>19</td>
<td>28 Oct M</td>
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<td>20</td>
<td>30 Oct W</td>
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<tr>
<td>21</td>
<td>4 Nov M</td>
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<tr>
<td>22</td>
<td>6 Nov W</td>
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<td></td>
<td>11 Nov M</td>
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<td>23</td>
<td>13 Nov W</td>
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<tr>
<td>24</td>
<td>18 Nov M</td>
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<tr>
<td>25</td>
<td>20 Nov W</td>
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<tr>
<td>26</td>
<td>25 Nov M</td>
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<tr>
<td>27</td>
<td>2 Dec M</td>
<td></td>
</tr>
<tr>
<td>28</td>
<td>4 Dec M</td>
<td></td>
</tr>
</tbody>
</table>

Behavioral papers due

Course wrap-up and review for final exam*

*FINAL EXAM DATE AND LOCATION: TBA
Note that this course outline is a tentative schedule; it is subject to change

Grading Scheme

ASSESSMENTS AND GRADES: All assignments will be returned within one week, meaning that at any point in the semester, you should be able to calculate your current grade for the course. To be fair to all students, I follow the rules and point system laid out in this syllabus very closely. If you ever have a question about a score you earn, I would be happy to discuss it. I do ask that you address all questions about grading of particular assignments within two weeks of receiving a grade on that assignment.

Your final grade for this course will be based on the following assessments and will be calculated from the percentage of points that you earn out of a possible total of 390 points. The assessments with specific point values are as follows.

<table>
<thead>
<tr>
<th>Assessment</th>
<th>Details</th>
<th>Total points</th>
<th>% of grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spider ID quizzes</td>
<td>4 quizzes at 15 points each (require correct identification of spiders to the family level from photos and/or live specimens)</td>
<td>60pts</td>
<td>15.4%</td>
</tr>
<tr>
<td>Exams</td>
<td>2 exams (midterm and final) at 100 points each (consist of a combination of multiple choice)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Page 32 of 61
and short answer questions) 200pts 51.3% of total grade
Spider behavioral project A written paper describing your behavioral observations of a live
spider during the course of the semester. A rubric will be provided with the assignment.
75pts 19.2% of total grade
Canvas discussions A total of 6 Canvas discussions at 5 points each (extending discussions that
we begin in class) 30pts 7.7% of total grade
Class participation During each class period or field trip (25), students will be asked a practice
question about the material covered that will be turned in on a slip of paper and will be worth one point
each (regardless of correct or incorrect answers) 25pts 6.4% of total grade
GRAND TOTAL

390pts 100%

Grades will be calculated as follows*:
A 93-100
A- 90-92.9
B+ 88-89.9
B 83-87.9
B- 80-82.9
C+ 78-79.9
C 73-77.9
C- 70-72.9
D 60-69.9
E 59% and below

*Final percentages are rounded to the nearest whole number to determine your final grade. This
means that at any point in the semester, you can simply calculate the percentage of points that you
have earned at that stage to estimate your current grade.

Instructor(s) Dr. Lisa Taylor
Attendance & Make-up Yes
Accomodations Yes
UF Grading Policies for assigning Grade Points Yes
Course Evaluation Policy Yes
SPIDER BIOLOGY

Course Number: ENY 3XXX (formerly taught as Special Topics courses ENY4905 and ZOO4926)
Credit Hours: 2
Fall 2019
Class location: 1027 Steinmetz Hall
Class meeting times: Mon and Wed 12:50-1:40 (period 6)

COURSE DESCRIPTION: Course provides an introduction to the biology of spiders and their relatives, with an emphasis on their ecology, behavior, and evolution. Students will learn to identify the members of approximately 20 common spider families as well as several common Florida species.

INSTRUCTOR: Dr. Lisa Taylor
2211 Steinmetz Hall (office)
Entomology and Nematology Department
Lisa.taylor@ufl.edu
Office phone: 352-273-3937

OFFICE HOURS: Mondays 2-3pm or by appointment (email to schedule a time).

COURSE COMMUNICATIONS: If you have questions either before or during the course, feel free to speak with me after class, email me directly at any time, send me a message via Canvas, or visit me during my office hours.

INSTRUCTIONAL METHODS: This course will meet for lecture two times per week (MW 12:50-140pm).
Attendance at class meetings is critical. While I will post lecture PowerPoints after each lecture, they will not have a lot of text on them, so you need to be in class to take your own notes. Additional course material (assignments, readings, etc.) will be available through Canvas, separated into weekly modules. Your grade in this class will be calculated from the following: two written exams, 4 quizzes, 6 graded Canvas discussions, a written paper on a spider that you keep in captivity during the course of the semester, as well as attendance and participation. See below for the specific point breakdown.

REQUIRED TEXT: There will be no required textbook for this course. You will be provided with information in lecture as well as handouts and will be occasionally assigned additional material to read (posted in Canvas). Even though a textbook is not required, I highly recommend the following books, which provide excellent guidance on spider identification, as well as biology and natural history.
• **Recommended:** Levi, H. & Levi, L. *A Guide to Spiders and Their Kin*. St Martins Press. (This is a tiny field guide that’s great to have on hand whenever you are out in the field)
• **Optional:** Edwards, GB and Marshall, S. 2002. *Florida’s Fabulous Spiders*. World Pubns. (Great guide to Florida spiders, including many of our common Gainesville species)

COURSE WEBSITE: This course uses the Canvas course management system on E-Learning. Students should follow the provided URL and log on with their GatorLink ID and password: [http://lss.at.ufl.edu](http://lss.at.ufl.edu)
PREREQUISITE KNOWLEDGE AND SKILLS: Students must have completed an introductory biology or entomology course (e.g., ENV1001, ENV2040, ENV3005, BSC2005, BSC2010 or equivalent) or obtained permission from the instructor.

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

1. Identify and compare the morphology and biology of members of the 12 largest arachnid orders and sketch their evolutionary relationships

2. Identify and compare the biology of members of the 20 most common spider families, sketch their evolutionary relationships, and be able to find them in their natural habitat in the field

3. Identify (to species level), describe, and compare the morphology and biology of approximately 25 of the most common local Gainesville species and be able to find them in their natural habitat in the field

4. Compare different groups of spiders in terms of how they sense their environment, find mates and reproduce, find and hunt their prey, protect themselves from predators, interact in social groups, and learn about their environment

5. Describe and compare the roles of different groups of spiders in both natural and agricultural ecosystems

6. Keep a spider in captivity, make careful behavioral observations of their behavior, and develop hypotheses for the function of the behaviors observed

7. Describe the medical relevance of spider bites and distinguish between those that cause harm to humans (and those that do not)

8. Examine current and ongoing research in the field of spider biology and critique the methods that scientists use to study spiders

9. Critically evaluate common spider myths and misconceptions

TENTATIVE COURSE SCHEDULE (FALL 2019):

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<td>3</td>
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<td>Evolution of arachnids, overview of spider behavior project</td>
<td></td>
</tr>
<tr>
<td>-</td>
<td>2 Sept M</td>
<td><strong>No class</strong> (holiday)</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>4 Sept W</td>
<td>Evolution, diversity, and identification of spider families (part 1)</td>
<td>Canvas discussion 1 due</td>
</tr>
<tr>
<td>5</td>
<td>9 Sept M</td>
<td>Evolution, diversity, and identification of spider families (part 2)</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>11 Sept W</td>
<td><strong>Field trip #1</strong> during class – meet at Natural Area (NATL)</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>16 Sept M</td>
<td>Spider mating 1</td>
<td>Spider ID quiz #1 (in class)</td>
</tr>
<tr>
<td>8</td>
<td>18 Sept W</td>
<td>Spider mating 2</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>23 Sept M</td>
<td><strong>Campus spider walk</strong> – common Gainesville spiders</td>
<td>Spider ID quiz #2 (in class)</td>
</tr>
<tr>
<td>10</td>
<td>25 Sept W</td>
<td>Diversity and ID of common Florida spiders (part 1)</td>
<td>Canvas discussion 2 due</td>
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Spider Biology, 2
<table>
<thead>
<tr>
<th>Date</th>
<th>Events</th>
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</thead>
<tbody>
<tr>
<td>11</td>
<td>30 Sept M Diversity and ID of common Florida spiders (part 2)</td>
</tr>
<tr>
<td>12</td>
<td>2 Oct W Field trip #2 during class - on campus, location TBA</td>
</tr>
<tr>
<td>13</td>
<td>7 Oct M Review for Exam 1</td>
</tr>
<tr>
<td>14</td>
<td>9 Oct W -- Spider ID quiz #3 (in class)</td>
</tr>
<tr>
<td>15</td>
<td>14 Oct M Mimicry in spiders</td>
</tr>
<tr>
<td>16</td>
<td>16 Oct W Spider sensory ecology 1</td>
</tr>
<tr>
<td>17</td>
<td>21 Oct M Spider sensory ecology 2</td>
</tr>
<tr>
<td>18</td>
<td>23 Oct W Venom Canvas discussion 4 due</td>
</tr>
<tr>
<td>19</td>
<td>28 Oct M Webs and silk</td>
</tr>
<tr>
<td>20</td>
<td>30 Oct W Arachnophobia (movie and critique)</td>
</tr>
<tr>
<td>21</td>
<td>4 Nov M Social Spiders</td>
</tr>
<tr>
<td>22</td>
<td>6 Nov W Predators of spiders Canvas discussion 5 due</td>
</tr>
<tr>
<td>-</td>
<td>11 Nov M No class (holiday)</td>
</tr>
<tr>
<td>23</td>
<td>13 Nov W Anti-predator defenses Spider ID quiz #4</td>
</tr>
<tr>
<td>24</td>
<td>18 Nov M Spiders as predators, using spiders for biocontrol</td>
</tr>
<tr>
<td>25</td>
<td>20 Nov W Spider sensory ecology (part 2)</td>
</tr>
<tr>
<td>26</td>
<td>25 Nov M Non-spider arachnid diversity (part 1)</td>
</tr>
<tr>
<td>-</td>
<td>27 Nov W No class - Thanksgiving break</td>
</tr>
<tr>
<td>27</td>
<td>2 Dec M Non-spider arachnid diversity (part 2) Behavioral papers due</td>
</tr>
<tr>
<td>28</td>
<td>4 Dec M Course wrap-up and review for final exam*</td>
</tr>
</tbody>
</table>

*FINAL EXAM DATE AND LOCATION: TBA

Note that this course outline is a tentative schedule; it is subject to change.

COURSE POLICIES:

ASSESSMENTS AND GRADES: All assignments will be returned within one week, meaning that at any point in the semester, you should be able to calculate your current grade for the course. To be fair to all students, I follow the rules and point system laid out in this syllabus very closely. If you ever have a question about a score you earn, I would be happy to discuss it. I do ask that you address all questions about grading of particular assignments within two weeks of receiving a grade on that assignment.

Your final grade for this course will be based on the following assessments and will be calculated from the percentage of points that you earn out of a possible total of 390 points. The assessments with specific point values are as follows.

<table>
<thead>
<tr>
<th>Assessment</th>
<th>Details</th>
<th>Total points</th>
<th>% of grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spider ID quizzes</td>
<td>4 quizzes at 15 points each (require correct identification of spiders to the family level from photos and/or live specimens)</td>
<td>60</td>
<td>15.4%</td>
</tr>
<tr>
<td>Exams</td>
<td>2 exams (midterm and final) at 100 points each (consist of a combination of multiple choice and short answer)</td>
<td>200</td>
<td>51.3%</td>
</tr>
<tr>
<td>Task</td>
<td>Percentage</td>
<td>Weight</td>
<td></td>
</tr>
<tr>
<td>-------------------------------------------</td>
<td>------------</td>
<td>--------</td>
<td></td>
</tr>
<tr>
<td>Spider behavioral project</td>
<td></td>
<td>75</td>
<td></td>
</tr>
<tr>
<td>A written paper describing your behavioral observations of a live spider during the course of the semester. A rubric will be provided with the assignment.</td>
<td>19.2%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Canvas discussions</td>
<td></td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>A total of 6 Canvas discussions at 5 points each (extending discussions that we begin in class)</td>
<td>7.7%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Class participation</td>
<td></td>
<td>25</td>
<td></td>
</tr>
<tr>
<td>During each class period or field trip (25), students will be asked a practice question about the material covered that will be turned in on a slip of paper and will be worth one point each (regardless of correct or incorrect answers)</td>
<td>6.4%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GRAND TOTAL</td>
<td>390</td>
<td>100%</td>
<td></td>
</tr>
</tbody>
</table>

Grades will be calculated as follows*:

A  93-100
A- 90-92.9
B+ 88-89.9
B  83-87.9
B- 80-82.9
C+ 78-79.9
C  73-77.9
C- 70-72.9
D  60-69.9
E  59% and below

*Final percentages are rounded to the nearest whole number to determine your final grade. This means that at any point in the semester, you can simply calculate the percentage of points that you have earned at that stage to estimate your current grade.

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 POLICY: Attendance in this course is crucial for success; you must be present to take notes on the material presented, to take quizzes and exams, and to participate in class activities and discussions.

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/.

POLICY ON LATE ASSIGNMENTS: Late assignments will be accepted, but will be deducted 20% per day late. This means that assignments that are 5 (or more) days late will earn no credit. Assignments turned in via Canvas must be submitted by 11:59pm on the day they are due.

Spider Biology, 4
COURSE TECHNOLOGY: This course will use Canvas (http://lss.at.ufl.edu) for posting course materials and discussions, and submitting assignments. All students must have access to a computer with a reliable internet connection (a high speed connection is recommended). Please be sure to have a backup option in case your computer or Internet connection fails. See the ‘Getting Help’ section below for technical assistance with Canvas.

UF POLICIES:

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/

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.

NETIQUETTE: COMMUNICATION COURTESY: All members of the class are expected to follow rules of common courtesy in all email messages, threaded discussions and chats. Take a moment to read this netiquette guide for online courses: http://teach.ufl.edu/wp-content/uploads/2012/08/NetiquetteGuideforOnlineCourses.pdf

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/.

Spider Biology, 5
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.bluerca.com/ufl/.

Summaries of course evaluation results are available to students at: https://gatorevals.aa.ufl.edu/public-results/.

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.

GETTING HELP:

For issues with technical difficulties for E-learning in Canvas, please contact the UF Help Desk at:

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

** Any requests for make-ups due to technical issues MUST be accompanied by the ticket number received from LSS 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 a make-up.

Other resources are available at http://www.distance.ufl.edu/getting-help.

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.

- 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 Complaints:
- Residential Course: https://sccr.dso.ufl.edu/policies/student-honor-code-studentconduct-code/
- Online Course: http://www.distance.ufl.edu/student-complaint-process
Cover Sheet: Request 14538

SLO change for FYCS Major

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<tr>
<td>Status</td>
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</tr>
<tr>
<td>Submitter</td>
<td>Kathryn Ivey <a href="mailto:kbeaty@ufl.edu">kbeaty@ufl.edu</a></td>
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<td>The undergraduate curriculum committee has decided to separate SLO #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) into two distinct SLOs: one on oral and one on written communication. We have also decided to move away from using data obtained by the college as the metric for written and oral communication. We decided to use performance data from FYC4622 (Oral Communication) and FYC4801 (Written Communication).</td>
</tr>
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<table>
<thead>
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<td>Department</td>
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<td>Group</td>
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<tr>
<td>User</td>
<td>Tracy Irani</td>
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No document changes

| Step                                       |               |
| College                                    | Pending       |
| Group                                      | CALS - College of Agricultural and Life Sciences |
| User                                       |               |
| Comment                                   |               |
| Updated                                   | 12/12/2019    |

No document changes

| Step                                       |               |
| Academic Assessment Committee              |               |
| User                                       |               |
| Comment                                   |               |
| Updated                                   |               |

No document changes
SLO-AAP|Modify for request 14538

Info

Request: SLO change for FYCS Major
Description of request: The undergraduate curriculum committee has decided to separate SLO #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) into two distinct SLOs: one on oral and one on written communication. We have also decided to move away from using data obtained by the college as the metric for written and oral communication. We decided to use performance data from FYC4622 (Oral Communication) and FYC4801 (Written Communication).
Submitter: Kathryn Ivey kbeaty@ufl.edu
Created: 12/12/2019 1:45:07 PM
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
Course Prefix, Number, and Name FYC4622-- Planning and Evaluating Family, Youth and Community Science Programs
Academic Assessment Plan Modifications Delete SLO/Add SLO
ALC Modifications Does not apply
SLO Modifications SLO, Assessment Measures
What Types of Assessments Are or Will Be Used? Final Paper/Project/Presentation
What Assessment Methods Will Be Used? Rubric

Who Applies the Assessment Method? Single Faculty Member
Individual Student Assessments Student groups present to the class (via PowerPoint) highlights of their program evaluation project that focuses on an existing organization or agency related to family, youth, or community science.

Description and Rationale Current Student Learning Outcome #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.
Assessment Method:
• Summary indicator of performance on Criterion Referenced Assessments in AEC 3030C or SPC 2608 (oral communication)
• Summary indicator of performance on Criterion Referenced Assessments in AEC 3033c or ENC 2210 or ENC 3254 (written communication)
• Sample included all students taking the following required courses: AEC 3030c (Effective Oral Communication) or SPC 2608 (Intro to Public Speaking) and

We have decided to break the current SLO #5 into two SLOs: one that addresses Oral Communication and one that addresses Written Communication. We also have decided to change the metric for both of these new SLOs from AEC 3030C or SPC 2608 (oral communication) and AEC 3033c or ENC 2210 or ENC 3254 (written communication) to samples of student work from FYC4622 (for Oral Communication) and FYC4801 (for Written Communication).

Revised SLO #5: Create and deliver oral messages and multimedia presentations used in agricultural and life sciences and in family, youth and community sciences.
Assessment method:
Summary performance indicator from oral presentation in FYC4622.

Revised SLO #6: Create and deliver written messages used in agricultural and life sciences and in family, youth and community sciences.
Assessment method:
Summary performance indicator from written scientific paper in FYC4801.
Cover Sheet: Request 14576

Gen Ed B-I approval of MCB2006 Microbes without Borders

<table>
<thead>
<tr>
<th>Info</th>
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</tr>
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<tbody>
<tr>
<td>Process</td>
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<tr>
<td>Status</td>
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<tr>
<td>Submitter</td>
<td>Monika Oli <a href="mailto:moli@ufl.edu">moli@ufl.edu</a></td>
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<tr>
<td>Created</td>
<td>1/2/2020 3:11:46 PM</td>
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<tr>
<td>Updated</td>
<td>1/2/2020 4:05:28 PM</td>
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<tr>
<td>Description of request</td>
<td>This course has been successful taught for 3 years and fulfills all requirements to have Gen Ed B and N designation.</td>
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<table>
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<tr>
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<td>Department</td>
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<td>User</td>
<td>Eric Triplett</td>
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| Microbes without borders syllabus fall 2020 - Quest2 1-2020 v2.docx | 1/2/2020 |

No document changes

General Education Committee

No document changes

Office of the Registrar

No document changes

Catalog

No document changes

College Notified

No document changes
Course|Gen_Ed|New-Close-Modify for request 14576

Info

Request: Gen Ed B-I approval of MCB2006 Microbes without Borders
Description of request: This course has been successful taught for 3 years and fulfills all requirements to have Gen Ed B and N designation.
Submitter: Monika Oll moli@ufl.edu
Created: 1/2/2020 2:08:47 PM
Form version: 1

Responses

Course Prefix and Number MCS2006
Course Title Microbes without Borders
Delivery Method Online, UF Online Program, Classroom
Request Type Change GE/WR designation (selecting this option will open additional form fields below)
Effective Term Earliest Available
Effective Year 2020
Credit Hours 3
Prerequisites no prerequisites are required, open to all majors across campus, course is also a part of the UF International scholars' program
Current GE Classification(s) None
Current Writing Requirement Classification None
Requesting Temporary or Permanent Approval Permanent
Requested GE Classification B - Biological Sciences, N - International
Requested Writing Requirement Classification None

Accomplishing Objectives 1. Introducing students to the basic concepts of microbiology, some historic milestones and specific terminology.
2. Exposing students to global concepts linking microbiology to oneself and society, and resulting assessment how to make connections to the global environment.
3. Evaluating and critiquing personal beliefs and behaviors as it pertains to current challenges in microbiology and environmental implications.
4. Discuss and critique of how potential scientific and societal solutions for improving microbiology issues and applications and applying it international health issues and nutrition.
5. Enhancing critical communication skills through a combination of field trips and presenting student project results via multiple modalities, including written reports, poster presentations, student-led activities

Content: Explanation of Assessment Content: Students demonstrate competence in the terminology, concepts, theories and methodologies used within the discipline. Students identify, describe, and explain historical and current explorations in microbiology with attention to personal and global aspects. Know and distinguish different phyla of microbes and know how to recognize them and what they are used for. Student competencies will be assessed through class participation, weekly quizzes, microbes in the news and final exam.

Critical Thinking: Explanation of Assessment Critical Thinking: Students analyze information carefully and logically from multiple perspectives, using discipline-specific methods, and develop reasoned solutions to problems. Students will analyze, evaluate and critique popular believes and attitudes toward a variety of different microbiology related topics, that includes but is not limited to vaccines, GMOs, fermented foods and antimicrobial resistance. They will assume stakeholder roles to analyze and verbalize different point of views. Student competencies will be assessed through class participation, discussions, field trips and activities and a Final Exam

Communication: Explanation of Assessment Communication: Students communicate knowledge, ideas and reasoning clearly and effectively in written and oral forms appropriate to the discipline. Students will research and develop knowledge to comprehend microbial and functional foods to encompass the importance and microbial methods for fermented foods in various countries abroad. They will be able to describe the medicinal and socioeconomic importance of the process. Student
competencies will be assessed through discussions, microbial challenge project and final project presentation
MCB2006 Microbes without Borders
Fall 2020

General Education Designation
Primary General Education Designation: Biological Sciences (B)
Secondary General Education Designation: International (N)
Quest: Quest 2 (Q2)

Table of Contents

I. Course Information ................................................................. 1
II. Coursework & Schedule ............................................................ 4
III. Grading .................................................................................. 8
IV. Quest Learning Experiences ..................................................... 10
V. General Education and Quest Objectives & SLOs ......................... 11
VI. UF Policies ............................................................................. 15

I. Course Information

Instructor:
Monika Oli, PhD, MSE
http://microcell.ufl.edu/people/faculty-directory/oli/
Senior Lecturer and Undergraduate Coordinator
Department of Microbiology and Cell Science, room 1049
moli@ufl.edu; 352-3928434

Office Hours: Monday 10am - 12pm and by appointment (in person, phone or via zoom)
Course Communications: Please email me at moli@ufl.edu - emails through Canvas will not be answered!

Teaching assistant: – TBD

Course Information:
3CR (A minimum grade of C is required for general education credit)
Meeting Day/Time: F5-7  
Location: MCS1011 or online

**Prerequisites:** no prerequisites are required, open to all majors across campus, course is also a part of the UF International scholars’ program  
https://www.ufic.ufl.edu/UAP/InternationalScholarsProgram.html

2019 This course was awarded the quality diagnosis “Exemplary Course”  
2018 Affordable UF: Courses using required material costing $20 or less per-credit-hour  
2018 Online Education Excellence Awards (Web Tour)

**Course Description:**  
The overarching goal of this course is to explore student’s concepts about and attitude towards “germs” and microbes at large with the goal to reshape the negative attitudes and have a positive attitude about microbiology prevail. Readings and activities should provide a mind opening, global journey to appreciate the amazingness, creativity and importance of microbes for everyone, for our communities and for our whole planet.

Microbiology relates issues are at the heart of today’s pressing questions. Current global microbial challenges include antibiotic resistant pathogens, GMOs in food and agriculture; we cover the arms race between host and pathogens and the questions
surrounding vaccines. On the bright side we cover global microbial advances and explore what we can do to harvest the benefits of microbes as it pertains to our own health by exploring the gut-brain axis, how microbes are used to produce fermented food and beverages in every culture and how we exploit microbes for biotechnology applications including renewable bioenergy. This course will demonstrate the multidisciplinary nature of the field of microbiology, touching on a variety of other subject areas and disciplines.

**Quest aspects of Microbes without Borders**
What can we do about the global microbial challenges we are facing on a global perspective including antibiotic resistant pathogens, the pros and cons of GMO plants in agriculture across the world or the resurgence of vaccine preventable diseases? However, on the other side we also explore what we can do to harvest the benefits of microbes as it pertains to our own health through a beneficial gut microbiome, how microbes are used to produce fermented food and beverages in every culture and how we exploit microbes for biotechnology applications. The overarching goal of this course is to explore student’s concepts about and attitude towards “germs” and microbes at large with the goal to reshape the negative attitudes and have a positive attitude about microbiology prevail. Readings and activities should provide a mind opening, global journey to appreciate the amazingness, creativity and importance of microbes for each individual, for our communities and for our whole planet.

This course will make students aware of the global importance of the diversity of microbes and the significance in our everyday lives and for the environment. Different microbes are explored in readings, audiovisual materials and hands on explorations. Topics include viruses, bacteria, parasites and fungi, microbes and art, bioterrorism, GMOs and biotechnology, food production and the role of microbes in global agriculture. Issues like disease spread and prevention, vaccines and drug resistance will be examined. Students will participate in a global challenge project in a country of their choice to educate local people about global microbial challenges that are currently facing humanity.

Topics of the course include but are not limited to:

II. Coursework & Schedule

Graded activities
The table below shows the activity types contained within this course and the assigned points to determine the final course grade.

<table>
<thead>
<tr>
<th>Evaluation method</th>
<th>Number</th>
<th>Points each</th>
<th>Total points</th>
<th>Actual %</th>
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<tbody>
<tr>
<td>Attendance</td>
<td>Mandatory, 2 unexcused absences allowed</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ePortfolio with reflection</td>
<td>1</td>
<td>50</td>
<td>50</td>
<td>5</td>
</tr>
<tr>
<td>Activities - Assessments</td>
<td>5/8</td>
<td>40</td>
<td>200</td>
<td>20</td>
</tr>
<tr>
<td>Travel Plan and Map - “Traveling Microbiologist”</td>
<td>1</td>
<td>50</td>
<td>50</td>
<td>5</td>
</tr>
<tr>
<td>Participation in Discussions</td>
<td>5/8</td>
<td>15</td>
<td>150</td>
<td>15</td>
</tr>
<tr>
<td>Power words in the news</td>
<td>10</td>
<td>5</td>
<td>50</td>
<td>5</td>
</tr>
<tr>
<td>------------------------</td>
<td>----</td>
<td>---</td>
<td>----</td>
<td>---</td>
</tr>
<tr>
<td>Module quizzes</td>
<td>10</td>
<td>10</td>
<td>100</td>
<td>10</td>
</tr>
<tr>
<td>Global microbial challenge</td>
<td>4 submissions</td>
<td>50/50/50/100</td>
<td>250</td>
<td>25</td>
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<tr>
<td>Cumulative final</td>
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<td>100</td>
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<tr>
<td></td>
<td>1000</td>
<td>100</td>
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</tr>
</tbody>
</table>

There will be weekly quizzes that cover the readings, vocabulary and other posted materials, you have to take each quiz, but have 2 attempts for each. **You have to complete a total of 5/8 discussions (with replies) and 5/8 activities, which amounts to ~3 deadlines per week.** Your WIX ePortfolio and travel plan will be submitted and graded separately. You are responsible to maintain and upkeep the work independently throughout the semester. The challenge project will consist of several separate submissions and feedback throughout the time of the project. The cumulative final will cover the textbook material and vocabulary.

*Brief Explanation of the student learning assessment modalities:*

**Attendance**
Physical attendance is required from the campus students only. For online students, the participation in discussions and interaction with other students will count as attendance. Class participation is a measure determined by your canvas activity.

**ePortfolio with reflection**
You will first need to create an account on the [Wix website](http://example.com). To get started, please use the Portfolio and CV Builder templates found [here](http://example.com). From here you may edit your profile and account settings. You can use another website builder if you'd like.
Creating Your Portfolio. For each assignment, you will add content documents or subsection to your page. Please make it clear what the document is and post a direct link to it when submitting your assignment. Please use the following naming convention for each new document: Name of Module, Assignment and Last Name.

Be creative!! This portfolio is a showcase of your talents and personality. Additionally, with the website builder, adding content is very effortless. Plus you have a record of your hard work! Add to it as you go along and as you accumulate experiences and education. This may come in really handy a few years from now! See an example Wix portfolio specific to the Microbes without Border course [http://example.com](http://example.com).

**Activities – Assessments**
Activities are aligned with the weekly topics and are usually hands on activities or simulations. There is a great variety of activities from scavenger hunt, to making a "monsters inside me" video. You have several choices of activities and have to complete 5 of the activities the whole semester.

**Travel Plan and Map - “Traveling Microbiologist”**
One of the global aspects of the course is to develop a travel plan as “traveling microbiologist” you will explore specific microbial destinations, depending on the country of your choice. You will explore the culture, UNESCO sites and other relevant parameters in order to be safe when you go on your virtual journey.

**Participation in Discussions**
Discussions are either Critical Thinking Questions or are built upon an article or case study. Some weeks you will be required to answer a critical thinking prompt. The critical thinking questions are designed to make students analyze and interpret global and intercultural ethical issues. Pick a stance and write a 2-3 paragraph original post response to the prompt provided each week using evidence, reason, and logic to support your opinion. Other weeks you will get an article or a case study as prompt. This should provide you a context and background upon which you will build your argument, pro, con or in alignment with a specific interest group. Understand the background of the topic by reading the provided material and write a 2-3 paragraph original post response to the prompt provided each week using evidence, reason, and logic to support your opinion. 

Reply/Discussion: After responding to your original post prompt you will then need to reply to at least two students' original posts. We want you to find an opposing viewpoint. These replies do not need to be as structured but should contain well thought out responses with supporting information. Replies need to include a global perspective as appropriate. Replies should be a maximum of 1 paragraph long.

Power words in the news

As you are embarking on the exploration of a new subject, "Microbiology". It's really like exploring a new language or a new culture. When you listen to people in the lab, or go to a scientific presentation it sounds like they are speaking a different language using many terms you are not familiar with. In order for you to express your newly learned skills and share your understanding of various topics, we need to make sure you are going to use the correct vocabulary to express your newly learned skills and knowledge. In this course, you will be required to know and understand key terms and words known as "Power Words" within each module. This weekly assignment will have you chose any one of the vocabulary terms from each week and find a current news or scientific article that covers that terminology. The article cannot be older than 6 months. Please also determine if the same issue exists on a global scale! In 2-3 paragraphs, summarize and critique the article and "share" the URL to the story in the discussion box. Make sure you understand and explain the quality of the article of your choice (peer reviewed or non-peer reviewed; opinion or fact, blog or scientific reference.....). Add one sentence of a global perspective on the topic.

In another paragraph try to question or challenge the article or alternatively describe why you found this article so interesting and point out something you did not know before you read the article. You can use any source, news paper, scientific articles, government websites, FB, blogs, documentaries, etc. but make sure you state the source AND understand if it is peer-reviewed (ie., examined by experts before it was published) or not.

Module quizzes – chapter assessments
You must read each assigned chapter in order to do well on the quizzes. The cumulative exam will cover all the chapters in the book as noted in the different modules. I am sure you will enjoy the easy read! Quizzes cover the book chapter materials and will be open notes. Chapter assessments contain a few questions that pertain to the interviews that are part of each module. We interviewed our faculty and other experts in the diverse fields to give you a personal perspective of what it is like to be a microbologist.

Global microbial challenge
Finding solutions to a real world challenge can be a daunting task but also rewarding as you are using the material you learned in this and other classes and apply your knowledge to make a difference in the world. There are several steps to the challenge project to make sure you are not overwhelmed. First of all you and your team members decide on a current global issue that pertains to microbiology. Make sure you chose a topic that interests you and submit it. We will have a theme the class decides on and more information is provided throughout the semester. The last month of the semester will be spent on working on the challenge project.

Cumulative final
You will have a multiple choice cumulative final (open notes) and a written reflection what you have learned that will be part of your ePortfolio.
Teaching Philosophy: The overarching goal for my teaching program is to provide a holistic learning experience that fosters students’ global awareness and critical-thinking skills, enhances their personal and professional development, and prepare them for the real world. Specifically, the goals for my students in this class are to:

- Be inspired to understand the global importance of microbiology
- Develop creative and critical habits of the mind
- Expand students’ comfort zone and global and international awareness
- Empower students to make informed decisions based on scientific evidence

Instructional Methods: This course is a creative discourse into the world of microbiology. The fundamental knowledge and definitions will be acquired by textbook and other readings. Each week will have an exploratory component where students will have to explore a given topic, go on a field trip or create something. Weekly discussions will explore global controversial topics, stimulate teamwork and also critical thinking. Students have to assume an assigned stakeholder role and defend their position. A 4-week block at the end of the course is dedicated to the “Global microbiological challenge project” that will stimulate triticale thinking and global vision.

Weekly Course Schedule

<table>
<thead>
<tr>
<th>Week</th>
<th>Module</th>
<th>Topic</th>
<th>Activity</th>
<th>Reading</th>
<th>Discussion topics</th>
<th>Assignment/Due date*</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Intro</td>
<td>Introduction, syllabus, introduce global microbial challenge</td>
<td>N/A</td>
<td>Ch 1-2</td>
<td>Introductions</td>
<td>Module quiz and Power words in the news</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>How we see and examine Microbes</td>
<td>Microscopy practice – Life in a drop of water (microbiology lab)</td>
<td>Ch 1-4</td>
<td>Microbes Across Campus (ubiquitous aspect of microbes)</td>
<td>Module quiz and Power words in the news</td>
</tr>
<tr>
<td>3</td>
<td>2</td>
<td>Viruses and Prokaryotes</td>
<td>Kitchen Lab</td>
<td>Ch 5-6</td>
<td>To Vaccinate or note to Vaccinate – a global perspective</td>
<td>Module quiz and Power words in the news</td>
</tr>
<tr>
<td>4</td>
<td>3</td>
<td>Protists and Fungi</td>
<td>Fungi scavenger hunt – around lake Alice</td>
<td>Ch 7-8</td>
<td>The post antibiotic an international threat – Guest Dr. D. Czyz</td>
<td>Module quiz and Power words in the news</td>
</tr>
<tr>
<td>5</td>
<td>4</td>
<td>Extremophiles and Metabolism</td>
<td>Extreme living – work on travel map</td>
<td>Ch 9-10, 16</td>
<td>Tardigrades on the moon</td>
<td>Module quiz and Power words in the news</td>
</tr>
<tr>
<td>Week</td>
<td>Topic</td>
<td>Activity</td>
<td>Notes</td>
<td></td>
<td></td>
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<td>------</td>
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</tr>
<tr>
<td>6</td>
<td>5</td>
<td>Art and Biodegradation</td>
<td>Field trip to examine microbial degradation at the Harn Museum</td>
<td>Ch 11, International Art Preservation Efforts – field trip to Harn Museum representative</td>
<td>Module quiz and Power words in the news &amp; Travel map “Traveling Microbiologist”</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>6</td>
<td>Bioterrorism and Biotechnology</td>
<td>GMO interviews and survey</td>
<td>Ch 14-15, GMO Crops and use of Roundup laws: EU vs USA</td>
<td>Module quiz and Power words in the news</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>7</td>
<td>Diseases and Epidemics</td>
<td>Gideon game</td>
<td>Ch 17, 18, The Smallpox Debate – global eradication?</td>
<td>Module quiz and Power words in the news</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>8</td>
<td>Food and Microbes</td>
<td>Make fermented food in class</td>
<td>Ch 12-13, Dirt is good for you – Food safety and fermentation recipes from abroad</td>
<td>Module quiz and Power words in the news</td>
<td></td>
</tr>
</tbody>
</table>
| 10-15| Project | Global Microbial Challenge | - Form team  
- Explore your country of choice (gpminder.com)  
- Explore local and regional fermented foods  
- Communicate with a local from that country (resident in the USA or abroad)  
- Submit draft of your work – peer feedback  
- Complete your project and actually execute/implement project | Weekly deadline for project parts |

16 | Final Exam |  |

*All assignments are due Sunday evening at midnight*

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**III. Grading**

**Statement on 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/ugrad/current/regulations/info/attendance.aspx](https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx).

**Attendance:** is mandatory and will be taken each week in the Canvas gradebook. You are allowed two “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. The instructor will inform you of
your participation grade monthly through canvas, and schedule a conference if you are earning below 70% of the possible points.

**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. Provide DRC accommodations within the first week of class.

**Participation Grading Rubric:**

<table>
<thead>
<tr>
<th></th>
<th><strong>High Quality</strong></th>
<th><strong>Average</strong></th>
<th><strong>Needs Improvement</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Informed:</strong></td>
<td>Shows evidence of having done the assigned work.</td>
<td>Student is versed in communicating the ideas of the assigned reading material</td>
<td>Student is week in communicating the ideas of the assigned reading material</td>
</tr>
<tr>
<td><strong>Thoughtful:</strong></td>
<td>Shows evidence of having understood and considered issues raised.</td>
<td>Student integrates the technical knowledge with social components and considers socioeconomic factors</td>
<td>Student has a one sided view of the topic and bases his/her arguments on limited resources</td>
</tr>
<tr>
<td><strong>Considerate:</strong></td>
<td>Takes the perspective others into account.</td>
<td>Student can accept a variety of standpoints and can verbalize pro and con arguments for each topic</td>
<td>Student provides one sided arguments based on his/her knowledge and opinion</td>
</tr>
</tbody>
</table>

**Letter grades** for the course will be based on the following grading scale:

Information on current UF grading policies for assigning grade points: https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx. A minimum grade of C is required for general education credit.

<table>
<thead>
<tr>
<th>Letter Grade</th>
<th>Percentage</th>
<th>Grade Point</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>92–100%</td>
<td>4</td>
</tr>
<tr>
<td>A-</td>
<td>90–91.9%</td>
<td>3.67</td>
</tr>
<tr>
<td>B+</td>
<td>87–89.9%</td>
<td>3.33</td>
</tr>
<tr>
<td>B</td>
<td>82–86.9%</td>
<td>3</td>
</tr>
<tr>
<td>B-</td>
<td>80–81.9%</td>
<td>2.67</td>
</tr>
<tr>
<td>C+</td>
<td>77–79.9%</td>
<td>2.33</td>
</tr>
<tr>
<td>C</td>
<td>72–76.9%</td>
<td>2</td>
</tr>
<tr>
<td>C-</td>
<td>70–71.9%</td>
<td>1.67</td>
</tr>
<tr>
<td>D+</td>
<td>67–69.9%</td>
<td>1.33</td>
</tr>
<tr>
<td>Grade</td>
<td>Percentage Range</td>
<td>Grade Points</td>
</tr>
<tr>
<td>-------</td>
<td>------------------</td>
<td>--------------</td>
</tr>
<tr>
<td>D</td>
<td>62-66.9%</td>
<td>1</td>
</tr>
<tr>
<td>D-</td>
<td>60-601.9%</td>
<td>0.67</td>
</tr>
<tr>
<td>E,I,F</td>
<td>&lt;60%</td>
<td>0</td>
</tr>
</tbody>
</table>

**IV. Quest Learning Experiences**

**Course Delivery and Engagement**
Number of Seats Anticipated: 50
Delivery Method: discussion and activity based learning environment, students come prepared to class (for campus section; online for online and dual enrollment students). For discussions, students will be assigned randomly one of the stakeholders' roles which may or may not agree with their personal opinion. Activities include field trips with assignments. Other projects include data analysis and interpretation. Vocabulary will be reviewed by using tools like wooclap or kahoot.

**Details of experiential learning component**
This is a very engaging and hands on class. Several experiential activities are planned: 1) microscopy examination of Lake Alice water samples in the microbiology lab, 2) A fungi scavenger hunt to explore fungi and lichen around campus, 3) field trip to the Harn Museum to examine microbial degradation, 4) making fermented food in class (kimchi, sauerkraut, yogurt, kefir...)

**Details of self-reflection component**
Students' beliefs are challenged weekly during our discussions where students have to assume a stakeholder position that may not overlap with their own opinion. Throughout the semester, they are exposed to a variety of thought processes and believe systems. The final reflection is part of their ePortfolio where they address their attitude to microbiology and global issues prior to the class and thoughtfully compare it to their understanding of the subject matter and its implication at the end of the class.

**What are the objectives of Quest 2 and the essential/pressing questions this course explores?**
Grounded in the modes of inquiry and analysis characteristic of the social and/or biophysical sciences, Quest 2 courses invite students to address pressing questions facing human society and the planet—questions that outstrip the boundaries of any one discipline and that represent the kind of open-ended, complex issues they will face as critical, creative, and thoughtful adults navigating a complex and interconnected world.

**Gen Ed Primary Subject Area Objectives**
**Biological Sciences (B)** Biological science courses provide instruction in the basic concepts, theories and terms of the scientific method in the context of the life sciences. Courses focus on major scientific developments and their impacts on society, science and the environment, and the relevant processes that govern biological systems. Students will formulate empirically-testable hypotheses derived from the study of living things, apply logical reasoning skills through scientific criticism and argument, and apply techniques of discovery and critical thinking to evaluate outcomes of experiments.

**Gen Ed Secondary Subject Area Objectives**

**International (N)** – this designation is always in conjunction with another program area: International courses promote the development of students’ global and intercultural awareness. Students examine the cultural, economic, geographic, historical, political, and/or social experiences and processes that characterize the contemporary world, and thereby comprehend the trends, challenges, and opportunities that affect communities around the world. Students analyze and reflect on the ways in which cultural, economic, political, and/or social systems and beliefs mediate their own and other people’s understanding of an increasingly connected world.

These general education objectives will be accomplished through:

1. Introducing students to the basic concepts of microbiology, some historic milestones and specific terminology.
2. Exposing students to global concepts linking microbiology to oneself and society, and resulting assessment how to make connections to the global environment.
3. Evaluating and critiquing personal beliefs and behaviors as it pertains to current challenges in microbiology and environmental implications,
4. discuss and critique of how potential scientific and societal solutions for improving microbiology issues and applications and applying it international health issues and nutrition.
5. Enhancing critical communication skills through a combination of field trips and presenting student project results via multiple modalities, including written reports, poster presentations, student-led activities

**V. General Education and Quest Objectives & SLOs**

The general education performance indicators are actions the student should be able to perform as a result of completing general education courses at the University of Florida. By focusing on specific expectations of the general education program, the performance
indicators facilitate assessment procedures of general education courses and the general education program.

**General Education and Quest Objectives**  
**Biological Sciences (for B designation)**

<table>
<thead>
<tr>
<th></th>
<th>Institutional Definition</th>
<th>Institutional SLO</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Content</strong></td>
<td>Content is knowledge of the terminology, concepts, methodologies and theories used within the subject area.</td>
<td>Students demonstrate competence in the terminology, concepts, methodologies and theories used within the subject area.</td>
</tr>
<tr>
<td><strong>Critical Thinking</strong></td>
<td>Critical thinking is characterized by the comprehensive analysis of issues, ideas, and evidence before accepting or formulating an opinion or conclusion.</td>
<td>Students carefully and logically analyze information from multiple perspectives and develop reasoned solutions to problems within the subject area.</td>
</tr>
<tr>
<td><strong>Communication</strong></td>
<td>Communication is the development and expression of ideas in written and oral forms.</td>
<td>Students clearly and effectively communicate knowledge, ideas, and reasoning in written or oral forms appropriate to the subject area.</td>
</tr>
</tbody>
</table>

**Content:** *Students demonstrate competence in the terminology, concepts, theories and methodologies used within the discipline.* Students identify, describe, and explain historical and current explorations in microbiology with attention to personal and global aspects. Know and distinguish different phyla of microbes and know how to recognize them and what they are used for. Student competencies will be assessed through class participation, weekly quizzes, microbes in the news and final exam.

**Critical Thinking:** *Students analyze information carefully and logically from multiple perspectives, using discipline-specific methods, and develop reasoned solutions to problems.* Students will analyze, evaluate and critique popular believes and attitudes toward a variety of different microbiology related topics, that includes but is not limited to vaccines, GMOs, fermented foods and antimicrobial resistance. They will assume stakeholder roles to analyze and verbalize different point of views. Student competencies will be assessed through class participation, discussions, field trips and activities and a Final Exam.

**Communication:** *Students communicate knowledge, ideas and reasoning clearly and effectively in written and oral forms appropriate to the discipline.* Students will research and develop knowledge to comprehend microbial and functional foods to encompass the importance and microbial methods for fermented foods in various countries abroad. They will be able to describe the medicinal and socioeconomic importance of the process. Student competencies will be assessed through discussions, microbial challenge project and final project presentation.

To provide more details how this course will meet the SLOs and Gen Ed requirements, see below
| **Content** | **Biological Sciences SLOs**
Students will be able to... | **Quest 2 SLOs**
Students will be able to... | **This Course’s SLOs**
Students will be able to... | **Assessment**
Student competencies will be assessed through... |
<table>
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<tr>
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</thead>
<tbody>
<tr>
<td><strong>Identify, describe, and explain</strong> the basic concepts, theories and terminology of natural science and the scientific method; the major scientific discoveries and the impacts on society and the environment; and the relevant processes that govern biological and physical systems.</td>
<td>Identify, describe, and explain the cross-disciplinary dimensions of a pressing societal issue or challenge as represented by the social sciences and/or biophysical sciences incorporated into the course.</td>
<td>Identify, describe, and explain historical and current explorations in microbiology with attention to personal and global aspects. Know and distinguish different phyla of microbes and know how to recognize them and what they are used for.</td>
<td>Class participation, weekly quizzes, microbes in the news and final exam.</td>
<td></td>
</tr>
<tr>
<td><strong>Critical Thinking</strong></td>
<td><strong>Formulate empirically-testable hypotheses</strong> derived from the study of physical processes or living things; apply logical reasoning skills effectively through scientific criticism and argument; and apply techniques of discovery and critical thinking effectively to solve scientific problems and to evaluate outcomes.</td>
<td><strong>Critically analyze</strong> quantitative or qualitative data appropriate for informing an approach, policy, or praxis that addresses some dimension of an important societal issue or challenge.</td>
<td><strong>Analyze, evaluate and critique</strong> popular beliefs and attitudes toward a variety of different microbiology related topics, that includes but is not limited to vaccines, GMOs, fermented foods and antimicrobial resistance. Assume stakeholder roles to analyze and verbalize different point of views.</td>
<td>Class participation, Discussions, Field trips and activities, Final Exam</td>
</tr>
<tr>
<td><strong>Communication</strong></td>
<td><strong>Communicate scientific knowledge, thoughts, and reasoning clearly and effectively.</strong></td>
<td><strong>Develop and present,</strong> in terms accessible to an educated public, clear and effective responses to proposed approaches, policies, or practices that address important societal issues or challenges.</td>
<td><strong>Research and develop the importance and microbial methods for fermented foods in various countries abroad. Describe</strong> the medicinal and socioeconomic importance of the process.</td>
<td>Discussion, Microbial challenge project and final project presentation</td>
</tr>
<tr>
<td>Biological Sciences SLOs</td>
<td>Quest 2 SLOs</td>
<td>This Course’s SLOs</td>
<td>Assessment</td>
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</tr>
<tr>
<td>Students will be able to...</td>
<td>Connect course content with critical reflection on their intellectual, personal, and professional development at UF and beyond.</td>
<td>Connect course content to personal experience and believes and reflect on changes of understanding as it pertains to microbes in your life, integrate scientific background and attitude before and after the course and evaluate how this affects your academic journey.</td>
<td>Discussions and Reflection in ePortfolio, Travel Map</td>
<td></td>
</tr>
</tbody>
</table>

This Course’s Objectives and Student Learning Outcomes (SLOs)—Gen Ed Secondary Area (for N co-designation)

International Objectives (for N co-designation)

<table>
<thead>
<tr>
<th>International Objectives</th>
<th>This Course’s Objectives</th>
<th>Objectives will be Accomplished By:</th>
</tr>
</thead>
<tbody>
<tr>
<td>International courses promote the development of students’ global and intercultural awareness.</td>
<td>Expose students to global concepts of microbiology linking one’s self to society, agriculture, and the environment.</td>
<td>Assigned textbook readings, discussions</td>
</tr>
<tr>
<td>Students examine the cultural, economic, geographic, historical, political, and/or social experiences and processes that characterize the contemporary world, and thereby comprehend the trends, challenges, and opportunities that affect communities around the world.</td>
<td>Evaluating and critiquing personal beliefs and behaviors, current challenges and misconceptions as it pertains to microbiology; develop and understand potential scientific and cultural solutions for improving our interactions with microbes on a personal and global scale</td>
<td>Class participation, Discussions, Field trips and activities</td>
</tr>
<tr>
<td>Students analyze and reflect on the ways in which cultural, economic, political, and/or social systems and beliefs mediate their own and other people’s understanding of an increasingly connected world.</td>
<td>Explore and analyze other cultures, customs and believes as it pertains to practices pertaining to current and pressing topics in microbiology.</td>
<td>Discussions, travel map, challenge project</td>
</tr>
<tr>
<td>International courses promote the development of students’ global and intercultural awareness.</td>
<td>Enhancing critical communication skills by presenting project results via multiple modalities, including travel map, interaction with people from other cultures during the</td>
<td>Discussions, research for and presentation of project, Travel map project</td>
</tr>
<tr>
<td>International Objectives</td>
<td>This Course's Objectives</td>
<td>Objectives will be Accomplished By:</td>
</tr>
<tr>
<td>-------------------------</td>
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<td>-----------------------------------</td>
</tr>
<tr>
<td></td>
<td>(This course will....)</td>
<td>(This course will accomplish the objective in the box at left by...)</td>
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<td></td>
<td></td>
<td>challenge project final project presentations</td>
</tr>
</tbody>
</table>

**International Student Learning Outcomes (for N co-designation)**

<table>
<thead>
<tr>
<th>Content</th>
<th>International SLOs</th>
<th>Course SLOs</th>
<th>Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Students will be able to...</td>
<td>Explain fundamental concepts relating to the scientific method and experimentation in microbiology; <strong>Define and correctly use</strong> terminology and concepts as it pertains to global issues in microbiology</td>
<td>Multiple choice chapter tests and short answer quizzes (fact checks), discussion and review of primary literature during discussions; students will use gained content knowledge to apply to solve the global microbial challenge project</td>
</tr>
<tr>
<td></td>
<td>Identify, describe, and explain the historical, cultural, economic, political, and/or social experiences and processes that characterize the contemporary world.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Critical Thinking | Analyze and reflect on the ways in which cultural, economic, political, and/or social systems and beliefs mediate understandings of an increasingly connected contemporary world. | Analyze and interpret the intersection of society’s perception of microbiology as it pertains to food, health and disease and the environment; **Synthesize** book chapters and activities to develop a proposal for proposing and solving the global microbial challenge project | Field trips and in class experiential activities, development and execution of the global microbial challenge project. |

| Communication | Communicate scientific knowledge, thoughts, and reasoning clearly and effectively. | Develop and present, in terms accessible to an educated public, clear and effective responses to proposed approaches, policies, or practices that address important societal issues or challenges. | Research and develop the importance and microbial methods for fermented foods in various countries abroad. **Describe** the medicinal and socioeconomic importance of the process. | The Microbial challenge project has a global aspect to it where students have to research a specific country, culture and aspect of microbiology. They summarize their findings and explorations in the final project presentation. |

**VI. UF Policies**

**Students Requiring Accommodation**

Students with disabilities requesting accommodations should first register with the Disability Resource Center (352-392-8565, www.dso.ufl.edu/drc/) by providing appropriate documentation. Once registered, students will receive an accommodation
letter which must be presented to the instructor when requesting accommodation. Students with disabilities should follow this procedure as early as possible in the semester.

**UF Evaluations Process**

Students are expected to provide feedback on the quality of instruction in this course by completing online evaluations at [https://evaluations.ufl.edu](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/results/](https://evaluations.ufl.edu/results/)

**University Honesty Policy**

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

**Counseling and Wellness Center, University Police**

Contact information for the Counseling and Wellness Center: [http://www.counseling.ufl.edu/cwc/Default.aspx](http://www.counseling.ufl.edu/cwc/Default.aspx), 392-1575

University Police Department: 392-1111 or 9-1-1 for emergencies.

**The Writing Studio**

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