CALS Curriculum Committee Meeting
October 11, 2019
2:00 p.m.
1044 McCarty Hall D


Agenda and Index for Materials

Approve Minutes from September 20, 2019 meeting

Dr. Brendemuhl: Update from UCC

Selection of Chair-Elect – Eligible Members:

Wendell Porter
Chris Wilson
Jason Scheffler
Jennifer Weeks
Timothy Martin
Joseph Larkin
Dean Gabriel
Vanessa Hull

Graduate New Course Proposal

1. ENY 6XXX – Molecular Biology of Insects and Nematodes (req. #14136)

Undergraduate New Course Proposals

2. ENY 4XXX – Molecular Biology of Insects and Nematodes (req. #14124)
3. FYC 4XXX – Youth Development, Service-Learning and Irish Culture (req. #13939)

Curriculum

4. Proposed IS-EMANR On-Campus ALC/SLO Revisions (req. #14251)
5. Proposed IS-EMANR UF Online ALC/SLO Revisions (req. #14252)

Recycled items
6. MCB 6XXX – Prokaryotic Cell Structure and Function (req. #13924)

Previously submitted 8/23/19. Comments: A motion was made by Dr. Sharp to recycle this item back to the department for required updates and resubmission. The motion was approved. There is concern as to why this proposed course title is different from the accompanying undergraduate course. If these are joint courses the titles need to be the same. With the submission of joint courses, the CALS Curriculum Committee requires a memo explaining the differences in rigor between the graduate and undergraduate courses. This note will also be of use further along in the approval process with other committees. A complete syllabus for the undergraduate course must also be submitted. The learning objectives need to be more representative of the rigor associated with a graduate level course. There is concern that the textbook is listed as optional, but there is an indication that exam questions require readings from the textbook. Decimal points should be added to the grading scale (95-100=A, 90-94.9=A-, 87-89.9=B+, etc.). This will help to avoid any concerns of rounding up when grades are given. The boilerplate with CALS syllabus statements at the end of the document needs to be replaced with the most recent version. This can be found at: https://cals.ufl.edu/content/PDF/Faculty_Staff/CALS-Syllabus-Policy.pdf.

7. Proposed Biosecurity Undergraduate Certificate (req. #13875)

Previously submitted 9/23/19. Comments: A motion was made by Dr. Nunez to recycle this item back to the department for required updates and resubmission. The motion was approved. The committee asks the submitter to consider a title change to something more reflective of the home department. Statements are required from the instructors of the elective courses to assure student capacity. There is a co-requisite issue with one of the required courses. It was indicated the department will cancel these co-requisites to avoid any issues. The SLOs need to include more appropriate learning verbs. There is a section on the committee site that will help with this: https://cals.ufl.edu/content/PDF/Faculty_Staff/cals-course-objectives.pdf.

Discussion

8. Proposed CALS Curriculum Committee Required Checklist

A document will be handed out at the meeting.
CALS Curriculum Committee Meeting  
September 20, 2019  
Submitted by James Fant


Substitutes: Ramesh Reddy for D. Coenen

Guests: Tolulope Agunbiade  
Amanda Hodges  
Cameron Jack  
Dorota Porazinska

Call to Order: The College of Agricultural and Life Sciences Curriculum Committee met on September 20, 2019 in Rm. 1044 McCarty Hall D. Scott Sager called the meeting to order at 2:01 p.m.

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

Approval of Minutes: A motion was made by Dr. Weeks to approve the minutes from the August 23, 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 were on the UCC agenda for September 17: 1) Approval of new undergraduate courses: a) FOS 3XXX – Life After Graduation (approved); 2) 8-Semester plans with critical-tracking for semesters 5-8 were approved for 19 CALS degrees, 3 programs will need a vote due to other changes being requested and they should be on the October agenda; 3) There will be a need to change all 8-semester plans to include UF Quest 1 in place of IDS 1161; 4) CALS SLO request for Course Grade use was approved for writing but request for CALS SLO for course grade in speech was recycled; 5) Graduate certificate change to Soil Ecosystems Services was approved; 6) New Graduate Courses a) AOM 6XXX Agri-food Systems Innovation, b) FAS 6XXX Environmental Physiology of Fishes, and c) FNR 6XXX Natural Resources in a Changing Climate were all
approved. Lastly, he mentioned that CALS had 3 new courses submitted for UF Quest 2 – Trial 2.

Graduate New Course Proposals

1. ENY 6XXX – Apiculture II (req. #14129)
   A motion was made by Dr. Wilson to approve this item with changes required. The motion was approved. Apiculture II needs to replace Beekeeping II in the description of request. Apiculture I needs to replace Beekeeping I in the course description on both the UCC form and syllabus. The prerequisite needs to be changed to 6XXX Apiculture I based on changes requested in item #6. Add “By appointment” to the office hours section of the syllabus. The learning verb “Demonstrate” in learning objective #6 needs to be replaced. The CALS boilerplate statement needs to be replaced with the current version. This can be found at: https://cals.ufl.edu/content/PDF/Faculty_Staff/CALS-Syllabus-Policy.pdf. The rubric needs to be removed from the submission.

2. NEM 6101L – Nematode Morphology and Anatomy Lab (req. #14224)
   A motion was made by Dr. Sharp to approve this item with changes required. The motion was approved. Remove the prerequisites and co-requisites from the UCC form. Include a statement in the syllabus regarding taking the lecture and lab simultaneously versus not taking them together. Include a list of additional times the lab will be available for student use. Include a heading of “Required Readings” above listed articles. Decimal points need to be added to the grading scale (ex: 100-94 A, 93.9-90 A-, 89.9-87 B+, etc.). This will help avoid any confusion when grades are given. Include the link to the university’s grading policy (https://catalog.ufl.edu/UGRD/academic-regulations/grades-grading-policies/) with the grading scale. The link to the university’s attendance and make-up policy needs to be included in the syllabus (https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx). The CALS boilerplate statement needs to be replaced with the current version. This can be found at: https://cals.ufl.edu/content/PDF/Faculty_Staff/CALS-Syllabus-Policy.pdf.

Graduate Course Change Proposals

3. AEC 6543 – Teaching and Learning Theory: Applications in Agricultural Education (req. #14183)
   A motion was made by Dr. Weeks to approve this item as submitted. The motion was approved.

4. ALS 6166 – Exotic Species and Biosecurity Issues (req. #141171)
   This item was reviewed with item #11. All comments apply to both submissions unless otherwise stated. A motion was made by Dr. Inglett to approve these items with changes required. The motion was approved. The CALS boilerplate statement needs to be replaced with the current version. This can be found at: https://cals.ufl.edu/content/PDF/Faculty_Staff/CALS-Syllabus-Policy.pdf.
5. ENY 5236 – Insect Pest and Vector Management (req. #14196)
   A motion was made by Dr. Weeks to approve this item with changes required. The motion was approved. (This item was reviewed with item #8. It was determined after the meeting that ENY 5236 must be terminated and a new course submission made for the creation of ENY 6XXX – Insect Pest and Vector Management with a joint category of instruction. Both the termination and the new course proposals will be approved by Dr. Brendemuhl without CALS committee review since the above submission was approved with changes. The updated 4000 level syllabus will need to be included with the new submission.) The group project should be changed to an individual project and additional points added to create a greater percentage of difference between the graduate and undergraduate version. The CALS boilerplate statement needs to be replaced with the current version. This can be found at: https://cals.ufl.edu/content/PDF/Faculty_Staff/CALS-Syllabus-Policy.pdf. Item #8 will have its own comments.

6. ENY 5572 – Advanced Apiculture (req. #14132)
   A motion was made by Dr. Weeks to approve this item with changes. The motion was approved. (It was determined after the meeting that ENY 5572 must be terminated and a new course submission made for the creation of ENY 6XXX – Apiculture I with a joint category of instruction. Both the termination and the new course proposals will be approved by Dr. Brendemuhl without CALS committee review since the above submission was approved with changes. The updated 4000 level syllabus will need to be included with the new submission.) The proposed course needs to be changed to a 6000 level. Office hours need to be included in the syllabus (By appointment is acceptable). The CALS boilerplate statement needs to be replaced with the current version. This can be found at: https://cals.ufl.edu/content/PDF/Faculty_Staff/CALS-Syllabus-Policy.pdf. The rubric needs to be removed from the submission.

7. NEM 6101C – Nematode Morphology and Anatomy (req. #14222)
   A motion was made by Dr. Weeks to approve this item with changes required. The motion was approved. In the rationale section of the UCC form include more information addressing the need to keep the lecture course at two credits. Decimal points need to be added to the grading scale (ex: 100-94 A, 93.9-90 A-, 89.9-87 B+, etc.). This will help avoid any confusion when grades are given. Include the link to the university’s grading policy (https://catalog.ufl.edu/UGRD/academic-regulations/grades-grading-policies/) with the grading scale. In the course schedule section of the syllabus include a statement addressing the average amount of time each week a student is expected to spend on-line. This will define the number of credits for the course. The attendance and make-up policy in the syllabus must agree with the university’s policy. The link to this policy (https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx) must also be included in the syllabus. The CALS boilerplate statement needs to be replaced with the current version. This can be found at: https://cals.ufl.edu/content/PDF/Faculty_Staff/CALS-Syllabus-Policy.pdf.
Undergraduate New Course Proposals

8. ENY 3XXX – Insect Pest and Vector Management (req. #13874)
   A motion was made by Dr. Weeks to approve this item with changes required. The motion was approved. The course level needs to be changed to 4000. The category of instruction needs to be joint (Ugrad/Grad). The CALS boilerplate statement needs to be replaced with the current version. This can be found at: https://cals.ufl.edu/content/PDF/Faculty_Staff/CALS-Syllabus-Policy.pdf. The updated 6000 level syllabus will need to be included with this submission.

9. ENY 4XXX – Beekeeping II (req. #14128)
   A motion was made by Dr. Ingleit to approve this item with changes required. The motion was approved. Add “By appointment” to office hours section of the syllabus. The peer review section of the research blog post description indicates “other graduate students” will review the blogs. Should this be in the undergraduate syllabus or changed to “other undergraduate students?” The CALS boilerplate statement needs to be replaced with the current version. This can be found at: https://cals.ufl.edu/content/PDF/Faculty_Staff/CALS-Syllabus-Policy.pdf.

10. FOS 4XXXC – Introduction to Unit Operations in Food Processing (req. #14174)
    A motion was made by Dr. Sharp to approve this item as submitted. The motion was approved.

Undergraduate Course Change Proposals

11. ALS 4161 – Exotic Species and Biosecurity Issues (req. #14170)
    See item #4.

12. ENY 4573 – Beekeeping (req. #14131)
    A motion was made by Dr. Sharp to approve this item with changes required. The motion was approved. The course number needs to be changed to 4XXX on the syllabus. Office hours need to be included in the syllabus (By appointment is acceptable). The committee was concerned about the amount of time given to complete the module assessments. Considering the absence of a proctor and depending on the number of questions does an hour invite the possibility of student collaboration? Also, in the module assessment section of the syllabus the last sentence needs “point” added after the 5. The CALS boilerplate statement needs to be replaced with the current version. This can be found at: https://cals.ufl.edu/content/PDF/Faculty_Staff/CALS-Syllabus-Policy.pdf.

13. FYC 4941 – Practicum in Family, Youth, and Community Sciences (req. #14127)
    A motion was made by Dr. Weeks to approve this item with changes required. The motion was approved. Remove the statement concerning S/U grades above the grading scale. The CALS boilerplate statement needs to be replaced with the current version. This can be found at: https://cals.ufl.edu/content/PDF/Faculty_Staff/CALS-Syllabus-Policy.pdf.
Certificates

14. Proposed new Agriscience Secondary Teaching Preparation Graduate Certificate (req. #14234)
   A motion was made by Dr. Weeks to approve this item as submitted. The motion was approved.

15. Proposed modification to the Plant Pest Risk Assessment and Management Graduate Certificate (req. #13830)
   A motion was made by Dr. Inglett to approve this item with changes required. The motion was approved. On the UCC form remove the proposed certificate name, the current prerequisites statement, and the proposed prerequisites statement. In the rationale for proposed change section include a statement regarding increased enrollment and the removal of on-campus electives allowing greater online availability.

16. Proposed termination of the Wetlands Graduate Certificate (req. #14114)
   A motion was made by Dr. Weeks to approve this item as submitted. The motion was approved.

Curriculum

17. Proposed modification to the 8 semester plan for the Interdisciplinary Studies – Environmental Management in Agriculture and Natural Resources On-Campus program (req. #14231)
   This item was reviewed with item #18. Comments apply to both items unless otherwise stated. A motion was made by Dr. Sharp to approve these items as submitted. The motion was approved.

18. Proposed modification to the 8 semester plan for the Interdisciplinary Studies – Environmental Management in Agriculture and Natural Resources UF - Online program (req. #14232)
   See item #17.

Discussion

19. Reinstatement of a required checklist for submissions to the CALS CC.
   The committee agrees with the need to require a checklist. Dr. Brendemuhl and I will put together a draft of the proposed checklist and will present it to the committee for approval when available.

The meeting was adjourned at 4:07 p.m.
### Cover Sheet: Request 14136

**Molecular Biology of Insects and Nematodes**

#### Info

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<td>Pending at CALS - College of Agricultural and Life Sciences</td>
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<tr>
<td>Submitter</td>
<td>Chun Wong <a href="mailto:adamcnwong@ufl.edu">adamcnwong@ufl.edu</a></td>
</tr>
<tr>
<td>Created</td>
<td>8/20/2019 3:51:16 PM</td>
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<tr>
<td>Updated</td>
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<td>This molecular course will serve an ongoing need of my Department (Entomology and Nematology) to equip students with the knowledge and skills on Molecular Biology. The previous faculty teaching a molecular course has retired and there is currently no other molecular course available in the Department.</td>
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#### Actions

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<td>Heather Mcauslane</td>
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No document changes

No document changes

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No document changes

No document changes
Course|New for request 14136

Info

Request: Molecular Biology of Insects and Nematodes
Description of request: This molecular course will serve an ongoing need of my Department (Entomology and Nematology) to equip students with the knowledge and skills on Molecular Biology. The previous faculty teaching a molecular course has retired and there is currently no other molecular course available in the Department.
Submitter: Chun Wong adamcnwong@ufl.edu
Created: 8/21/2019 7:50:00 PM
Form version: 3

Responses
Recommended Prefix ENY
Course Level 6
Course Number XXX
Category of Instruction Joint (Ugrad/Grad)
Lab Code None
Course Title Molecular Biology of Insects and Nematodes
Transcript Title Mol Bio Inse Nema
Degree Type Graduate

Delivery Method(s) On-Campus, Online, Off-Campus
Co-Listing Yes
Co-Listing Explanation 1) There are additional readings or graduate students, including a good number of journal papers, 2) Graduate will be given further training and assignment to learn literature review.

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

Amount of Credit 3

S/U Only? No
Contact Type Regularly Scheduled
Weekly Contact Hours 4
Course Description Students will acquire: 1) foundational knowledge of molecular biology, with emphasis on scientific discoveries from insects and nematodes, 2) information on the current innovations and trends of molecular technologies. Lectures will be complemented by case studies, games, tutorial videos, and group debates. Grad students will learn reviewing scientific literature.
Prerequisites Successful completion of an introductory biology course at college-level.
Co-requisites N/A

Rationale and Placement in Curriculum The UF Entomology and Nematology Department has historically been one of the finest departments in the country, particularly in the areas of applied entomology research, Integrated Pest Management (IPM), insect taxonomy, ecology and physiology. There is a growing demand to promote the molecular and sub-organismal expertise to complement our existing strengths, driven by recent revolution in next-generation sequencing and system biology. Also, the professor who was teaching the molecular course in the Dept retired this year.

My teaching thus serves to 1) promote the interests of students from my department and outside on molecular biology, and 2) equip students with the knowledge and skills that they can apply into their research and best prepare them for their future careers.

Course Objectives • List 5 breakthrough discoveries from research on Drosophila melanogaster and Caenorhabditis elegans.
• Explain the strengths and limitations of different model organisms in research.
• Describe the working principles of common molecular techniques to study DNA, RNA, and
proteins.
- Explain the differences between genomics, proteomics and metabolomics.
- Summarize genetic techniques used in insect or nematode studies.
- Compare and contrast high throughput sequencing technologies.
- Evaluate omics data using basic multivariate statistics.
- Construct and execute nucleic acid sequence identification using a BLAST search.
- Propose solutions to common issues encountered in nucleic acid extraction, PCR, and Sanger sequencing.
- Critique molecular studies published in journal article.

**Course Textbook(s) and/or Other Assigned Reading**

  EBook is available from the UF library for students: Go to: https://guides.uflib.ufl.edu/ebooks and search the book under Library Catalog.

**Readings**


**Weekly Schedule of Topics** Weekly Schedule of Topics Week 1 (August 21)

Share your favorite insect/nematode research news! Self intro and news sharing.

Week 2A (August 26)
DNA, RNA, and protein

Week 2B (August 28)
Mechanisms of gene regulation

Week 3A (Sept 2)
Holiday

Week 3B (Sept 4)
Genotype and phenotype (Part 1)
- Sex determination
- Dosage compensation

Week 4A (Sept 9)
Genotype and phenotype (Part 2)
- Epigenetics

Week 4B (Sept 11)
Model insect in research - Drosophila melanogaster (Part 1)
- Introduction to fly genetics
- Journal paper discussion

Week 5A (Sept 16)
Model insect in research - Drosophila melanogaster (Part 2)
- Host-microbiome interactions
- Translating to agricultural pests

Week 5B (Sept 18)
Guest seminar on Drosophila melanogaster research
Week 6A (Sep 23)
Pre-exam discussions, Q&A

Week 6B (Sept 25)
1st exam

Week 7A (Sept 30)
Model nematode in research – C. elegans

Week 7B (Oct 2)
• Discoveries from other invertebrate systems • Journal paper discussion

Week 8A (Oct 7)
Molecular techniques (Part 1)
• PCR, qPCR, cloning, Sanger sequencing, Western blot.

Week 8B (Oct 9)
Molecular techniques (Part 2)
• RNAi and CRISPR

Week 9A (Oct 21)
Introduction to high-throughput sequencing (Part 1)
• Sequencing technologies
• Experimental design and concept of multiplexing

Week 9B (Oct 23)
Introduction to high-throughput sequencing (Part 2)
• Multivariate statistics Case Studies

Week 10A (Oct 28)
Pre-exam discussions, Q&A

Week 10B (Oct 30)
2nd exam

Week 11A (Nov 4)
Mass spectrometry-based omics
• Metabolomics and Proteomics

Week 11B (Nov 6)
Guest seminar an omics topics

Week 12A (Nov 11)
Holiday

Week 12B (Nov 13)
Navigating big data – class exercise 1
• Amplicons sequences
• Metabolomes
• Comparative genomics

Week 13A (Nov 18)
Navigating big data – class exercise 2
• Comparative genomics

Week 13B (Nov 20)
Applications of molecular biology in pest management

Week 14A (Nov 25)
Group debate
Week 14B (Nov 25)
Pre-exam discussions, Q&A

Week 15A (Dec 2)
General feedback on the course

Week 15B
Dec 4 3rd exam
**Grading Scheme**
- A 93-100
- A- 90-92.9
- B+ 87-89.9
- B 83-86.9
- B- 80-82.9
- C+ 77-79.9
- C 73-76.9
- C- 70-72.9
- D 60-69.9
- E <60

**Instructor(s)** Adam CN Wong

**Attendance & Make-up** Yes

**Accomodations** Yes

**UF Grading Policies for assigning Grade Points** Yes

**Course Evaluation Policy** Yes
# Literature review grading rubric

**Student name:**

**Title of the review:**

<table>
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<tr>
<th>Category</th>
<th>Scoring Criteria</th>
<th>Total Points</th>
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<tbody>
<tr>
<td><strong>Content (20%)</strong></td>
<td>Topic/question of the paper is clearly defined. Relevant papers are reviewed comprehensively without being redundant.</td>
<td>/10</td>
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<td></td>
<td>Conclusions are strongly supported in the review.</td>
<td>/10</td>
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<tr>
<td><strong>Organization (10%)</strong></td>
<td>Ideas are arranged logically to support the premise of the paper. The reader can easily follow the paper.</td>
<td>/10</td>
</tr>
<tr>
<td><strong>Delivery (10%)</strong></td>
<td>Writing is crisp, clear, and succinct. Meaning is explicit.</td>
<td>/10</td>
</tr>
<tr>
<td><strong>Format and Style (15%)</strong></td>
<td>Correct grammar and no typos throughout the paper.</td>
<td>/5</td>
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<tr>
<td></td>
<td>Include headers (student name, title of the review), page numbers and follow the general rules stated in Canvas</td>
<td>/5</td>
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<tr>
<td></td>
<td>Within the word limit.</td>
<td>/5</td>
</tr>
<tr>
<td><strong>Citations/references (5%)</strong></td>
<td>References are primarily peer-reviewed professional journals or other legitimate sources.</td>
<td>/5</td>
</tr>
</tbody>
</table>

**Total Points (out of 60)**
Instructor: Dr. Adam CN Wong
Room 3105, Steinmetz Hall, Bldg. 970, Natural Area Drive
352-273-3977; adamcnwong@ufl.edu

Class period: Monday and Wednesday Period 6 - 7 (12:50 PM - 2:45 PM)
Locations: Monday: 3118 Steinmetz Hall; Wednesday: 1015 Steinmetz Hall.
Office hours: Immediately after class and by appointment.

Overview

Course Description
Through this course, students will acquire: 1) foundational knowledge of molecular biology, with emphasis on scientific discoveries from insects and nematodes, 2) information on the current innovations and trends of molecular technologies (e.g. high throughput sequencing, genome editing by CRISPR). Class lectures will be complemented by case studies, games, tutorial videos, interactive discussion, and group debates. During the course, students will learn how to effectively review scientific literature and lead journal discussion.

What is special about this course?
Do you know that ...

- An insect (Drosophila melanogaster) and a nematode (Caenorhabditis elegans) have contributed to numerous groundbreaking discoveries and generated 15 Nobel laureates in the past century?
- Our knowledge of how cells develop into tissues, how innate immune system works, and how genes may affect behaviors such as smell, taste, even sleep, were profoundly advanced by studies on insects or nematodes?
- Scientists are constantly leveraging molecular tools to study and to control pests and disease vectors?

If your answer is “no” to any of the questions, or, if you are simply intrigued by the idea of studying molecular biology from an entomo- or nemato- logical perspective, this course may be ideal for you!

Learning Objectives
Upon completion of the course, students will be able to:

- List 5 breakthrough discoveries from research on Drosophila melanogaster and Caenorhabditis elegans.
- Explain the strengths and limitations of different model organisms in research.
- Describe the working principles of common molecular techniques to study DNA, RNA, and proteins.
• Explain the differences between genomics, proteomics and metabolomics.
• Summarize genetic techniques used in insect or nematode studies.
• Compare and contrast high throughput sequencing technologies.
• Evaluate omics data using basic multivariate statistics.
• Construct and execute nucleic acid sequence identification using a BLAST search.
• Propose solutions to common issues encountered in nucleic acid extraction, PCR, and Sanger sequencing.
• Critique molecular studies published in journal article.

Prerequisite

There is no formal prerequisite for this course. However, basic knowledge of biology obtained from a college-level course is highly recommended.

Requirements in excess of ENY4XXX

This course is co-listed with ENY4XXX (graduate students). Students registered for ENY6XXX have requirements in excess of those for ENY4XXX students. These include: graduate students will be expected to lead journal paper critique/discussion at week 9B and submit a summary report worth 50 points, a more rigorous literature review assignment (1500-word) as compared to a short essay (500-word), additional readings, and more difficult exams (long answer questions).

Readings:

Recommended Textbook


Additional Readings

• Other readings will be posted in the course Canvas website.

Fall Schedule (tentative)

<table>
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<th>Week</th>
<th>Topic</th>
<th>Active learning exercises</th>
<th>Online quiz?</th>
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<tr>
<td>Week 1</td>
<td>Share your favorite insect/nematode research news!</td>
<td>Self intro and news sharing</td>
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<td>August 21</td>
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<td>Week 2A</td>
<td>DNA, RNA, and protein</td>
<td>A genome size guessing game</td>
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<td>August 26</td>
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<td>Week 2B</td>
<td>Mechanisms of gene regulation</td>
<td>A movie clip followed by discussions</td>
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<td>Week 3</td>
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<td>• Sex determination</td>
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<td></td>
<td>• Dosage compensation</td>
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<td>Week 4A</td>
<td>Genotype and phenotype (Part 2)</td>
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<tr>
<td>Sept 9</td>
<td>• Epigenetics</td>
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| Week 4B  | Sept 11 | Model insect in research - Drosophila melanogaster (Part 1)  
| --- | --- | --- |
|        |        | Introduction to fly genetics  
| Week 5A | Sept 16 | Model insect in research – Drosophila melanogaster (Part 2)  
|         |         | Host-microbiome interactions  
|         |         | Translating to agricultural pests  
| Week 5B | Sept 18 | Guest seminar on Drosophila melanogaster research  
|         |         | Diego Rincon-Limas (Department of Neurology)  
| Week 6A | Sep 23  | Pre-exam discussions, Q&A  
| Week 6B | Sept 25 | 1st exam  
| Week 7A | Sept 30 | Guest seminar on Small molecule discoveries using C. elegans  
|         |         | Rebecca Butcher (Department of Chemistry)  
| Week 7B | Oct 2   | Guest seminar on Molecular Nematology  
|         |         | Peter DiGennaro (Nematology)  
| Week 8A | Oct 7   | Molecular techniques (Part 1)  
|         |         | PCR, qPCR, cloning, Sanger sequencing, Western blot  
| Week 8B | Oct 9   | Molecular techniques (Part 2)  
|         |         | RNAi and CRISPR  
| Week 9A | Oct 14  | Guest seminar on CRISPR  
|         |         | Dariane Souza (Entomology)  
| Week 9B | Oct 16  | Journal paper critique and discussion  
| Week 10A| Oct 21  | Introduction to high-throughput sequencing (Part 1)  
|         |         | Sequencing technologies  
|         |         | Experimental design and concept of multiplexing  
| Week 10B| Oct 23  | Introduction to high-throughput sequencing (Part 2)  
|         |         | Multivariate statistics  
| Week 11A| Oct 28  | Pre-exam discussions, Q&A  
| Week 11B| Oct 30  | 2nd exam  
| Week 12A| Nov 4   | Mass spectrometry-based omics  
|         |         | Metabolomics and Proteomics  
| Week 12B| Nov 6   | Guest seminar on omics topics  
|         |         | TBD  
| Week 13A| Nov 11  | Holiday  
| Week 13B| Nov 13  | Navigating big data – class exercise 1  
|         |         | Amplicons sequences  
|         |         | Metabolomes  
|         |         | Comparative genomics  
| Week 14A| Nov 18  | Navigating big data – class exercise 2  
|         |         | Comparative genomics  
| Week 14B| Nov 20  | Applications of molecular biology in pest management  
| Week 15A| Nov 25  | Group debate  
| Week 15B| Nov 25  | Pre-exam discussions, Q&A  
| Week 16A| Dec 2   | 3rd exam  
| Week 16B|         | General feedback on the course  

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Course Policies

Grading
This course will be graded on the following scale:
A  93-100% of total points
A-  90-92.9% of total points
B+  87-89.9% of total points
B   83-86.9% of total points
B-  80-82.9% of total points
C+  77-79.9% of total points
C   73-76.9% of total points
C-  70-72.9% of total points
D+  67-69.9% of total points
D   63-66.9% of total points
D-  60-62.9% of total points
E   <60% of total points

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<tr>
<td>Exams (3 in total)</td>
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<td>Quizzes (8 in total)</td>
<td>80 in total (10 each)</td>
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<td>Literature review (1500 words)</td>
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<tr>
<td>Active participation in class</td>
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<td>Journal discussion report</td>
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<td><strong>Total</strong></td>
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For information on current UF policies for assigning grades, please visit:
Current website: https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx

General Class Rules
- Keep electronic devices in silence mode during lectures and lab exercises.
- Discussions about grades or other personal matters should be addressed during office hours.

Absences and Make-Up Work
Attendance is required. If you miss class, you are responsible for getting notes from other classmates.
University policy for class attendance and make-up exams, assignments and other work can be found at:
https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx

Class Attendance and Online quizzes
Each lecture class will be 1 hour long, except for guest lectures that will be 45 mins long, followed by 15-min Q and A. There will be 8 quizzes posted on Canvas and available on Wednesdays of specific weeks (indicated in the fall schedule table) to help students reinforce course materials and learning. Quizzes will be open book, consisting of 10 multiple choices, true/false, and fill in the blank questions. Quizzes will be due by Friday 5pm EST of the same week the quiz is posted.

Active Participation in Class
Participation in class will be assessed through several in-class exercises: i) self-introduction and sharing of a molecular news, and completed a questionnaire (10 points) in week 1 class, ii) participate in week 9B journal discussion and raise at least 1 question (10 points), iii) Complete the questionnaires during the workshops at week 13B and 14A (10 points each, 20 points in total), and iv) attended the session at week 16B and give feedback to the course (10 points).

Journal discussion
Students will be divided into groups of three or four. Research articles covering different topics of molecular entomology or nematology and guiding questions will be distributed to the groups in week 7. Graduate students will bring their own answers, discuss and take notes during the week 9B class discussion. Answers to the guiding questions and notes will be submitted as a report at the end of class (No submission is required for undergraduate students).

Literature review
A list of topics on Canvas in week 5. Students will choose their topics on a first-come-first-served basis through Canvas Discussion, and write a 1500-word literature review, due on Friday 5pm EST of week 11. A grading rubric is attached.

**Group debate**
There will be a group debate exercise toward the end of the course. An instruction and grading rubric will be posted in Canvas 2 weeks prior to the exercise. Students will be divided into 3 groups – two debating teams and a group of judges. Each debating team will have 10 minutes to present their arguments in support of their position statement. After both teams have presented, they will have 5 minutes to generate questions/criticisms to challenge the opposing debate team. Each team will take turns to raise questions/criticisms, followed by answers/rebuttal from the opposing team. At the conclusion of the debate, each judge will provide 5-minutes of feedback. Debating teams can decide whether they want to respond to judge comments before the judges cast their votes. A key component of this exercise is peer assessment. Debating teams will be graded by the judges and instructor. Judges will be graded by the students for their in-class feedback and will have to submit a 1-page summary of the debate (summarize key points raised by both teams, and critique their debating techniques) within 3 days by 5pm EST after the debate to be graded by the instructor.

**Exams**
There will be 3 exams delivered in weeks 6, 10 and 15. The exams will be in class, closed book and non-cumulative. Exam papers will consist of 20 multiple-choice questions, 5 short answer questions (7 to choose from), and 2 long answer questions (3 to choose from). Graduate and undergraduate students will be given different long-answer questions, in which the graduate ones will be more difficult and synthesis-oriented.

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

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**Academic Integrity and Class Rules**

Each student in the course is expected to abide by the UF Code of Academic Integrity. For information, please visit: https://sccr.dso.ufl.edu/students/student-conduct-code/

**Academic Honesty**
As a student at the University of Florida, you have committed yourself to uphold the Honor Code, which includes the following pledge: “We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity.” You are expected to exhibit behavior consistent with this commitment to the UF academic community, and on all work submitted for credit at the University of Florida, the following pledge is either required or implied: “On my honor, I have neither given nor received unauthorized aid in doing this assignment.” It is assumed that you will complete all work independently in each course unless the instructor provides explicit permission for you to collaborate on course tasks (e.g. assignments, papers, quizzes, exams). Furthermore, as part of your obligation to uphold the Honor Code, you should report any condition that facilitates academic misconduct to appropriate personnel. It is your individual responsibility to know and comply with all university policies and procedures regarding academic integrity and the Student Honor Code. Violations of the Honor Code at the University of Florida will not be tolerated. Violations will be reported to the Dean of Students Office for consideration of disciplinary action. For more information regarding the Student Honor Code, please see: http://www.dso.ufl.edu/sccr/process/student-conduct-honor-code.

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

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**Additional Resources**

5
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 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/cwc/
- 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

Plagiarism
Plagiarism is a serious dishonesty act in academia, especially with the ease of obtaining information from the internet. Students must not represent the words or ideas of another person as one’s own without attribution to the source, unless they are considered common knowledge. Plagiarism includes but is not limited to:

- Quoting oral or written materials including but not limited to those found on the internet, whether published or unpublished, without proper attribution.
- Submitting a document or assignment which in whole or in part is identical or substantially identical to a document or assignment not authorized by the student.
- Unauthorized use of materials or resources.
- Prohibited collaboration or consultation.
- Submission of paper or academic work purchased or obtained for an outside source.

Plagiarism is unethical and unacceptable. UF Plagiarism Policy can be found: http://regulations.ufl.edu/chapter4/4041.pdf. The consequences for plagiarism while at the University of Florida range from receiving a zero grade for the plagiarized assignment, a fail grade for the course, to, expulsion from the university. Students who plagiarize will be caught and consequences will be applied. Written assignments will be checked using an anti-plagiarism software called Turnitin® (http://www.at.ufl.edu/~turnitin/about.html).
# Literature review grading rubric

**Student name:**

**Title of the review:**

<table>
<thead>
<tr>
<th>Category</th>
<th>Scoring Criteria</th>
<th>Total Points</th>
</tr>
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<tbody>
<tr>
<td><strong>Content (40%)</strong></td>
<td>Topic/question of the paper is clearly defined. Relevant papers are reviewed comprehensively without being redundant.</td>
<td>/20</td>
</tr>
<tr>
<td></td>
<td>Conclusions are strongly supported in the review.</td>
<td></td>
</tr>
<tr>
<td><strong>Organization (20%)</strong></td>
<td>Ideas are arranged logically to support the premise of the paper. The reader can easily follow the paper.</td>
<td>/20</td>
</tr>
<tr>
<td><strong>Delivery (20%)</strong></td>
<td>Writing is crisp, clear, and succinct. Meaning is explicit.</td>
<td>/20</td>
</tr>
<tr>
<td><strong>Format and Style (30%)</strong></td>
<td>Correct grammar and no typos throughout the paper.</td>
<td>/10</td>
</tr>
<tr>
<td></td>
<td>Include headers (student name, title of the review), page numbers and follow the general rules stated in Canvas</td>
<td>/10</td>
</tr>
<tr>
<td></td>
<td>Words limit: &lt;1500 words but &gt;1400 words.</td>
<td>/10</td>
</tr>
<tr>
<td><strong>Citations/references (10%)</strong></td>
<td>References are primarily peer-reviewed professional journals or other legitimate sources.</td>
<td>/10</td>
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**Total Points (out of 120)**
Debate exercise

Team YES:

Team NO:

Student Judges:

Teacher Judges:

Instructions for the debate:

<table>
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<tr>
<th>Round 1 - presentation</th>
<th>Each team will have 10 minutes to present their position statements and elaborate their arguments.</th>
<th>20 mins</th>
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<tr>
<td>Round 2 - brainstorming</td>
<td>After both teams have presented, they will have 5 minutes to come up with 2-3 questions/criticisms to challenge each other.</td>
<td>5 mins</td>
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<tr>
<td>Round 3 – questions and rebuttal</td>
<td>Each team will take turns to raise questions/criticisms (1 min), followed by answers/rebuttal from the opposing team (1 min).</td>
<td>15 mins</td>
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<tr>
<td>Round 4 – judges feedback</td>
<td>Each judge will provide a 5-minute feedback and cast their votes. Debating teams can decide whether they want to respond to judge comments before the judges vote (2 mins)</td>
<td>20 mins</td>
</tr>
<tr>
<td>Round 5 – winning team announced</td>
<td>-</td>
<td>1 min</td>
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Grading
A key component of this exercise is peer assessment.
- Debating teams will be graded by the student and teacher judges, as well as by each other.
- Judges will be graded by the students for their in-class feedback and will have to submit a summary report to be graded by the teachers.
### Grading for the debating teams

<table>
<thead>
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<th>Good (10)</th>
<th>Average (5)</th>
<th>Below standard (0)</th>
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<tr>
<td><strong>Preparation</strong> (15 points)</td>
<td>Organized, compelling evidence to support the position statement.</td>
<td>Most, but not all, supporting evidence are relevant.</td>
<td>Some reasonable evidence although a few are weak or irrelevant.</td>
<td>Evidence is generally weak and irrelevant.</td>
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<tr>
<td></td>
<td>Demonstration of a good team effort.</td>
<td>Demonstration of a good team effort.</td>
<td>An impression that particular individuals doing most of the work.</td>
<td>Individual(s) did not contribute to the group’s preparation.</td>
</tr>
<tr>
<td><strong>Delivery</strong> (15 points)</td>
<td>All arguments are strong and convincing, supported by facts and examples.</td>
<td>Some arguments are supported by facts and examples.</td>
<td>Arguments makes senses but can benefit with better factual support.</td>
<td>Arguments are weak and lack factual support.</td>
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<td></td>
<td>Speaking is clear and voice can always be heard.</td>
<td>Voice is generally clear although sometime ideas are not very clear</td>
<td>The speech is understandable but not very easy to follow.</td>
<td>The speech is hard to follow.</td>
</tr>
<tr>
<td><strong>Questions and Rebuttal</strong> (15 points)</td>
<td>Raise critical questions that are relevant and thoughtful.</td>
<td>Raise questions that are relevant and thoughtful.</td>
<td>Raise questions that are relevant but obvious.</td>
<td>Unable to raise relevant questions or answer questions.</td>
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<tr>
<td></td>
<td>Address the questions from opposing team professionally and rebut with clarity.</td>
<td>Made good attempts to address the questions from opposing team. Some answers can be better clarified.</td>
<td>Made good attempts to address the questions from opposing team but some answers are not convincing at all.</td>
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</table>

### Winner/loser

+5 point for the winning team

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2. **By other team members (50 points):**
   
   On a scale of 0 to 50, please give a score for each member in your team in their participation (50: fully participate and make great contribution; 0: do not participate at all and made no contributions)
Grading for the judges

1. In-class feedback (50 points)
   At the end of the debate, student judges will have to: 1) detail the key messages delivered by the teams, 2) Vote on the winning team, 3) explain why the winning team deserves it, 4) provide feedback for improvement on this class activity.

   On a scale of 0-50, judges will be graded by both debating teams for their in-class feedback (50: excellent summary and constructive feedback, 0: unclear summary and unhelpful feedback).

2. A summary report (50 points)

   After the debate, judges will submit a short report (up to 2 page, single space, 12pt font) by Friday 5pm EST of the week, to:

   1) Summarize the position of each team (10 points).
   2) Point out the strengths and weakness of each team, highlight evidence that they think are useful/convincing or not useful/unconvincing (20 points).
   3) Suggest improvement for each team (10 points).
   4) Provide feedback on this class activity to the instructors (10 points)
## Cover Sheet: Request 14124

### Molecular Biology of Insects and Nematodes

#### Info

<table>
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<td>Chun Wong <a href="mailto:adamcnwong@uii.edu">adamcnwong@uii.edu</a></td>
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<td>Currently there is no other Molecular course in the Entomology and Nematology Department. This course will fill this gap and serve the best interests of our students by equipping them with: 1) foundational knowledge of molecular biology, with emphasis on scientific discoveries from insects and nematodes, 2) information on the current innovations and trends of molecular technologies (e.g. high throughput sequencing, genome editing by CRISPR).</td>
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Course|New for request 14124

Info

Request: Molecular Biology of Insects and Nematodes
Description of request: Currently there is no other Molecular course in the Entomology and
Nematology Department. This course will fill this gap and serve the best interests of our students by
equipping them with: 1) foundational knowledge of molecular biology, with emphasis on scientific
discoveries from insects and nematodes, 2) information on the current innovations and trends of
molecular technologies (e.g. high throughput sequencing, genome editing by CRISPR).
Submitter: Chun Wong adamcnwong@ufl.edu
Created: 8/21/2019 7:49:13 PM
Form version: 2

Responses
Recommended Prefix ENY
Course Level 4
Course Number XXX
Category of Instruction Joint (Ugrad/Grad)
Lab Code None
Course Title Molecular Biology of Insects and Nematodes
Transcript Title Mol Bio Inse Nema
Degree Type Graduate

Delivery Method(s) On-Campus, Online, Off-Campus
Co-Listing Yes
Co-Listing Explanation - Graduate will be given further training and assignment to learn literature
review.

- Additional readings (journal articles) for graduate students.
Effective Term Earliest Available
Effective Year Earliest Available
Rotating Topic? No
Repeateable Credit? No

Amount of Credit 3

S/U Only? No
Contact Type Regularly Scheduled
Weekly Contact Hours 4
Course Description Through this course, students will acquire: 1) foundation knowledge of molecular
biology, with emphasis on scientific discoveries from insects and nematodes, 2) information on the
current innovations and trends of molecular technologies (e.g. high throughput sequencing, different
types of omics, genome editing by CRISPR).
Prerequisites Successful completion of an introductory biology course at college-level.
Co-requisites N/A
Rationale and Placement in Curriculum The UF Entomology and Nematology Department has
historically been one of the finest departments in the country, particularly in the areas of applied
entomology research, Integrated Pest Management (IPM), insect taxonomy, ecology and physiology.
There is a growing demand to promote the molecular and sub-organismal expertise to complement
our existing strengths, driven by recent revolution in next-generation sequencing and system biology.
Also, the professor who was teaching the molecular course in the Dept retired this year.

My teaching thus serves to 1) promote the interests of students from my department and outside on
molecular biology, and 2) equip students with the knowledge and skills that they can apply into their
research and best prepare them for their future careers.
Course Objectives • List 5 breakthrough discoveries from research on Drosophila melanogaster
and Caenorhabditis elegans.
• Explain the strengths and limitations of different model organisms in research.
• Describe the working principles of common molecular techniques to study DNA, RNA, and proteins.
• Explain the differences between genomics, proteomics and metabolomics.
• Summarize genetic techniques used in insect or nematode studies.
• Compare and contrast high throughput sequencing technologies.
• Evaluate omics data using basic multivariate statistics.
• Construct and execute nucleic acid sequence identification using a BLAST search.
• Propose solutions to common issues encountered in nucleic acid extraction, PCR, and Sanger sequencing.

Course Textbook(s) and/or Other Assigned Reading • Marjorie A. Hoy: Insect Molecular Genetics: An Introduction to Principles and Applications (4th Edition).

Weekly Schedule of Topics Week 1 (August 21)
Share your favorite insect/nematode research news! Self intro and news sharing.

Week 2A (August 26)
DNA, RNA, and protein

Week 2B (August 28)
Mechanisms of gene regulation

Week 3A (Sept 2)
Holiday

Week 3B (Sept 4)
Genotype and phenotype (Part 1)
  • Sex determination
  • Dosage compensation

Week 4A (Sept 9)
Genotype and phenotype (Part 2)
  • Epigenetics

Week 4B (Sept 11)
Model insect in research - Drosophila melanogaster (Part 1)
  • Introduction to fly genetics
  • Journal paper discussion

Week 5A (Sept 16)
Model insect in research – Drosophila melanogaster (Part 2)
  • Host-microbiome interactions
  • Translating to agricultural pests

Week 5B (Sept 18)
Guest seminar on Drosophila melanogaster research

Week 6A (Sep 23)
Pre-exam discussions, Q&A

Week 6B (Sept 25)
1st exam

Week 7A (Sept 30)
Model nematode in research – C. elegans

Week 7B (Oct 2)
  • Discoveries from other invertebrate systems
  • Journal paper discussion

Week 8A (Oct 7)
Molecular techniques (Part 1)
  • PCR, qPCR, cloning, Sanger sequencing, Western blot.
Week 8B (Oct 9)
Molecular techniques (Part 2)
  • RNAi and CRISPR

Week 9A (Oct 21)
Introduction to high-throughput sequencing (Part 1)
  • Sequencing technologies
  • Experimental design and concept of multiplexing

Week 9B (Oct 23)
Introduction to high-throughput sequencing (Part 2)
  • Multivariate statistics  Case Studies

Week 10A (Oct 28)
Pre-exam discussions, Q&A

Week 10B (Oct 30)
2nd exam

Week 11A (Nov 4)
Mass spectrometry-based omics
  • Metabolomics and Proteomics

Week 11B (Nov 6)
Guest seminar an omics topics

Week 12A (Nov 11)
Holiday

Week 12B (Nov 13)
Navigating big data – class exercise 1
  • Amplicons sequences
  • Metabolomes
  • Comparative genomics

Week 13A (Nov 18)
Navigating big data – class exercise 2
  • Comparative genomics

Week 13B (Nov 20)
Applications of molecular biology in pest management

Week 14A (Nov 25)
Group debate

Week 14B (Nov 25)
Pre-exam discussions, Q&A

Week 15A (Dec 2)
General feedback on the course

Week 15B
Dec 4  3rd exam

**Grading Scheme**

<table>
<thead>
<tr>
<th>Grade</th>
<th>Percentage</th>
</tr>
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<tbody>
<tr>
<td>A-</td>
<td>90-92.9</td>
</tr>
<tr>
<td>B+</td>
<td>87-89.9</td>
</tr>
<tr>
<td>B</td>
<td>83-86.9</td>
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<tr>
<td>B-</td>
<td>80-82.9</td>
</tr>
<tr>
<td>C+</td>
<td>77-79.9</td>
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<tr>
<td>C</td>
<td>73-76.9</td>
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<tr>
<td>C-</td>
<td>70-72.9</td>
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</table>
D  60-69.9
E  <60

Instructor(s) Adam CN Wong
Attendance & Make-up Yes
Accomodations Yes
UF Grading Policies for assigning Grade Points Yes
Course Evaluation Policy Yes
Molecular Biology of Insects and Nematodes

"Let’s learn molecular biology through bugs and worms!"

Instructor: Dr. Adam CN Wong
Room 3105, Steinmetz Hall, Bldg. 970, Natural Area Drive
352-273-3977; adamcnwong@ufl.edu

Class period: Monday and Wednesday Period 6 - 7 (12:50 PM - 2:45 PM)
Locations: Monday: 3118 Steinmetz Hall; Wednesday: 1015 Steinmetz Hall.
Office hours: Immediately after class and by appointment.

Overview

Course Description

Through this course, students will acquire: 1) foundational knowledge of molecular biology, with emphasis on scientific discoveries from insects and nematodes, 2) information on the current innovations and trends of molecular technologies (e.g. high throughput sequencing, genome editing by CRISPR). Class lectures will be complemented by case studies, games, tutorial videos, interactive discussion, and group debates.

What is special about this course?

Do you know that ...
- An insect (*Drosophila melanogaster*) and a nematode (*Caenorhabditis elegans*) have contributed to numerous groundbreaking discoveries and generated 15 Nobel laureates in the past century?
- Our knowledge of how cells develop into tissues, how innate immune system works, and how genes may affect behaviors such as smell, taste, even sleep, were profoundly advanced by studies on insects or nematodes?
- Scientists are constantly leveraging molecular tools to study and to control pests and disease vectors?

If your answer is "no" to any of the questions, or, if you are simply intrigued by the idea of studying molecular biology from an entomo- or nemato- logical perspective, this course may be ideal for you!

Learning Objectives

Upon completion of the course, students will be able to:
- List 5 breakthrough discoveries from research on *Drosophila melanogaster* and *Caenorhabditis elegans*.
- Explain the strengths and limitations of different model organisms in research.
- Describe the working principles of common molecular techniques to study DNA, RNA, and proteins.
- Explain the differences between genomics, proteomics and metabolomics.
- Summarize genetic techniques used in insect or nematode studies.
- Compare and contrast high throughput sequencing technologies.
- Evaluate omics data using basic multivariate statistics.
- Construct and execute nucleic acid sequence identification using a BLAST search.
- Propose solutions to common issues encountered in nucleic acid extraction, PCR, and Sanger sequencing.

Prerequisite
There is no formal prerequisite for this course. However, basic knowledge of biology obtained from a college-level course is highly recommended.

Requirements
This course is co-listed with ENY6XXX (graduate students). Students registered for ENY6XXX have requirements in excess of those for ENY4XXX students. These include: graduate students will be expected to lead journal paper critique/discussion at week 9B and submit a summary report worth 50 points, a more rigorous literature review assignment (1500-word) as compared to a short essay (500-word), additional readings, and more difficult exams (long answer questions).

Readings:
Recommended Textbook

Fall Schedule (tentative)

<table>
<thead>
<tr>
<th>Week</th>
<th>Topic</th>
<th>Active learning exercises</th>
<th>Online quiz?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Week 1</td>
<td>Share your favorite insect/nematode research news!</td>
<td>Self intro and news sharing</td>
<td>-</td>
</tr>
<tr>
<td>Week 2A</td>
<td>DNA, RNA, and protein</td>
<td>A genome size guessing game</td>
<td>-</td>
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<tr>
<td>Week 2B</td>
<td>Mechanisms of gene regulation</td>
<td>A movie clip followed by discussions</td>
<td>Y</td>
</tr>
<tr>
<td>Week 3A</td>
<td>Vote!</td>
<td></td>
<td></td>
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<tr>
<td>Week 3</td>
<td>Holiday</td>
<td></td>
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<tr>
<td>Week 4A</td>
<td>Genotype and phenotype (Part 1)</td>
<td>Pictionary game</td>
<td>-</td>
</tr>
<tr>
<td>Week 4B</td>
<td>Genotype and phenotype (Part 2)</td>
<td></td>
<td>-</td>
</tr>
<tr>
<td>Week 5A</td>
<td>Model insect in research – Drosophila melanogaster (Part 1)</td>
<td>Journal paper discussion</td>
<td>Y</td>
</tr>
<tr>
<td>Week 5B</td>
<td>Model insect in research – Drosophila melanogaster (Part 2)</td>
<td></td>
<td>-</td>
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<tr>
<td>Week 6A</td>
<td>Guest seminar on Drosophila melanogaster research</td>
<td>Research tool demo</td>
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</tr>
<tr>
<td>Week 6B</td>
<td>Leave the building and eat!</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Week 7A</td>
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<td>Week 8A</td>
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<td>Week 9A</td>
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<tr>
<td>Week 10A</td>
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<tr>
<td>Week 13A</td>
<td>Leave the building and eat!</td>
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<tr>
<td>Week 14A</td>
<td>Leave the building and eat!</td>
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<tr>
<td>Week 15A</td>
<td>Leave the building and eat!</td>
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<td></td>
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<tr>
<td>Week 16A</td>
<td>Leave the building and eat!</td>
<td></td>
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<tr>
<td>Week 17A</td>
<td>Leave the building and eat!</td>
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<tr>
<td>Week 18A</td>
<td>Leave the building and eat!</td>
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<tr>
<td>Week 19A</td>
<td>Leave the building and eat!</td>
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<tr>
<td>Week 20A</td>
<td>Leave the building and eat!</td>
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<tr>
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<td>Week 24A</td>
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<td>Week 27A</td>
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<td>Week 28A</td>
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<td>Week 29A</td>
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<tr>
<td>Week 30A</td>
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</table>

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<table>
<thead>
<tr>
<th>Week 7B</th>
<th>Guest seminar on Molecular Nematology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oct 2</td>
<td>Peter DiGennaro (Nematology)</td>
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<td></td>
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</tr>
<tr>
<td>Week 8A</td>
<td>Molecular techniques (Part 1)</td>
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<tr>
<td>Oct 7</td>
<td>PCR, qPCR, cloning, Sanger sequencing, Western blot.</td>
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<td></td>
<td>Case Studies</td>
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<td>Week 8B</td>
<td>Molecular techniques (Part 2)</td>
</tr>
<tr>
<td>Oct 9</td>
<td>RNAi and CRISPR</td>
</tr>
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<td>Tutorial videos</td>
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<tr>
<td>Week 9A</td>
<td>Guest seminar on CRISPR</td>
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<tr>
<td>Oct 14</td>
<td>Dariane Souza (Entomology)</td>
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<tr>
<td>Week 9B</td>
<td>Journal paper critique and discussion</td>
</tr>
<tr>
<td>Oct 16</td>
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<tr>
<td>Week 10A</td>
<td>Introduction to high-throughput sequencing (Part 1)</td>
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<tr>
<td>Oct 21</td>
<td>Sequencing technologies</td>
</tr>
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<td></td>
<td>Experimental design and concept of multiplexing</td>
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<tr>
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<td>Case Studies, tutorial videos</td>
</tr>
<tr>
<td>Week 10B</td>
<td>Introduction to high-throughput sequencing (Part 2)</td>
</tr>
<tr>
<td>Oct 23</td>
<td>Multivariate statistics</td>
</tr>
<tr>
<td></td>
<td>Case Studies, tutorial videos</td>
</tr>
<tr>
<td>Week 11A</td>
<td>Pre-exam discussions, Q&amp;A</td>
</tr>
<tr>
<td>Oct 28</td>
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<td>Week 11B</td>
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<tr>
<td>Oct 30</td>
<td>2nd exam</td>
</tr>
<tr>
<td>Week 12A</td>
<td>Mass spectrometry-based omics</td>
</tr>
<tr>
<td>Nov 4</td>
<td>Metabolomics and Proteomics</td>
</tr>
<tr>
<td></td>
<td>Tutorial videos, games</td>
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<td>Week 12B</td>
<td>Guest seminar on omics topics</td>
</tr>
<tr>
<td>Nov 6</td>
<td>TBD</td>
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<td>Week 13A</td>
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<td>Nov 11</td>
<td>Holiday</td>
</tr>
<tr>
<td>Week 13B</td>
<td>Navigating big data – class exercise 1</td>
</tr>
<tr>
<td>Nov 13</td>
<td>Amplicons sequences</td>
</tr>
<tr>
<td></td>
<td>Metabolomes</td>
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<tr>
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<td>Comparative genomics</td>
</tr>
<tr>
<td>Week 14A</td>
<td>Navigating big data – class exercise 2</td>
</tr>
<tr>
<td>Nov 18</td>
<td>Comparative genomics</td>
</tr>
<tr>
<td>Week 14B</td>
<td>Applications of molecular biology in pest management</td>
</tr>
<tr>
<td>Nov 20</td>
<td></td>
</tr>
<tr>
<td>Week 15A</td>
<td>Group debate</td>
</tr>
<tr>
<td>Nov 25</td>
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<tr>
<td>Week 15B</td>
<td></td>
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<td>Nov 25</td>
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<td>Week 16A</td>
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<tr>
<td>Dec 2</td>
<td>3rd exam</td>
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<td>Week 16B</td>
<td></td>
</tr>
<tr>
<td>Dec 4</td>
<td>General feedback on the course</td>
</tr>
</tbody>
</table>

**Course Policies**

**Grading**
This course will be graded on the following scale:
A  93-100% of total points
A- 90-92.9% of total points
B+ 87-89.9% of total points
B  83-86.9% of total points
B- 80-82.9% of total points
C+ 77-79.9% of total points
C  73-76.9% of total points
C- 70-72.9% of total points
D+ 67-69.9% of total points
D  63-66.9% of total points
D- 60-62.9% of total points
E <60% of total points

<table>
<thead>
<tr>
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<th>Point amount</th>
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<tbody>
<tr>
<td>Exams (3 in total)</td>
<td>300 in total (100 each)</td>
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<tr>
<td>Quizzes (8 in total)</td>
<td>80 in total (10 each)</td>
</tr>
<tr>
<td>Group Debate (1 in total)</td>
<td>100</td>
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<tr>
<td>Short essay (500 words)</td>
<td>120</td>
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<tr>
<td>Active participation in class</td>
<td>100</td>
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<tr>
<td>Total</td>
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For information on current UF policies for assigning grades, please visit: Current website: https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx

**General Class Rules**
- Keep electronic devices in silence mode during lectures and lab exercises.
- Discussions about grades or other personal matters should be addressed during office hours.

**Absences and Make-Up Work**
Attendance is required. If you miss class, you are responsible for getting notes from other classmates.
University policy for class attendance and make-up exams, assignments and other work can be found at: https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx

**Class Attendance and Online quizzes**
Each lecture class will be 1 hour long, except for guest lectures that will be 45 mins long, followed by 15-min Q and A. There will be 8 quizzes posted on Canvas and available on Wednesdays of specific weeks (indicated in the fall schedule table) to help students reinforce course materials and learning. Quizzes will be open book, consisting of 10 multiple choices, true/false, and fill in the blank questions. Quizzes will be due by Friday 5pm EST of the same week the quiz is posted.

**Active Participation in Class**
Participation in class will be assessed through several in-class exercises: i) self-introduction and sharing of a molecular news, and completed a questionnaire (20 points) in week 1 class, ii) participate in week 9B journal discussion and raise at least 1 question (20 points), iii) Complete the questionnaires during the workshops at week 13B and 14A (20 points each, 40 points in total), and iv) attended the session at week 16B and give feedback to the course (20 points).

**Journal discussion**
Students will be divided into groups of three or four. Research articles covering different topics of molecular entomology or nematology and guiding questions will be distributed to the groups in week 7. Graduate students will bring their own answers, discuss and take notes during the week 9B class discussion. Answers to the guiding questions and notes will be submitted as a report at the end of class (No submission is required for undergraduate students).

**Short essay**
Students will generate a topic of interest in insect/nematode molecular biology and write 500-word essay, due on Friday 5pm EST of Week 11. A grading rubric is attached.

**Group debate**
There will be a group debate exercise toward the end of the course. An instruction and grading rubric will be posted in Canvas 2 weeks prior to the exercise. Students will be divided into 3 groups – two debating teams and a group of judges.
Each debating team will have 10 minutes to present their arguments in support of their position statement. After both teams have presented, they will have 5 minutes to generate questions/criticisms to challenge the opposing debate team.
Each team will take turns to raise questions/criticisms, followed by answers/rebuttal from the opposing team. At the conclusion of the debate, each judge will provide 5-minutes of feedback. Debating teams can decide whether they want to respond to judge comments before the judges cast their votes. A key component of this exercise is peer assessment.
Debating teams will be graded by the judges and instructor. Judges will be graded by the students for their in-class feedback and will have to submit a 1-page summary of the debate (summarize key points raised by both teams, and critique their debating techniques) within 3 days by 5pm EST after the debate to be graded by the instructor.

**Exams**
There will be 3 exams delivered in weeks 6, 10 and 15. The exams will be in class, closed book and non-cumulative. Exam papers will consist of 20 multiple-choice questions, 5 short answer questions (7 to choose from), and 2 long answer questions (3 to choose from). Graduate and undergraduate students will be given different long-answer questions, in which the graduate ones will be more difficult and synthesis-oriented.

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

**Academic Integrity and Class Rules**
Each student in the course is expected to abide by the UF Code of Academic Integrity. For information, please visit: https://scrr.dso.ufl.edu/students/student-conduct-code/

**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.

**Additional Resources**

**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 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/cwc/
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://www.dso.ufl.edu/documents/UF_Complaints_policy.pdf
• Online Course: http://www.distance.ufl.edu/student-complaint-process.

Plagiarism
Plagiarism is a serious dishonesty act in academia, especially with the ease of obtaining information from the internet. Students must not represent the words or ideas of another person as one’s own without attribution to the source, unless they are considered common knowledge. Plagiarism includes but is not limited to:
• Quoting oral or written materials including but not limited to those found on the internet, whether published or unpublished, without proper attribution.
• Submitting a document or assignment which in whole or in part is identical or substantially identical to a document or assignment not authorized by the student.
• Unauthorized use of materials or resources.
• Prohibited collaboration or consultation.
• Submission of paper or academic work purchased or obtained for an outside source.

Plagiarism is unethical and unacceptable. UF Plagiarism Policy can be found: http://regulations.ufl.edu/chapter4/4041.pdf. The consequences for plagiarism while at the University of Florida range from receiving a zero grade for the plagiarized assignment, a fail grade for the course, to, expulsion from the university. Students who plagiarize will be caught and consequences will be applied. Written assignments will be checked using an anti-plagiarism software called Turnitin® (http://www.at.ufl.edu/~turnitin/about.html).

For further information and examples of plagiarism, please read the George Smathers’ Library Guide to Plagiarism at http://www.uflib.ufl.edu/rls/services/tutorials/plagiarism/student_intro.html
## Short essay grading rubric

**Student name:**  
**Title of the review:**

<table>
<thead>
<tr>
<th>Category</th>
<th>Scoring Criteria</th>
<th>Total Points</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Content (40%)</strong></td>
<td>Topic/question of the essay is clearly defined.</td>
<td>/20</td>
</tr>
<tr>
<td></td>
<td>Conclusions are supported by evidence covered in the essay</td>
<td>/20</td>
</tr>
<tr>
<td><strong>Organization (20%)</strong></td>
<td>Ideas are arranged logically and the reader can easily follow the essay.</td>
<td>/20</td>
</tr>
<tr>
<td><strong>Delivery (20%)</strong></td>
<td>Writing is crisp, clear, and succinct. Meaning is explicit.</td>
<td>/20</td>
</tr>
<tr>
<td><strong>Format and Style (30%)</strong></td>
<td>Correct grammar and no typos throughout the paper.</td>
<td>/10</td>
</tr>
<tr>
<td></td>
<td>Include headers (student name, title of the review), page numbers and follow the general rules stated in Canvas.</td>
<td>/10</td>
</tr>
<tr>
<td></td>
<td>Between 450-500 words.</td>
<td>/10</td>
</tr>
<tr>
<td><strong>Citations/references (10%)</strong></td>
<td>References are primarily peer-reviewed professional journals or other legitimate sources.</td>
<td>/10</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Total Points (out of 120)</td>
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**Debate exercise**

**Team YES:**

**Team NO:**

**Student Judges:**

**Teacher Judges:**

**Instructions for the debate:**

<table>
<thead>
<tr>
<th>Round</th>
<th>Description</th>
<th>Time</th>
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</thead>
<tbody>
<tr>
<td>Round 1 - presentation</td>
<td>Each team will have 10 minutes to present their position statements and elaborate their arguments.</td>
<td>20 mins</td>
</tr>
<tr>
<td>Round 2 - brainstorming</td>
<td>After both teams have presented, they will have 5 minutes to come up with 2-3 questions/criticisms to challenge each other.</td>
<td>5 mins</td>
</tr>
<tr>
<td>Round 3 – questions and rebuttal</td>
<td>Each team will take turns to raise questions/criticisms (1 min), followed by answers/rebuttal from the opposing team (1 min).</td>
<td>15 mins</td>
</tr>
<tr>
<td>Round 4 – judges feedback</td>
<td>Each judge will provide a 5-minute feedback and cast their votes. Debating teams can decide whether they want to respond to judge comments before the judges vote (2 mins)</td>
<td>20 mins</td>
</tr>
<tr>
<td>Round 5 – winning team announced</td>
<td>-</td>
<td>1 min</td>
</tr>
</tbody>
</table>

**Grading**

A key component of this exercise is peer assessment.

- Debating teams will be graded by the student and teacher judges, as well as by each other.
- Judges will be graded by the students for their in-class feedback and will have to submit a summary report to be graded by the teachers.
<table>
<thead>
<tr>
<th></th>
<th>Excellent (15)</th>
<th>Good (10)</th>
<th>Average (5)</th>
<th>Below standard (0)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Preparation</strong> (15 points)</td>
<td>Organized, compelling evidence to support the position statement.</td>
<td>Most, but not all, supporting evidence are relevant.</td>
<td>Some reasonable evidence although a few are weak or irrelevant.</td>
<td>Evidence is generally weak and irrelevant.</td>
</tr>
<tr>
<td></td>
<td>Demonstration of a good team effort.</td>
<td>Demonstration of a good team effort.</td>
<td>An impression that particular individuals doing most of the work.</td>
<td>Individual(s) did not contribute to the group’s preparation.</td>
</tr>
<tr>
<td><strong>Delivery</strong> (15 points)</td>
<td>All arguments are strong and convincing, supported by facts and examples.</td>
<td>Some arguments are supported by facts and examples.</td>
<td>Arguments makes senses but can benefit with better factual support.</td>
<td>Arguments are weak and lack factual support.</td>
</tr>
<tr>
<td></td>
<td>Speaking is clear and voice can always be heard.</td>
<td>Voice is generally clear although sometime ideas are not very clear</td>
<td>The speech is understandable but not very easy to follow.</td>
<td>The speech is hard to follow.</td>
</tr>
<tr>
<td><strong>Questions and Rebuttal</strong> (15 points)</td>
<td>Raise critical questions that are relevant and thoughtful.</td>
<td>Raise questions that are relevant and thoughtful.</td>
<td>Raise questions that are relevant but obvious.</td>
<td>Unable to raise relevant questions or answer questions.</td>
</tr>
<tr>
<td></td>
<td>Address the questions from opposing team professionally and rebut with clarity.</td>
<td>Made good attempts to address the questions from opposing team. Some answers can be better clarified.</td>
<td>Made good attempts to address the questions from opposing team but some answers are not convincing at all.</td>
<td></td>
</tr>
</tbody>
</table>

**Winner/loser** +5 point for the winning team

2. **By other team members (50 points):**
   On a scale of 0 to 50, please give a score for each member in your team in their participation (50: fully participate and make great contribution; 0: do not participate at all and made no contributions)
Grading for the judges

1. In-class feedback (50 points)
   At the end of the debate, student judges will have to: 1) detail the key messages delivered by the teams, 2) vote on the winning team, 3) explain why the winning team deserves it, 4) provide feedback for improvement on this class activity.

   On a scale of 0-50, judges will be graded by both debating teams for their in-class feedback (50: excellent summary and constructive feedback, 0: unclear summary and unhelpful feedback).

2. A summary report (50 points)

   After the debate, judges will submit a short report (up to 2 page, single space, 12pt font) by Friday 5pm EST of the week, to:

   1) Summarize the position of each team (10 points).
   2) Point out the strengths and weakness of each team, highlight evidence that they think are useful/convincing or not useful/unconvincing (20 points).
   3) Suggest improvement for each team (10 points).
   4) Provide feedback on this class activity to the instructors (10 points)
## Cover Sheet: Request 13939

### New Course Approval – Ireland

<table>
<thead>
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<th>Info</th>
<th></th>
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</thead>
<tbody>
<tr>
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<td>Course</td>
</tr>
<tr>
<td>Status</td>
<td>Pending at CALS - College of Agricultural and Life Sciences</td>
</tr>
<tr>
<td>Submitter</td>
<td>Kathryn Ivey <a href="mailto:kbeaty@ufl.edu">kbeaty@ufl.edu</a></td>
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<tr>
<td>Created</td>
<td>5/29/2019 4:11:23 PM</td>
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<tr>
<td>Updated</td>
<td>9/12/2019 4:40:37 PM</td>
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<td>Description of request</td>
<td>FYCS is requesting approval of this study abroad course to receive an official number from the state moving forward.</td>
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### Actions

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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 13939

Info

Request: New Course Approval - Ireland
Description of request: FYCS is requesting approval of this study abroad course to receive an official number from the state moving forward.
Submitter: Kathryn Ivey kbeaty@ufl.edu
Created: 5/29/2019 3:09:54 PM
Form version: 1

Responses

Recommended Prefix FYC
Course Level 4
Number XXX
Category of Instruction Advanced
Lab Code None
Course Title Youth Development, Service-Learning and Irish Culture
Transcript Title Youth Serve Culture
Degree Type Baccalaureate

Delivery Method(s) Off-Campus
Co-Listing No
Co-Listing Explanation N/A
Effective Term Earliest Available
Effective Year Earliest Available
Rotating Topic? No
Repeatable Credit? No

Amount of Credit 3

S/U Only? No
Contact Type Regularly Scheduled
Weekly Contact Hours 6

Course Description
This course provides a transformative experiential learning experience in the context of youth development and Irish culture in Galway and Gweedore, Ireland. This course will facilitate youth development, service-learning, and cultural learning opportunities, along with collaborating with community-based organizations working to solve local issues and enhance community engagement.

Prerequisites
Prerequisites: 1 entry-level youth development course (FYC3001, FYC3201, EDF3110, EDF3132, EDF3135, or PSY2012)

Co-requisites n/a

Rationale and Placement in Curriculum
This course serves as an international service-learning experience for the emerging youth professional and meets the goals for both Quest-3 and the requirements for the CALS International Studies minor. This course can also serve as one of the required 4 internal electives to the major course requirements.

Course Objectives
1. Identify & assess social problems within the context of youth development & affect change.
2. Implement service-learning within the context of Irish culture and youth development
3. Compare & contrast Irish culture and American culture within the context of youth development and service learning.
4. Design solutions with the community based upon asset-based community development.
5. Develop leadership skills through team projects and oral presentations.

Course Textbook(s) and/or Other Assigned Reading

Weekly Schedule of Topics
Week 1: Health and Safety, Orientation to Galway, Ireland and volunteer training and workshops at NUI Galway. Readings will be p. 21-38.
Week 2, 3, and 4: Placements at community-based youth development NGOs. Readings will be p. 88-118.

Week 5: Transition to Gweedore, Ireland. Health and Safety, Orientation to Gweedore, Ireland and volunteer training. Discuss team-based project. Readings will be p. 128-146.

Week 6: Implement team-based project and final week of service-learning at Irish-speaking youth community center.

Links and Policies
University Policies:
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: Student Conduct and 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.

Late Assignments
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Attendance and Make-up Work
Requirements for class attendance and make-up exams, assignments and other work are consistent with university policies that can be found at: https://catalog.ufld ugrd/current/regulations/info/attendance.aspx

Communication
E-mail: Please use Canvas to communicate with your instructors. It will be checked daily but plan for a 48-hour response time. However, you may have cell phones on for UF Alert purposes. Students may use laptops with Canvas open only in order to take notes during lectures or to work on group projects during team meeting days.

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The Disability Resource Center coordinates the needed accommodations of students with disabilities. This includes registering disabilities, recommending academic accommodations within the classroom, accessing special adaptive computer equipment, providing interpretation services and mediating faculty-student disability related issues. Students requesting classroom accommodation must first register with the Dean of Students Office. The Dean of Students Office will provide documentation to the student who must then provide this documentation to the Instructor when requesting accommodation 0001 Reid Hall, 352-392-8565, Disability Resource Center www.dso ufld/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. Both the Counseling Center and Student Mental Health Services provide confidential counseling services at no cost for currently enrolled students. Resources are available on campus for students having personal problems or lacking clear career or academic goals, which interfere with their academic performance. The Counseling Center is located at 301 Peabody Hall (next to Criser Hall). Student Mental Health Services is located on the second floor of the Student Health Care Center in the Infirmary.

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

UMatter, We Care, www.umatter.ufl.edu/
Career Connections Center, First Floor JWRU, 392-1601, https://career.ufl.edu/

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

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

Grading Scheme Assignments Points
Journals (4 @ 25 points each) 100
Service-Learning Participation
(Galway =100 points & Gweedore = 100 points) 200
Electronic Portfolio 100
Accountability Partner Discussion Selfies
(1 per week, and 4 additional at any time = 10 total AP Discussion Selfies) 100
Total Points 500

Instructor(s) Dr. Dale Pracht
Kate H. Fletcher, M.S.
FYC4932: Youth Serve Culture
03 Credits

FYCXXX: Youth Development, Service-Learning, and Irish Culture

Prerequisites: 1 entry-level youth development course
(FYC3001, FYC3201, EDF3110, EDF3132, EDF3135, or PSY2012)

Co-Directors:
Kate H. Fletcher, M.S.
Senior Lecturer
G085 MCCB
352-273-3517
khfletcher@ufl.edu
Office Hours: by appt.

Dale W. Pracht, Ph.D.
Associate Professor
3005 MCCD
352-273-3533
dpracht@ufl.edu
Office Hours: by appt.

University Course Description:
This course provides a transformative experiential learning experience in the context of youth development and Irish culture in Galway and Gweedore, Ireland. This course will facilitate youth development, service-learning, and cultural learning opportunities, along with collaborating with community-based organizations working to solve local issues and enhance community engagement.

Course Introduction:
The purpose of this course is to provide a transformative experiential learning experience in the context of youth development in Galway, Ireland. This course will provide youth development, service-learning, and cultural learning opportunities, along with collaborating with community-based organizations working to solve local issues and enhance community engagement.

Overall Goal:
To facilitate a transformative learning experience where students understand, apply, and practice youth development theory

Course Objectives:
1. Identify & assess social problems within the context of youth development & affect change.
2. Implement service-learning within the context of Irish culture and youth development.
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5. Develop leadership skills through team projects and oral presentations.
Course Resources:


Any additional activities for Thoughtful Thursdays will be made available in Ireland.

Course Activities:
- Journals – see Canvas for details
- Service-Learning Participation in Galway and Gweedore
- Group Reflection Sessions – weekly during Thoughtful Thursdays (TBA)
- AP Discussion – weekly and bi-weekly if needed (to be arranged with chosen AP)
- Electronic Portfolio (EP) – see Canvas for details

Grading:

<table>
<thead>
<tr>
<th>Assignments</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Journals (4 @25 points each)</td>
<td>100</td>
</tr>
<tr>
<td>Service-Learning Participation (Galway =100 points &amp; Gweedore = 100 points)</td>
<td>200</td>
</tr>
<tr>
<td>EP</td>
<td>100</td>
</tr>
<tr>
<td>AP Discussion Selfies (1 per week, and 4 additional at any time = 10 total AP Discussion Selfies)</td>
<td>100</td>
</tr>
<tr>
<td>Total Points</td>
<td>500</td>
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Grading Scale:

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<th>Percentage Range</th>
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</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>93 - 100%</td>
<td>465 - 500</td>
</tr>
<tr>
<td>A-</td>
<td>90 - 92%</td>
<td>450 - 464</td>
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<td>B+</td>
<td>87 - 89%</td>
<td>435 - 449</td>
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<tr>
<td>B</td>
<td>83 - 86%</td>
<td>415 - 434</td>
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<tr>
<td>B-</td>
<td>80 - 82%</td>
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<td>C+</td>
<td>77 - 79%</td>
<td>385 - 399</td>
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<td>C</td>
<td>73 - 76%</td>
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<tr>
<td>C-</td>
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<td>60 - 66%</td>
<td>300 - 334</td>
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<tr>
<td>F</td>
<td>59% and below</td>
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</table>
Course Calendar is also available via Canvas

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Student Complaints
Online Course: http://www.distance.ufl.edu/student-complaint-process
Cover Sheet: Request 14251

IS - EMANR On-Campus ALC/SLO Revisions

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**No document changes**

Academic Assessment Committee

**No document changes**

University Curriculum Committee Notified

**No document changes**

Student Academic Support System

**No document changes**

Catalog

**No document changes**

College Notified

**No document changes**
SLO-AAP|Modify for request 14251

Info

Request: IS - EMANR On-Campus ALC/SLO Revisions
Description of request: Added/Adjusting/Changing/SLO's That Are Part Of The ALC for the IS - EMANR On-Campus Program
Submitter: Michael Sisk mjsisk@ufl.edu
Created: 9/17/2019 11:30:41 AM
Form version: 2

Responses

Name of Major: Interdisciplinary Studies - Environmental Management in Agriculture and Natural Resources (On-Campus)
College: Agricultural and Life Sciences
Effective Term: Summer
Effective Year: 2020
Request Type: Modify Student Learning Outcome (SLO)
Course Prefix, Number, and Name: N/A
Academic Assessment Plan Modifications: Curriculum Map, Measurement Tools, Delete SLO/Add SLO

What Affects the Assessment Method? Exam, Other

Describe the Other Assessment Method: Assessment Types
1. Average of tests in ALS 3133
2. Average of problem set and test scores in SWS 4223
3. Average test scores in FNR4660
4. Project presentation in SWS 4720C
5. Test and problem set scores from SWS 4116
6. Course grades in AEC 3033 and AEC 3030C

Who Applies the Assessment Method? Single Faculty Member

Individual Student Assessments: Also included attachment in approval system.

Student Learning Outcome #1: Appraise similarities between agronomic production and environmental protection issues.

Assessment Method:
- Average of test scores in ALS 3133-Agriculture and Environmental Quality
- The criterion for success is 75% of our students having an average test score of 70% in ALS 3133 - Agriculture and Environmental Quality.
- All student records are included

CURRENT: Student Learning Outcome #2: Describe the role of soil and water in transport of contaminants in ecosystems and illustrate the interconnectedness of ecosystems and ecosystem components with specific examples.

NEW: Student Learning Outcome #2: Describe the processes in the carbon, nitrogen, phosphorus, and sulfur cycles, and relate these processes to global patterns of productivity, pollution, and consequences of environmental change.

NEW Assessment Method:
- Average of test scores and problem sets in SWS 4233 - Environmental Biogeochemistry

- The criterion for success is 75% of our students having a weighted score of 70% based on average test scores and problem sets from SWS 4233 - Environmental Biogeochemistry

Current Student Learning Outcome #3: Cite specific examples of natural resources and environmental public policy issues and identify contending stakeholder interests with respect to each issue.

NEW Student Learning Outcome #3: Critically evaluate natural resource policies using basic economic
tools, identify factors that influence the success of resource policy implementation and apply ecological, social and political criteria.

No change to assessment method

Assessment Method:
- Average of test scores in FNR 4660 - Natural Resource Policy and Administration

Student Learning Outcome #4: Develop a plan for the analysis of an environmental/agricultural study using geographic information systems software.

Assessment Method:
- Project presentation in SWS 4720C – Geographic Information Systems in Soil and Water Science
- The criterion for success is 75% of our students having an average project score of 70% in SWS 4720C – Geographic Information Systems in Soil and Water Science.

CURRENT Student Learning Outcome #5: Critically evaluate natural resource policies using basic economic tools and applying ecological, social and political criteria.

NEW Student Learning Outcome #5: Compare the effects of different fertility sources on nutrient cycling, interpret soil tests and quantify crop nutrient requirements and fertilizer application rates.

Assessment Method:
- Problem sets and test scores in SWS 4116 – Environmental Nutrient Management

Student Learning Outcome #6: Create, interpret and analyze written text, oral messages and multimedia presentations used in agricultural and life sciences.

Assessment Method:
- Course grade in AEC 3030C and AEC 3033C

New Curriculum Map
I = Introduced; R = Reinforced; A = Assessed
Courses

Content

Critical Thinking

Communication

SLO 1  SLO 2  SLO 3  SLO 4  SLO 5  SLO 6

AEB 3133

AEC 3030C

I, R, A

AEC 3033C

I, R, A

ALS 3133  I, A  I  I  I  I
AOM 4643

FNR 4660

R, A

SWS 3022

R

SWS 4116

R

R, A

SWS 4223

R, A

R

SWS 4244

R, R

SWS 4720C

R, A

R

Assessment Types

1. Average of tests in ALS 3133
2. Average of problem set and test scores in SWS 4223
3. Average test scores in FNR 4660
4. Project presentation in SWS 4720C
5. Test and problem set scores from SWS 4116
6. Course grades in AEC 3033 and AEC 3030C

**Description and Rationale** #2 SLO Change in SLO & Tweak To Assessment: More Accurately Describes One Of The Desired Outcomes Of Our Degree Program.

#3 SLO Change: Combined Previous SLO # 3 & SLO # 5 Which Were Very Similar, Allowed Us To Add A New SLO. Brought In Some Quantitative Analysis Requested By Our Faculty When SLO's Were Reviewed At Teaching Retreat.

#5 New SLO: Compare the effects of different fertility sources on nutrient cycling, interpret soil tests
and quantify crop nutrient requirements and fertilizer application rates. This SLO Incorporates Quantitative Analysis of Nutrients In The Environment.
Current Academic Learning Compact, Including Student Outcomes

AG – IS – EMANR On-Campus & UF Online Program

The interdisciplinary major in environmental management in agriculture provides students with the scientific and technical foundation to integrate and communicate the diverse environmental issues associated with agriculture and natural resources. Students will be able to deal in an informed manner with the agricultural regulations and permitting requirements established by various agencies and jurisdictions, and students will achieve an appreciation for the complexities of agricultural practices. Students will learn to integrate, balance and communicate the mix of agricultural and environmental issues that need to be addressed in modern society.

Before Graduating Students Must

- Complete an approved senior-year research project, SWS 4905, related to management and science skills.
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Students in the Major Will Learn to

Student Learning Outcomes (SLOs)

Content

1. Appraise similarities between agronomic production and environmental protection issues.
2. Describe the role of soil and water in transport of contaminants in ecosystems and illustrate the interconnectedness of ecosystems and ecosystem components with specific examples.

Critical Thinking

3. Cite specific examples of natural resources and environmental public policy issues and identify contending stakeholder interests with respect to each issue.
4. Develop a plan for the analysis of an environmental / agricultural study using geographic information systems software.
5. Critically evaluate natural resource policies using basic economic tools and applying ecological, social and political criteria.

Communication

6. Create, interpret and analyze written text, oral messages and multimedia presentations used in agricultural and life sciences.
Curriculum Map

$I = Introduced; \ R = Reinforced; \ A = Assessed$

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Assessment Types

- Projects
- Papers
- Presentations
- Exams
Academic Learning Compact (IS - Env Mgmt On-Campus)

The interdisciplinary major in environmental management in agriculture provides students with the scientific and technical foundation to integrate and communicate the diverse environmental issues associated with agriculture and natural resources. Students will be able to deal in an informed manner with the agricultural regulations and permitting requirements established by various agencies and jurisdictions, and students will achieve an appreciation for the complexities of agricultural practices. Students will learn to integrate, balance and communicate the mix of agricultural and environmental issues that need to be addressed in modern society.

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1. Appraise similarities between agronomic production and environmental protection issues.
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**Assessment Types**

1. Average of tests in AOM 3133
2. Average of problem set and test scores in SWS 4223
3. Average test scores in FNR4660
4. Project presentation in SWS 4720C
5. Test and problem set scores from SWS 4116
6. Course grades in AEC 3033 and AEC 3030C
Student Learning Outcomes

Degree Program: Environmental Management in Agriculture and Natural Resources – Interdisciplinary Studies, B.S.

SLO #1 No changes.

Student Learning Outcome #1: Appraise similarities between agronomic production and environmental protection issues.

Assessment Method:
- Average of test scores in ALS 3133-Agriculture and Environmental Quality
- The criterion for success is 75% of our students having an average test score of 70% in ALS 3133 – Agriculture and Environmental Quality.
- All student records are included

2018 Results: For the 2017-2018 Assessment year: 26 students passed the assessment out of a total of 27 students, for a percentage of 96.4%. One student withdrew from the course.

SLO #2 Change in SLO and tweak to Assessment

CURRENT: Student Learning Outcome #2: Describe the role of soil and water in transport of contaminants in ecosystems and illustrate the interconnectedness of ecosystems and ecosystem components with specific examples.

NEW: Student Learning Outcome #2: Describe the processes in the carbon, nitrogen, phosphorus, and sulfur cycles, and relate these processes to global patterns of productivity, pollution, and consequences of environmental change.

NEW Assessment Method:
- Average of test scores and problem sets in SWS 4233 – Environmental Biogeochemistry
- The criterion for success is 75% of our students having a weighted score of 70% based on average test scores and problem sets from SWS 4233 – Environmental Biogeochemistry
SLO #3 Change:
Combined previous SLO # 3 and SLO #5.

Current Student Learning Outcome #3: Cite specific examples of natural resources and environmental public policy issues and identify contending stakeholder interests with respect to each issue.

NEW Student Learning Outcome #3: Critically evaluate natural resource policies using basic economic tools, identify factors that influence the success of resource policy implementation and apply ecological, social and political criteria.

No change to assessment method

Assessment Method:

- Average of test scores in FNR 4660 - Natural Resource Policy and Administration

Results: The criterion for success is 75% of our students having an average test score of 70% in FNR 4660 - Natural Resource Policy and Administration. For the 2017-2018 Assessment year: 8 students passed the assessment out of a total of 8 students, for a percentage of 100%

SLO #4 No change.

Student Learning Outcome #4: Develop a plan for the analysis of an environmental/agricultural study using geographic information systems software.

Assessment Method:

- Project presentation in SWS 4720C – Geographic Information Systems in Soil and Water Science
- The criterion for success is 75% of our students having an average project score of 70% in SWS 4720C – Geographic Information Systems in Soil and Water Science.

Results:

- For the 2017-2018 Assessment year: 11 students passed the assessment out of a total of 12 students, for a percentage of 92%. 1 student withdrew from the course.
SLO #5  New SLO

CURRENT Student Learning Outcome #5: Critically evaluate natural resource policies using basic economic tools and applying ecological, social and political criteria.

NEW Student Learning Outcome #5: Compare the effects of different fertility sources on nutrient cycling, interpret soil tests and quantify crop nutrient requirements and fertilizer application rates.

Assessment Method:

Problem sets and test scores in SWS 4116 – Environmental Nutrient Management

SLO #6 No changes.

Student Learning Outcome #6: Create, interpret and analyze written text, oral messages and multimedia presentations used in agricultural and life sciences.

Assessment Method:

- Course grade in AEC 3030C and AEC 3033C

Results:

- The criterion for success is a C or better in each of the writing and speech courses for all students.
- 27 students passed the assessment out of a total of 27 students, for a percentage of 100% for the year 2017-2018. Three students withdrew from the courses.
## New Curriculum Map

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### Assessment Types

1. Average of tests in ALS 3133
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3. Average test scores in FNR4660
4. Project presentation in SWS 4720C
5. Test and problem set scores from SWS 4116
6. Course grades in AEC 3033 and AEC 3030C
# Cover Sheet: Request 14252

**IS - EMANR UF Online ALC/SLO Revisions**

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No document changes
SLO-AAP|Modify for request 14252

Info
Request: IS - EMANR UF Online ALC/SLO Revisions
Description of request: Added/Adjusting/Changing/SLO's That Are Part Of The ALC for the IS - EMANR UF Online Program
Submitter: Michael Sisk mjsisk@ufl.edu
Created: 9/17/2019 11:21:34 AM
Form version: 1

Responses
Name of Major Interdisciplinary Studies - Environmental Management in Agriculture and Natural Resources (UF Online)
College Agricultural and Life Sciences
Effective Term Summer
Effective Year 2020
Request Type Modify Student Learning Outcome (SLO)
Course Prefix, Number, and Name N/A
Academic Assessment Plan Modifications Curriculum Map, Measurement Tools, Delete SLO/Add SLO
ALC Modifications Does not apply
SLO Modifications SLO, Assessment Measures
What Types of Assessments Are or Will Be Used? Course-related Exam, Final Paper/Project/Presentation, Course Assessments/Assignments, Course Grades

What Assessment Methods Will Be Used? Exam, Other
Describe the Other Assessment Method: Assessment Types
1. Average of tests in ALS 3133
2. Average of problem set and test scores in SWS 4223
3. Average test scores in FNR4660
4. Project presentation in SWS 4720C
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Who Applies the Assessment Method? Single Faculty Member
Individual Student Assessments Also included attachment in approval system.

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No change to assessment method

Assessment Method:
- Average of test scores in FNR 4660 - Natural Resource Policy and Administration

Student Learning Outcome #4: Develop a plan for the analysis of an environmental/agricultural study using geographic information systems software.

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Assessment Types

- Projects
- Papers
- Presentations
- Exams
Academic Learning Compact (IS – Env Mgmt On-Campus)

The interdisciplinary major in environmental management in agriculture provides students with the scientific and technical foundation to integrate and communicate the diverse environmental issues associated with agriculture and natural resources. Students will be able to deal in an informed manner with the agricultural regulations and permitting requirements established by various agencies and jurisdictions, and students will achieve an appreciation for the complexities of agricultural practices. Students will learn to integrate, balance and communicate the mix of agricultural and environmental issues that need to be addressed in modern society.

Before Graduating Students Must

- Complete an approved senior-year research project, SWS 4905, related to management and science skills.
- Achieve minimum grades of C in AEC 3030C and AEC 3033C. These courses are graded using rubrics developed by a faculty committee.
- Complete requirements for the baccalaureate degree, as determined by faculty.

Students in the Major Will Learn to

Student Learning Outcomes (SLOs)

Content

1. Appraise similarities between agronomic production and environmental protection issues.
2. Describe the processes in the carbon, nitrogen, phosphorus, and sulfur cycles, and relate these processes to global patterns of productivity, pollution, and consequences of environmental change.
3. Describe the role of soil and water in transport of contaminants in ecosystems and illustrate the interconnectedness of ecosystems and ecosystem components with specific examples.

Critical Thinking

3. Critically evaluate natural resource policies using basic economic tools, identify factors that influence the success of resource policy implementation and apply ecological, social and political criteria.
4. Cite specific examples of natural resources and environmental public policy issues and identify conflicting stakeholder interests with respect to each issue.
4. Develop a plan for the analysis of an environmental / agricultural study using geographic information systems software.
5. Compare the effects of different fertility sources on nutrient cycling, interpret soil tests and quantify crop nutrient requirements and fertilizer application rates.
5. Critically evaluate natural resource policies using basic economic tools and applying ecological, social, and political criteria.

Communication

6. Create, interpret and analyze written text, oral messages and multimedia presentations used in agricultural and life sciences.

Curriculum Map

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Assessment Types

- Projects
- Presentations
- Exams

Curriculum Map

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**Assessment Types**

1. Average of tests in ALS 3133
2. Average of problem set and test scores in SWS 4223
3. Average test scores in FNR4660
4. Project presentation in SWS 4720C
5. Test and problem set scores from SWS 4116
6. Course grades in AEC 3033 and AEC 3030C
Student Learning Outcomes

Degree Program: Environmental Management in Agriculture and Natural Resources – Interdisciplinary Studies, B.S.

SLO #1  No changes.

Student Learning Outcome #1: Appraise similarities between agronomic production and environmental protection issues.

Assessment Method:

- Average of test scores in ALS 3133-Agriculture and Environmental Quality
- The criterion for success is 75% of our students having an average test score of 70% in ALS 3133 – Agriculture and Environmental Quality.
- All student records are included

2018 Results: For the 2017-2018 Assessment year: 26 students passed the assessment out of a total of 27 students, for a percentage of 96.4%. One student withdrew from the course.

SLO #2 Change in SLO and tweak to Assessment

CURRENT: Student Learning Outcome #2: Describe the role of soil and water in transport of contaminants in ecosystems and illustrate the interconnectedness of ecosystems and ecosystem components with specific examples.

NEW: Student Learning Outcome #2: Describe the processes in the carbon, nitrogen, phosphorus, and sulfur cycles, and relate these processes to global patterns of productivity, pollution, and consequences of environmental change.

NEW Assessment Method:

- Average of test scores and problem sets in SWS 4233 – Environmental Biogeochemistry
- The criterion for success is 75% of our students having a weighted score of 70% based on average test scores and problem sets from SWS 4233 – Environmental Biogeochemistry
SLO #3 Change:
Combined previous SLO # 3 and SLO #5.

Current Student Learning Outcome #3: Cite specific examples of natural resources and environmental public policy issues and identify contending stakeholder interests with respect to each issue.

NEW Student Learning Outcome #3: Critically evaluate natural resource policies using basic economic tools, identify factors that influence the success of resource policy implementation and apply ecological, social and political criteria.

No change to assessment method

Assessment Method:

- Average of test scores in FNR 4660 - Natural Resource Policy and Administration

Results: The criterion for success is 75% of our students having an average test score of 70% in FNR 4660 - Natural Resource Policy and Administration. For the 2017-2018 Assessment year: 8 students passed the assessment out of a total of 8 students, for a percentage of 100%

SLO #4 No change.

Student Learning Outcome #4: Develop a plan for the analysis of an environmental/agricultural study using geographic information systems software.

Assessment Method:

- Project presentation in SWS 4720C – Geographic Information Systems in Soil and Water Science
- The criterion for success is 75% of our students having an average project score of 70% in SWS 4720C – Geographic Information Systems in Soil and Water Science.

Results:

- For the 2017-2018 Assessment year: 11 students passed the assessment out of a total of 12 students, for a percentage of 92%. 1 student withdrew from the course.
CURRENT Student Learning Outcome #5: Critically evaluate natural resource policies using basic economic tools and applying ecological, social and political criteria.

NEW Student Learning Outcome #5: Compare the effects of different fertility sources on nutrient cycling, interpret soil tests and quantify crop nutrient requirements and fertilizer application rates.

Assessment Method:

Problem sets and test scores in SWS 4116 – Environmental Nutrient Management

SLO #6 No changes.

Student Learning Outcome #6: Create, interpret and analyze written text, oral messages and multimedia presentations used in agricultural and life sciences.

Assessment Method:

- Course grade in AEC 3030C and AEC 3033C

Results:

- The criterion for success is a C or better in each of the writing and speech courses for all students.
- 27 students passed the assessment out of a total of 27 students, for a percentage of 100% for the year 2017-2018. Three students withdrew from the courses.
New Curriculum Map

I = Introduced; R = Reinforced; A = Assessed

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2. Average of problem set and test scores in SWS 4223
3. Average test scores in FNR4660
4. Project presentation in SWS 4720C
5. Test and problem set scores from SWS 4116
6. Course grades in AEC 3033 and AEC 3030C

Soil and Water Sciences 2018-2019 Student Learning Outcomes
Cover Sheet: Request 13924

MCB6XXX Prokaryotic Cell Structure and Function

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Course|New for request 13924

Info
Request: MCB6XXX Prokaryotic Cell Structure and Function
Description of request: I would like to request a conversion of a graduate level course from Special Topics course to standard graduate course.
Submitter: Mariola Edelmann medelmann@ufl.edu
Created: 9/20/2019 10:42:55 AM
Form version: 2

Responses
Recommended Prefix MCB
Course Level 6
Number XXX
Category of Instruction Joint (Ugrad/Grad)
Lab Code None
Course Title Prokaryotic Cell Structure and Function
Transcript Title Prokaryotic Cell
Degree Type Graduate

Delivery Method(s) Online, UF Online - Please attach a letter of support from the Director of the UF Online program
Co-Listing Yes
Co-Listing Explanation Differences between the undergraduate and graduate syllabi:
  - Two of the assignments are different between the graduate and undergraduate courses (Assignments 5 and 6), where graduate students write a more substantial and involved summary based on their literature research of a chosen subject, while undergraduate students are provided with most references required to write their shorter literature summary. The details are provided below.
  - In terms of rigor, the graduate students are expected to work independently on their literature research, and emphasis will be placed on the development of their thesis and the level of details described (independent research will be expected). Graduate students are expected to write 10-page paper, which is a substantial amount of material, and therefore more rigorous than the undergraduate-level assignment.
  - Undergraduate students write a shorter paper, where more emphasis will be put on the use of appropriate scientific writing style, and the papers are not required to be as detailed and in-depth as the graduate level assignment, which is also reflected by the size of the documents (Problem-solving and active learning).
  - Regarding the other assignments (1-4), while grading graduate students, more in-depth information and critical evaluation are expected for graduate students. Undergraduate students are expected to provide accurate reflection of the knowledge in the reviewed articles, use appropriate writing style and avoid plagiarism.

Summary of Assignments 5 and 6 for graduate and undergraduate students:
  - Assignment 5 for Graduate students is a short project proposal. The students are required to choose a subject for their Assignment 6. This assignment helps students to organize their summary paper, and the students also need to obtain at least five references to peer-reviewed papers, which they will use for the summary paper. The instructor provides critique, so the students can be more productive while writing their summary paper. Assignment 6 for Graduate students is a "mini-thesis," an overview of a topic related to prokaryotic biochemistry, metabolism, or cell physiology of interest to the student. The students research peer-reviewed literature related to the subject and based on these primary and review literature they write a summary paper, which includes ten pages and is split into subsections. This assignment is meant to help students with improving their scientific writing, such as writing thesis, if appropriate. The instructor already guides the style and content in written assignments 1-4, which were short review papers, and here the students should be ready to work independently in gathering peer-review literature and synthesizing knowledge on one chosen subject. The students will be provided tools for, and learn the following: (1) locating appropriate references, (2) ensuring that a given reference is peer-reviewed or refereed (i.e. by using Ulrich's International Periodicals Directory), (3) Using appropriate in-text citations (e.g. by using Endnote software, where we provide a mini-
tutorial), (4) Avoiding plagiarism (appropriate links to training videos are provided), (5) Writing inappropriate (scientific) style (guidance to common mistakes/tips has been provided). (6) Developing a research summary synthesizing scientific literature focused on one subject.

Assignment 5 for undergraduate students is a comprehensive 1000-word summary prepared according to a provided template that includes a brief discussion of three papers selected by the instructor, and one extra paper, which the students have to find themselves by using appropriate tools (e.g., PubMed). Moreover, students need to include discussion and answer why it is important to study bacterial metabolism. Assignment 6 is a peer-evaluation of assignment 5 prepared by another student. Students are required to provide brief comments on the accuracy of the information, grammar, stylistics, which can be based on the document I prepared ("Ways to improve your scientific writing skill"). Students need to provide a critical evaluation of the strengths/weaknesses of the assignment with appropriate scientific rationale. Answer questions such as: (1) Have the articles been accurately summarized by a student? (2) Were the conclusions unique and the overall article impactful? (3) Was a chosen additional paper related to the subject area? (4) Was the writing style scientific?

Effective Term Fall
Effective Year 2019
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 explores the structure and physiology of prokaryotic cells. We review the principles of energy and biosynthesis in aerobic and anaerobic microorganisms and current research topics in microbiology, including chemotaxis, antimicrobial resistance, and adaptations of microbes to extreme environments. One of the emphases of this course is scientific writing.
Prerequisites CHM 2211; MCB 3020, MCB 3020L with minimum C. It is recommended that BCH 4024 or CHM 4207 be taken before or concurrent.
Co-requisites N/A, see above
Rationale and Placement in Curriculum There is currently no graduate-level course, which is focused on bacterial physiology. This course is currently offered as a Special Topics course for both, traditional and distance education students.
Course Objectives To become an expert on the structure and function of prokaryotic cells
• To gain the concepts and skills needed to understand and critically evaluate research articles that address the structure & function of prokaryotes
• To creatively apply knowledge of bacterial physiology to current problems (e.g. controlling pathogenesis, sequestering carbon dioxide, engineering microbial biocatalysts in the production of renewable fuels and chemicals)
• To improve the scientific writing skills


Additionally, students will be required to read select peer-reviewed papers related to bacterial physiology.
Weekly Schedule of Topics Week 1
T 08/20 Introduction to course and overview of the syllabus
R 08/22 Structure and Function (Chapter 1) MODULE 1; Conference online 4-5 PM Q&A to
Intro
Week 2
T 08/27 Growth and Cell Division. Chromosome Replication (Chapters 2-3) MODULE 2
R 08/29 Review MODULES 1-2

Week 3
T 09/03 Exam 1 (Chapters 1-3) ProctorU MODULES 1-2
R 09/05 Membrane Bioenergetics. (Chapter 4); MODULE 3
Assignment 1 – due
Week 4
T 09/10 Electron Transport, Photosynthesis (Chapters 5-6); MODULE 4
R 09/12 Review MODULES 3-4
Week 5
T 09/17 Exam 2 (Chapters 4-6) ProctorU MODULES 3-4
R 09/19 Regulation of Metabolic Pathways (Chapter 7) MODULE 5
Week 6
T 09/24 Central Metabolic Pathways (Chapter 8-9), MODULE 6
R 09/26 Review MODULES 5-6
Assignment 2 – due
Week 7
T 10/01 Exam 3 (Chapters 7-9) ProctorU MODULE 5-6
R 10/03 Metabolism of Lipids, Nucleotides, Amino Acids and Hydrocarbons (Chapter. 10), MODULE 7
Week 8
T 10/08 Cell Wall and Capsule Biosynthesis (Chapter 12) MODULE 8
R 10/10 Inorganic Metabolism (Chapter 13) MODULE 9
Assignment 3 due
Week 9
T 10/15 Review MODULES 7-9
Assignment 5 due
R 10/17 Exam 4 (Chapters 10, 12-13) ProctorU MODULE 7-9
Week 10
T 10/22 Metabolism (Chapter 14) MODULE 10
R 10/24 Fermentations (Chapter 15) MODULE 11
Week 11
T 10/29 Review MODULES 10-11
R 10/31 Assignment 4 – due
Week 12
T 11/05 Exam 5 (Chapters 14-15) ProctorU MODULES 10-11
R 11/07 Solute Transport. Protein Transport and Secretion (Chapters 17-18) MODULE 12
Week 13
T 11/12 Responses to Environmental Stress. Responses to environmental Cues.
Chemotaxis (Chapters 16, 19 and 20) MODULE 13_1
R 11/14 Responses to Environmental Stress. Responses to environmental Cues.
Chemotaxis (Chapters 16, 19 and 20) MODULE 13_2 and 13_3
Week 14
T 11/19 Review MODULES 12-13
R 11/19 Assignment 6 due
Week 15
T 11/26 Exam 6 (Chapters 16, 19-20) ProctorU MODULE 12-13
R 11/28 Happy Thanksgiving!
Week 16
T 12/03 Extra Credit Assignment – due (optional)
Week 17
12/9 Cumulative Final Exam (optional) ProctorU Introduction and MODULES 1-13

Links and Policies
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• 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 JVRU, 392-1601, https://career.ufl.edu/.
  • Teaching Center, Broward Hall, 392-2010 or 392-6420. General study skills and tutoring. http://teachingcenter.ufl.edu/

Library Support, http://cms.uflib.ufl.edu/ask. Various ways to receive assistance with respect to using the libraries or finding resources.
- E-learning technical support, 352-392-4357 (select option 2) or e-mail to Learningsupport@ufl.edu. https://lss.at.ufl.edu/help.shtml.
- Sexual Assault Recovery Services (SARS), Student Health Care Center, 392-1161. Sexual assault counseling.
- University Police Department, 392-1111 (or 9-1-1 for emergencies). http://www.police.ufl.edu/
- Each online distance learning program has a process for and will make every attempt to resolve, student complaints within its academic and administrative departments at the program level. See http://distance.ufl.edu/student-complaints

Student Complaints:
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**Grading Scheme** Learning will be evaluated based on the following criteria:
600 points (6 exams x 100 points each)
200 points (4 written assignments, Assignment 1-4, 50 points each)
20 points (Assignment 5)
200 points (Assignment 6)
1020 points total 50 points (Extra credit, optional)

Final grades will be based on the following performance standard:
95.50 - 100 % = A
90.50 - 94.49 % = A-
87.50 - 89.49 % = B+
84.50 - 86.49 % = B
80.50 - 83.49 % = B-
77.50 - 79.49 % = C+
74.50 - 76.49 % = C
70.50 - 73.49 % = C-
60.50 - 69.49 % = D
Less than 60.50 % = E

**Instructor(s)** Mariola J Edelmann
Differences between the undergraduate and graduate syllabi:

- Two of the assignments are different between the graduate and undergraduate courses (Assignments 5 and 6), where graduate students write a more substantial and involved summary based on their literature research of a chosen subject, while undergraduate students are provided with most references required to write their shorter literature summary. The details are provided below.

- **In terms of rigor**, the graduate students are expected to work independently on their literature research, and emphasis will be placed on the development of their thesis and the level of details described (independent research will be expected). Graduate students are expected to write 10-page paper, which is a substantial amount of material, and therefore more rigorous than the undergraduate-level assignment.

- Undergraduate students write a shorter paper, where more emphasis will be put on the use of appropriate scientific writing style, and the papers are not required to be as detailed and in-depth as the graduate level assignment, which is also reflected by the size of the documents (Problem-solving and active learning).

- Regarding the other assignments (1-4), while grading graduate students, more in-depth information and critical evaluation are expected for graduate students. Undergraduate students are expected to provide accurate reflection of the knowledge in the reviewed articles, use appropriate writing style and avoid plagiarism.

Summary of Assignments 5 and 6 for graduate and undergraduate students:

- **Assignment 5 for Graduate students** is a short project proposal. The students are required to choose a subject for their **Assignment 6**. This assignment helps students to organize their summary paper, and the students also need to obtain at least five references to peer-reviewed papers, which they will use for the summary paper. The instructor provides critique, so the students can be more productive while writing their summary paper. **Assignment 6 for Graduate students** is a “mini-thesis,” an overview of a topic related to prokaryotic biochemistry, metabolism, or cell physiology of interest to the student. The students research peer-reviewed literature related to the subject and based on these primary and review literature they write a summary paper, which includes ten pages and is split into subsections. This assignment is meant to help students with improving their scientific writing, such as writing thesis, if appropriate. The instructor already guides the style and content in written assignments 1-4, which were short review papers, and here the students should be ready to work independently in gathering peer-review literature and synthesizing knowledge on one chosen subject. The students will be provided tools for, and learn the following: (1) locating appropriate references, (2) ensuring that a given reference is peer-reviewed or refereed (i.e. by using Ulrich's International Periodicals Directory), (3) Using appropriate in-text citations (e.g., by using Endnote software, where we provide a mini-tutorial), (4) Avoiding plagiarism (appropriate links to training videos are provided), (5) Writing inappropriate (scientific) style (guidance to common mistakes/tips has been provided), (6) Developing a research summary synthesizing scientific literature focused on one subject.
• **Assignment 5 for undergraduate students** is a comprehensive 1000-word summary prepared according to a provided template that includes a brief discussion of three paper selected by the instructor, and one extra paper, which the students have to find themselves by using appropriate tools (e.g., PubMed). Moreover, students need to include discussion and answer why it is important to study bacterial metabolism. **Assignment 6 is a peer-evaluation of assignment 5** prepared by another student. Students are required to provide brief comments on the accuracy of the information, grammar, stylistics, which can be based on the document I prepared ("Ways to improve your scientific writing skill"). Students need to provide a critical evaluation of the strengths/weaknesses of the assignment with appropriate scientific rationale. Answer questions such as: (1) Have the articles been accurately summarized by a student? (2) Were the conclusions unique and the overall article impactful? (3) Was a chosen additional paper related to the subject area? (4) Was the writing style scientific?
MCB6937 Prokaryotic Cell Structure and Function
University of Florida
Department of Microbiology and Cell Science

COURSE DESCRIPTION: This course explores the structure and physiology of bacterial and archaeal cells. We will review the principles of energy and biosynthesis in aerobic and anaerobic microorganisms. We will also cover current research topics in microbiology, including microbial proteases, chaperones, chemotaxis, antimicrobial resistance, and adaptations of microbes to extreme environments. One of the emphases of this course is scientific writing, which we will practice in a series of assignments constituting reviews of current literature dedicated to bacterial physiology.

Pre-requisites: CHM 2211; MCB 3020, MCB 3020L with minimum C. It is recommended that BCH 4024 or CHM 4207 be taken before or concurrent.

Credits: 3

COURSE INSTRUCTOR:
Mariola J. Edelmann, Ph.D
Room 1048, Microbiology & Cell Science Department, Phone 352-846-0954, medelmann@ufl.edu

Office hours: Tuesday/Thursday 12:00-1:00 PM or by appointment (e-mail preferred), online students are welcome to meet via phone or Skype conferences

CLASS MEETING/EXAM LOCATION:
The course, as well as exams, are done online – no meetings on campus except for optional office hours

COURSE LEARNING OBJECTIVES:

- To become an expert on the structure and function of prokaryotic cells
- To gain the concepts and skills needed to understand and critically evaluate research articles that address the structure & function of prokaryotes
- To creatively apply knowledge of bacterial physiology to current problems (e.g. controlling pathogenesis, sequestering carbon dioxide, engineering microbial biocatalysts in the production of renewable fuels and chemicals)
- To improve the scientific writing skills

RECOMMENDED TEXTBOOK:


CLASS LECTURES AND NOTES:

Class lectures and associated notes are available on the University of Florida E-learning in Canvas support services under 'modules' in video format with slide notes in pdf format. You can access this account from the LSS homepage (http://lss.at.ufl.edu/) using your GatorLink username and password. To obtain a GatorLink account, you will need to sign up with a UF ID number at https://my.ufl.edu/psp/ps_pwd/EMPLOYEE/EMPL/c/UF_PA_GL_ACCT_MGMT.UF_PA_SS_GL_CREATE.GBL

EVALUATION OF LEARNING:

Each weekly topic will include online lectures, plus an assigned classic 'review paper' to read. Class lectures and associated notes will be available on the University of Florida E-learning in Canvas support services under 'modules' in video format.
Slides are also available as PDF for download. Exam questions will be drawn from the lectures and review paper as described below.

Learning will be evaluated based on the following criteria:

- 600 points (6 exams × 100 points each)
- 200 points (4 written assignments, Assignment 1-4, 50 points each)
- 20 points (Assignment 5)
- 200 points (Assignment 6)
- **1020 points total**
- 50 points (Extra credit, optional)

Final grades will be based on the following performance standard:

- 95.50 - 100% = A
- 90.50 - 94.49% = A-
- 87.50 - 89.49% = B+
- 84.50 - 86.49% = B
- 80.50 - 83.49% = B-
- 77.50 - 79.49% = C+
- 74.50 - 76.49% = C
- 70.50 - 73.49% = C-
- 65.50 - 69.49% = D
- Less than 60.50% = E

A. Exams and assignments

Exams (6 exams × 100 points each): Six equally weighted exams are scheduled throughout the semester (see course schedule for details on exam times). The exams will focus on the material covered in the online class lectures. The student can additionally read the textbook chapters noted in parenthesis and print out the lecture notes provided as PDF (online) and watch the online lectures. The exams are multiple-choice/short answer and will be administered on Canvas e-learning through Proctor U services (http://www.proctoru.com/index.php). ProctorU allows you to take your exam on-demand or by appointment. All appointments should be made at least 3 days in advance. To make an appointment, create an account at http://go.proctoru.com, then log in, click on the “new exam” link and select the exam, date, and time you desire. You will receive a confirmation email of your reservation at the email address that you provided to ProctorU. Reservations made within 72 hours of your exam are subject to a late reservation fee. Students without an appointment can take their exam on demand within 15, 30, or 45 minutes utilizing “Take it Now.” This premiere feature is designed to give test takers added convenience and has an additional fee. Late registrations and “Take it Now” are subject to availability.

Assignments 1-4, written assignments (50 points each): Written assignments related to lecture material are due throughout the semester (see course schedule). For each assignment:

- Choose only one article per assignment for 700-word summary
- All of the assigned literature is available (free of charge) online through Medline or the UF library at http://www.uf.lib.ufl.edu.
- Read the assigned research article/review.
- Write a brief summary (**700 words**)
- Do not plagiarize (http://biostat.ufl.edu/resources/student-resources/uf-student-support-links/academic-integrity-and-plagiarism/)
- I would like everyone to get familiar with this video: https://mediasite.video.ufl.edu/Mediasite/Play/54a9443ace0e4865937576af83f355d1d. This video provides...
various examples of plagiarism, and you will note that in many cases, these copied pieces of information are not of significant length.

- Upload the assignment onto Canvas by the posted deadline. Deadlines are in the “COURSE SCHEDULE.”
- Use one of the following formats only: Word, PDF, or plain text. Do not use other formats since these might not upload correctly.

For all written assignments, please use MLA, APA, Chicago or similar styles, consult if needed. Examples:


Endnote Web (provided free of charge by UF) and other library management software can be used: http://web.uflib.ufl.edu/endnoteweb.html

Assignment 1

Assignment 2

Assignment 3

Assignment 4

Extra credit (50 points, optional):

Read the following articles:

Provide 3-4 examples and answer how specific wording and inaccurate information presented in review articles or primary scientific papers can be misleading to the readers. You can also use other scientific articles to address this problem if you prefer. The assignment should be ~500-700 words.

Assignment 5 (Graduate students only). Choose a subject for a Summary Paper (Assignment 6). Please provide a tentative title and 2-4 sentence overview of your proposed summary project. Moreover, provide five references you would like to use for the paper in an appropriate format (see examples above). Please contact me early in the semester to discuss the topic of your summary paper if you like to confirm that your topic is relevant to the subject area. The subject must pertain to the area of bacterial physiology, and not areas such as immunology or eukaryotic cell biology.

Assignment 6 (Graduate students only). The summary paper should be an overview of a topic related to prokaryotic biochemistry, metabolism, or cell physiology of interest to you. The paper must be typed (double-spaced with 1-inch margins). The summary paper should include 10 pages and be split into subsections. References (10-20), a title page, and figures/tables can be included on extra pages. While the figures and tables are optional, they might be helpful in the presentation. The aim of this paper is to provide a summary (a review) of peer-reviewed research articles published in scientific journals. To locate appropriate references, you can use such sources as NCBI Pubmed, Google Scholar, and similar sources. Make sure that citations are done according to the provided information (see above). To ensure that a given reference/paper is peer-reviewed or refereed use the Ulrich's International Periodicals Directory. Search by journal title, ISSN, etc.: http://guides.uflib.ufl.edu/c.php?g=147354&p=968346. Please upload your summary via Canvas e-learning by the posted deadline. This paper will be scanned by TurnItIn for plagiarism. Contact me if you have doubts about what constitutes plagiarism.

## COURSE SCHEDULE:

<table>
<thead>
<tr>
<th>Week 1</th>
<th>T 08/20</th>
<th>Introduction to course and overview of the syllabus</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>R 08/22</td>
<td>Structure and Function (Chapter 1) MODULE 1: Conference online 4-5 PM Q&amp;A to Intro</td>
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<tr>
<td>Week 2</td>
<td>T 08/27</td>
<td>Growth and Cell Division. Chromosome Replication (Chapters 2-3) MODULE 2</td>
</tr>
<tr>
<td></td>
<td>R 08/29</td>
<td>Review MODULES 1-2</td>
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<tr>
<td>Week 3</td>
<td>T 09/03</td>
<td>Exam 1 (Chapters 1-3) ProctorU MODULES 1-2</td>
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<td></td>
<td>R 09/05</td>
<td>Membrane Bioenergetics. (Chapter 4); MODULE 3 Assignment 1 – due</td>
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<td>Week 4</td>
<td>T 09/10</td>
<td>Electron Transport, Photosynthesis (Chapters 5-6); MODULE 4</td>
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<td>T 09/17</td>
<td>Exam 2 (Chapters 4-6) ProctorU MODULES 3-4</td>
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<td>R 09/19</td>
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<td>T 09/24</td>
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<td>Review MODULES 5-6 Assignment 2 – due</td>
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<td>T 10/08</td>
<td>Cell Wall and Capsule Biosynthesis (Chapter 12) MODULE 8</td>
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</tr>
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- Teaching Center, Broward Hall, 392-2010 or 392-6420. General study skills and tutoring. http://teachingcenter.ufl.edu/
- Library Support, http://cms.uflib.ufl.edu/ask. Various ways to receive assistance with respect to using the libraries or finding resources.
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Student Complaints:
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MCB4403 Prokaryotic Cell Structure and Function
University of Florida
Department of Microbiology and Cell Science

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Pre-requisites: CHM 2211; MCB 3020, MCB 3020L with minimum C. It is recommended that BCH 4024 or CHM 4207 be taken before or concurrent.

Credits: 3

COURSE INSTRUCTOR:
Mariola J. Edelmann, Ph.D
Room 1048, Microbiology & Cell Science Department, Phone 352-846-0954, medelmann@ufl.edu

Office hours: Tuesday/Thursday 12:00-1:00 PM or by appointment (e-mail preferred), online students are welcome to meet via phone or Skype conferences

CLASS MEETING/EXAM LOCATION:
The course, as well as exams, are done online – no meetings on campus except for optional office hours

COURSE LEARNING OBJECTIVES:

- To become an expert on the structure and function of prokaryotic cells
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CLASS LECTURES AND NOTES:
Class lectures and associated notes are available on the University of Florida E-learning in Canvas support services under 'modules' in video format with slide notes in pdf format. You can access this account from the LSS homepage (http://lss.at.ufl.edu/) using your GatorLink username and password. To obtain a GatorLink account, you will need to signup with a UF ID number at https://my.ufl.edu/psp/ps_pwd/EMPLOYEE/EMPL/c/UF_PA_GL_ACCT_MGMT.UF_PA_SS_GL_CREATE.GBL

EVALUATION OF LEARNING:
Each weekly topic will include online lectures, plus an assigned classic 'review paper' to read. Class lectures and associated notes will be available on the University of Florida E-learning in Canvas support services under 'modules' in video format.
Slides are also available as PDF for download. Exam questions will be drawn from the lectures and review paper as described below.

Learning will be evaluated based on the following criteria:

- 600 points (6 exams × 100 points each)
- 200 points (4 written assignments × 50 points each, Assignment 1-4)
- 100 points (Assignment 6)
- 50 points (Assignment 7, peer review)

**1050 points total**
- 50 points (Extra credit, optional)

Final grades will be based on the following performance standard:

- 95.50 - 100 % = A
- 90.50 - 94.49 % = A-
- 87.50 - 89.49 % = B+
- 84.50 - 86.49 % = B
- 80.50 - 83.49 % = B-
- 77.50 - 79.49 % = C+
- 74.50 - 76.49 % = C
- 70.50 - 73.49 % = C-
- 60.50 - 69.49 % = D
- Less than 60.50 % = E

A. Exams and assignments

Exams (6 exams × 100 points each): Six equally weighted exams are scheduled throughout the semester (see course schedule for details on exam times). The exams will focus on the material covered in the online class lectures. The student can additionally read the textbook chapters noted in parenthesis and print out the lecture notes provided as PDF (online) and watch the online lectures. **The exams are multiple-choice/short answer and will be administered on Canvas e-learning through Proctor U services (http://www.proctoru.com/index.php).** ProctorU allows you to take your exam on-demand or by appointment. All appointments should be made at least 3 days in advance. To make an appointment, create an account at http://go.proctoru.com, then log in, click on the “new exam” link and select the exam, date, and time you desire. You will receive a confirmation email of your reservation at the email address that you provided to ProctorU. Reservations made within 72 hours of your exam are subject to a late reservation fee. Students without an appointment can take their exam on demand within 15, 30, or 45 minutes utilizing “Take it Now.” This premiere feature is designed to give test takers added convenience and has an additional fee. Late registrations and “Take it Now” are subject to availability.

Assignments 1-4, written assignments (50 points each): Written assignments related to lecture material are due throughout the semester (see course schedule). For each assignment:
- Choose only one article per assignment for 700-word summary
- All of the assigned literature is available (free of charge) online through Medline or the UF library at http://www.uflib.ufl.edu.
- Read the assigned research article/book.
- Write a brief summary (~700 words)
- Do not plagiarize (http://biostat.ufl.edu/resources/student-resources/uf-student-support-links/academic-integrity-and-plagiarism/)
- I would like everyone to get familiar with this video: https://mediasite.video.ufl.edu/Mediasite/Play/54a9443ace0e4865937576af83f355d1d. This video provides
various examples of plagiarism, and you will note that in many cases, these copied pieces of information are not of significant length.

- Upload the assignment onto Canvas by the posted deadline. Deadlines are in the "COURSE SCHEDULE."
- Use one of the following formats only: Word, PDF, or plain text. Do not use other formats since these might not upload correctly.

For all written assignments, please use MLA, APA, Chicago or similar styles, consult if needed. Examples:


Endnote Web (provided free of charge by UF) and other library management software can be used: [http://web.uflib.ufl.edu/endnoteweb.html](http://web.uflib.ufl.edu/endnoteweb.html)

**Assignment 1**


**Assignment 2**

b) Reyes-Lamothe, R., & Sherratt, D. J. (2019). The bacterial cell cycle, chromosome inheritance and cell growth. Nature Reviews Microbiology, 1. [https://www.nature.com/articles/s41579-019-0212-7](https://www.nature.com/articles/s41579-019-0212-7)

**Assignment 3**


**Assignment 4**


**Extra credit (50 points, optional):**

Read the following articles:


Provide 3-4 examples and answer how specific wording and inaccurate information presented in review articles or primary scientific papers can be misleading to the readers. You can also use other scientific articles to address this problem if you prefer. The assignment should be ~500-700 words.

Assignment 5 (Undergraduate students only, 100 points)
Please provide a comprehensive 1000-word summary that includes a brief discussion of all the papers listed below, as well as your conclusion/discussion, and answer the question Why is it important to study bacterial metabolism? You can also add your custom title to the assignment. The assignment should be in the following format:

1. Introduction
2. Subtitles (~3-4, the title should reflect subject/area and not the title of the paper)
3. Conclusions and Future Perspectives

Articles, which you must use in this assignment:


In addition, find at least one more peer-reviewed paper related to the subject by using Pubmed (https://www.ncbi.nlm.nih.gov/pubmed/) and add it to the review.

Assignment 6 (Undergraduate students only, 50 points)
Each student will provide a peer-evaluation of assignment 5 prepared by another student. The assignment for your review will be provided to you via Canvas. The review should include a marked review of a paper, for which you need to download a paper and include your remarks in comments. You can provide brief comments on the accuracy of the information, grammar, styilistics, etc. Consult my previous comments to your own previous assignments and/or document "Ways to improve your scientific writing skills_Eidelmann_Maupin-Furlow.docx" (Introduction module).

Also, provide a critical evaluation (400-500 words) of the strengths/weaknesses of the assignment with appropriate scientific rationale. Answer questions such as: (1) Have the articles been accurately summarized by a student? (2) Were the conclusions unique and the overall article impactful? (3) Was a chosen additional paper related to the subject area? (4) Was the writing style scientific? Provide a grade on a scale of 1-100 points.

COURSE SCHEDULE:

<table>
<thead>
<tr>
<th>Week 1</th>
<th>T 08/20</th>
<th>Introduction to course and overview of the syllabus</th>
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<td>R 08/22</td>
<td>Structure and Function (Chapter 1) MODULE 1; Conference online 4-5 PM Q&amp;A to Intro</td>
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<td>Growth and Cell Division. Chromosome Replication (Chapters 2-3)</td>
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<td><strong>Central Metabolic Pathways (Chapter 8-9), MODULE 6</strong></td>
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<td>R 10/03</td>
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<td>(Chapter 10), MODULE 7</td>
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<td><strong>Cell Wall and Capsule Biosynthesis (Chapter 12) MODULE 8</strong></td>
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<td><strong>Exam 6 (Chapters 16-19-20) ProctorU MODULE 12-13</strong></td>
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<td><strong>Cumulative Final Exam (optional) ProctorU Introduction and MODULES 1-13</strong></td>
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**Other Information:**

**Attendance and Make-Up Work**

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

**Course Materials:** Please note that the course instructor considers all unauthorized online posting or distribution of course materials a form of academic dishonesty, and such actions will be treated accordingly. All course materials posted on the course website are assembled and intended for students taking this course only, this is why they are only available for student use from the secure Canvas website. Unauthorized posting of course materials infringes on UF's copyright policies and the "Fair Use" Act. These policies will be vigorously upheld at all times in this course.

**Online Course Evaluation Process**

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

Academic Honesty
As a student at the University of Florida, you have committed yourself to uphold the Honor Code, which includes the following pledge: "We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity." You are expected to exhibit behavior consistent with this commitment to the UF academic community, and on all work submitted for credit at the University of Florida, the following pledge is either required or implied: "On my honor, I have neither given nor received unauthorized aid in doing this assignment." It is assumed that you will complete all work independently in each course unless the instructor provides explicit permission for you to collaborate on course tasks (e.g. assignments, papers, quizzes, exams). Furthermore, as part of your obligation to uphold the Honor Code, you should report any condition that facilitates academic misconduct to appropriate personnel. It is your individual responsibility to know and comply with all university policies and procedures regarding academic integrity and the Student Honor Code. Violations of the Honor Code at the University of Florida will not be tolerated. Violations will be reported to the Dean of Students Office for consideration of disciplinary action. For more information regarding the Student Honor Code, please see: http://www.dso.ufl.edu/sccr/process/student-conduct-honor-code.

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

Services for Students with Disabilities
The Disability Resource Center coordinates the needed accommodations of students with disabilities. This includes registering disabilities, recommending academic accommodations within the classroom, accessing special adaptive computer equipment, providing interpretation services and mediating faculty-student disability related issues. Students requesting classroom accommodation must first register with the Dean of Students Office. The Dean of Students Office will provide documentation to the student who must then provide this documentation to the Instructor when requesting accommodation 0001 Reid Hall, 352-392-8565, www.dso.ufl.edu/drc/

Campus Helping Resources

Campus 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/.
- Teaching Center, Broward Hall, 392-2010 or 392-6420. General study skills and tutoring. http://teachingcenter.ufl.edu/
- Library Support, http://cms.uflib.ufl.edu/ask. Various ways to receive assistance with respect to using the libraries or finding resources.
- E-learning technical support, 352-392-4357 (select option 2) or e-mail to Learningsupport@ufl.edu. https://iss.at.ufl.edu/help.shtml.
- Sexual Assault Recovery Services (SARS), Student Health Care Center, 392-1161. Sexual assault counseling.
- University Police Department, 392-1111 (or 9-1-1 for emergencies). http://www.police.ufl.edu/
• Each online distance learning program has a process for and will make every attempt to resolve, student complaints within its academic and administrative departments at the program level. See http://distance.ufl.edu/student-complaints

**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 13875

Biosecurity

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<td>This certificate program is designed to equip students with the skill set necessary for the detection, surveillance, and management of agricultural and medical threats. Students will acquire critical thinking skills for the assessment, management, and communication of the biosecurity risks and challenges facing the 21st century.</td>
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Certificate|New for request 13875

Info

Request: Biosecurity
Description of request: This certificate program is designed to equip students with the skill set necessary for the detection, surveillance, and management of agricultural and medical threats. Students will acquire critical thinking skills for the assessment, management, and communication of the biosecurity risks and challenges facing the 21st century.
Submitter: Tolulope Agunbiade agunbiade@ufl.edu
Created: 9/5/2019 1:34:53 PM
Form version: 3

Responses
Certificate Name Biosecurity
Transcript Title Biosecurity
Credits 10
Level Baccalaureate
CIP Code 26.0702
Degree Program Entomology and Nematology
Effective Term Spring
Effective Year 2020
Certificate Description This certificate program is designed to equip students with the skill set necessary for the detection, surveillance, and management of agricultural and medical threats. Students will acquire critical thinking skills for the assessment, management, and communication of the biosecurity risks and challenges facing the 21st century.
Requirements for Admission Applicants for this certificate program must have taken:
1. Integrated Principles of Biology 1 and Laboratory (BSC 2010 and 2010L), and Integrated Principles of Biology 2 and Laboratory (BSC 2011 and 2011L), OR
2. two semesters of introductory biology courses from an accredited higher institution.
Requirements for Completion The minimum requirements for completion of the certificate course are 10 credits taken as follows:
Required (7 credits)
1. ALS 4161, Exotic Species and Biosecurity Issues, 3 credits
2. ALS 4162, Consequences of Biological Invasions, 3 credits
3. ENY 4905, Internship, 1 credit
Elective (3 credits)
1. ENY 4202, Ecology of Vector-Borne Diseases, 2 credits
2. IPM 3022, Fundamentals of Plant-Pest Management, 3 credits
3. *ENY 4905, Insect Pest and Vector Management, 3 credits
4. ENY 3225C, Principles of Urban Pest Management, 3 credits
5. ENY 3510C, Turf and Ornamental Entomology, 3 credits
6. FOS 4202, Food Safety and Sanitation, 2 credits
7. FAS 4932, Invasion Ecology of Aquatic Animals, 3 credits
8. PLP 4104, Applied Plant Disease Management, 3 credits

All courses except the internship (ENY 4905) are letter graded.
*This course has been taught for several years as ENY 4905 to undergraduate students and the undergraduate course number has been applied for.

Rationale and Place in Curriculum The current drive for globalization, increased travel and trade in food and agricultural products, emerging infectious diseases, and the threat of bioterrorism makes the field of biosecurity an area of major and widespread importance. Biosecurity involves a strategic and integrated approach to excluding, eradicating, and managing threats to human, animal and plant life and health, the environment, and global trade. The overall goal of this certificate program is to equip students with the skill set necessary for the detection, surveillance, and management of agricultural and medical threats. Students will acquire critical thinking skills for the assessment, management, and communication of the biosecurity risks and challenges facing the 21st century. The biosecurity...
certificate is designed to meet the career and professional needs of those interested in, or already in industry, public health, homeland security, international security, quarantine and pest management, and organizations involved in emergency preparedness, and general threat management.

**Student Learning Outcomes**

<table>
<thead>
<tr>
<th>Content knowledge</th>
<th>1. Assess the biosecurity challenges facing the 21st century</th>
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<tbody>
<tr>
<td>2. Evaluate the attributes and characteristics that make particular animals, plants, and microorganisms biosecurity threats</td>
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<tr>
<td>3. Describe the principles of pest exclusion, eradication, and management as it relates to biosecurity</td>
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<tr>
<td>4. Assess risk assessment, risk management, and risk communication in biosecurity measures</td>
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<tr>
<td>5. Evaluate the structure and roles of federal, state, and local governments, and international organizations in biosecurity issues</td>
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**Associated Courses**

- ALS 4161, ALS 4162

**Assessment Type**

- Course-related exams, assignments and term paper

**Assessment Method**

- Single faculty member

**Critical thinking**

- Develop critical thinking skills for the detection, surveillance, and assessment of biosecurity risks

- Conduct risk assessment and develop risk management strategies

**Communication**

- Relate knowledge gained in the classroom to real world biosecurity issues

- Develop hands-on communication and professional skills through interactions with researchers working in the field of biosecurity

**Associated Courses**

- ENY 4905

**Assessment Method**

- Student evaluation by on-site supervisor or mentor

- Rubric
<table>
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<th>Student Learning Outcome Type</th>
<th>Student Learning Outcome</th>
<th>Associated Courses</th>
<th>Assessment Type</th>
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<td>1. Assess the biosecurity challenges facing the 21st century</td>
<td>ALS 4161, ALS 4162</td>
<td>Course-related exams, assignments and term paper</td>
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<td>2. Evaluate the attributes and characteristics that make particular animals, plants,</td>
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<td>and micro-organisms biosecurity threats</td>
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<td></td>
<td>3. Describe the principles of pest exclusion, eradication, and management as it relates</td>
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<td>to biosecurity</td>
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<td>4. Assess risk assessment, risk management, and risk communication in biosecurity</td>
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<td>measures</td>
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<td>5. Evaluate the structure and roles of federal, state, and local governments, and</td>
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<td>international organizations in biosecurity issues</td>
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<td>Critical thinking</td>
<td>6. Develop critical thinking skills for the detection, surveillance, and assessment</td>
<td>ALS 4161, ALS 4162</td>
<td>Course-related exams, assignments and term paper</td>
<td>Single faculty member</td>
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<td>of biosecurity risks</td>
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<td>7. Conduct risk assessment and develop risk management strategies</td>
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<td>Communication</td>
<td>8. Relate knowledge gained in the classroom to real world biosecurity issues</td>
<td>ENY 4905</td>
<td>Student evaluation by on-site supervisor or mentor</td>
<td>Rubric</td>
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<td>9. Develop hands-on communication and professional skills through interactions with</td>
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<td>researchers working in the field of biosecurity</td>
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</table>
RE: Undergraduate Biosecurity Certificate

Lucky, Andrea
Fri 9/6/2019 9:58 AM

To: Cuda, James Paul <jcuda@ufl.edu>; Agunbiade, Tolulope <agunbiade@ufl.edu>
Cc: Siegfried, Blair D <bsiegfried1@ufl.edu>

Jim,
Thanks for including me here.

Hi Tolu,
I will be taking over this course and support this course being included in the Biosecurity certificate. Please let me know if I can provide any additional information to support your proposal to the Curriculum Committee.
Best wishes,
Andrea

From: Cuda, James Paul <jcuda@ufl.edu>
Sent: Friday, September 6, 2019 9:53 AM
To: Agunbiade, Tolulope <agunbiade@ufl.edu>
Cc: Siegfried, Blair D <bsiegfried1@ufl.edu>; Lucky, Andrea <alucky@ufl.edu>
Subject: RE: Undergraduate Biosecurity Certificate

Tolu, I support the inclusion of this course for the undergraduate Biosecurity certificate. I’m cc: Drs. Siegfried and Lucky on this message as the Spring 2020 semester will be the last time I will be teaching this course.

JPC

James P. Cuda, Ph.D.
Professor and Fulbright Scholar
Biological Weed Control
Entomology & Nematology Dept.,
Charles Steinmetz Hall, POB 110620
Gainesville, FL 32611-0620
Phone: 352-273-3921; Fax: 352-392-0190
Email: jcuda@ufl.edu
http://entnemdept.ifas.ufl.edu/cv/people/cuda

From: Agunbiade, Tolulope <agunbiade@ufl.edu>
Sent: Thursday, September 5, 2019 12:38 PM
To: Cuda, James Paul <jcuda@ufl.edu>
Subject: Undergraduate Biosecurity Certificate

https://mail.ufl.edu/owa/#viewmodel=ReadMessageItem&ItemID=AAMkADAAY7m9r9T2NLzYWQi1DNmZC04YmJhLTg4Mz1NGjJmNWQ3MgBGAAAA...
9/6/2019

RE: Undergraduate Biosecurity Certificate - Agunbiade, Tolulope

Good day Dr. Cuda,

I am Tolulope Agunbiade, a Lecturer in the Entomology and Nematology Department, University of Florida. I am working on an undergraduate Biosecurity certificate and I am pleased to inform you that one of the required courses being considered for the certificate program is a 3 credit course that you teach in Spring (ALS 4162 – Consequences of Biological Invasions). The proposal has been submitted to the curriculum committee, and following that, I would need your acknowledgement of the inclusion of your course in the certificate. Please respond with an email acknowledging your course as one of the required courses for the certificate. Please I hope to read from you soon concerning this. Thank you.

Best Regards,

Tolulope Agunbiade, Ph.D.
RE: Undergraduate Biosecurity Certificate

Cuda, James Paul

Fri 9/6/2019 9:52 AM

To: Agunbiade, Toluope <agunbiade@ufl.edu>
Cc: Siegfried, Blair D <bsiegfried1@ufl.edu>; Lucky, Andrea <alucky@ufl.edu>

Tolu, I support the inclusion of this course for the undergraduate Biosecurity certificate. I'm cc: Drs. Siegfried and Lucky on this message as the Spring 2020 semester will be the last time I will be teaching this course.

JPC

James P. Cuda, Ph.D.
Professor and Fulbright Scholar
Biological Weed Control
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Charles Steinmetz Hall, POB 110620
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Phone: 352-273-3921; Fax: 352-392-0190
Email: jcuda@ufl.edu
http://entnemdept.ifas.ufl.edu/cv/people/cuda

From: Agunbiade, Toluope <agunbiade@ufl.edu>
Sent: Thursday, September 5, 2019 12:38 PM
To: Cuda, James Paul <jcuda@ufl.edu>
Subject: Undergraduate Biosecurity Certificate

Good day Dr. Cuda,

I am Toluope Agunbiade, a Lecturer in the Entomology and Nematology Department, University of Florida. I am working on an undergraduate Biosecurity certificate and I am pleased to inform you that one of the required courses being considered for the certificate program is a 3 credit course that you teach in Spring (ALS 4162 – Consequences of Biological Invasions). The proposal has been submitted to the curriculum committee, and following that, I would need your acknowledgement of the inclusion of your course in the certificate. Please respond with an email acknowledging your course as one of the required courses for the certificate. Please I hope to read from you soon concerning this. Thank you.
Best Regards,

Tolulope Agunbiade, Ph.D.
Hi Tolulope,
Yes. It would be good to have the course listed as an elective for the Biosecurity certificate program.
Phil Koehler

Good day Dr. Koehler,

I am Tolulope Agunbiade, a Lecturer in the Entomology and Nematology Department, University of Florida. I am working on an undergraduate Biosecurity certificate and I am pleased to inform you that one of the elective courses being considered for the certificate program is a 3 credit course that you teach in Spring (ENY 3225C – Principles of Urban Pest Management). Please I would need your acknowledgement of the inclusion of your course in the certificate. Please respond with an email acknowledging your course as one of the elective courses for the certificate. I hope to read from you soon concerning this. Thank you.

Best Regards,

Tolulope Agunbiade, Ph.D.
Hi Tolu,

That's great. Glad to hear that my class will be included as an elective for this certificate program. Please let me know if you have any questions for me or need any additional information.

Thanks,
Adam

Adam Dale, Ph.D.
Assistant Professor
Entomology & Nematology
University of Florida, Gainesville
352-273-3976
agdale@ufl.edu
Website: https://dalelab.org
Twitter: @adamGdale

From: Agunbiade,Tolulope
Sent: Tuesday, April 2, 2019 4:44 PM
To: Dale,Adam G
Subject: Biosecurity Undergraduate Certificate

Hi Dr. Dale,

I am Tolulope Agunbiade, a Lecturer in the Entomology and Nematology Department, University of Florida. I am working on an undergraduate certificate course in Biosecurity. I would like to inform you that one of the elective courses being considered for the certificate course is a 3 credit course that you teach in Fall – Turf and Ornamental Entomology (ENY 3510C). Please I hope to read from you soon concerning this. Thank you.

Best Regards,

Tolulope A. Agunbiade, Ph.D.
Lecturer
Department of Entomology and Nematology
University of Florida
Gainesville, FL 32608
agunbiade@ufl.edu
Hi Tolulope Agunbiade,
I acknowledge inclusion of my course (ENY 4202 - Ecology of Vector-Borne Diseases) as one of the elective courses for the undergraduate Biosecurity certificate.
Thank you

Nathan Burkett-Cadena, PhD
Assistant Professor
University of Florida | IFAS
Florida Medical Entomology Laboratory
200 9th St. SE
Vero Beach, FL 32962
(772) 226-6617  *note new phone number*

Good day Dr. Burkett-Cadena,

I am Tolulope Agunbiade, a Lecturer in the Entomology and Nematology Department, University of Florida. I am working on an undergraduate Biosecurity certificate and I am pleased to inform you that one of the elective courses being considered for the certificate program is a 2 credit course that you teach in Fall (ENY 4202 - Ecology of Vector-Borne Diseases). Please I would need your acknowledgement of the inclusion of your course in the certificate. Please respond with an email acknowledging your course as one of the elective courses for the certificate. I hope to read from you soon concerning this. Thank you.

Best Regards,
Tolulope Agunbiade, Ph.D.
Hi Tolulope.

I am happy to have my course as an elective for the Biosecurity certificate. Invasion Ecology of Aquatic Animals is offered during spring semesters on even-numbered years. It will be taught this spring (2020) with a face-to-face option and an online, distance option.

Please let me know if you need any additional information.

Best regards

Jeff

Jeffrey E. Hill, Ph.D.
Associate Professor and Extension Specialist

Tropical Aquaculture Laboratory
Program of Fisheries and Aquatic Sciences
School of Forest Resources and Conservation
Institute of Food and Agricultural Sciences/University of Florida
1408 24th St. SE
Ruskin, FL 33570
phone: 813-671-5230 ext 118
fax: 813-671-5234
e-mail: jeffhill@ufl.edu
Tropical Aquaculture Laboratory website:
http://tal.ifas.ufl.edu/
Program website:
http://fishweb.ifas.ufl.edu
School of Forest Resources and Conservation
http://www.sfrc.ufl.edu/

From: Agunbiade, Tolulope
Sent: Thursday, September 05, 2019 12:58 PM
To: Hill, Jeffrey Eugene
Subject: Undergraduate Biosecurity Certificate

Good day Dr. Hill,

I am Tolulope Agunbiade, a Lecturer in the Entomology and Nematology Department, University of Florida. I am working on an undergraduate Biosecurity certificate and I am pleased to inform you that one of the elective courses being considered for the certificate program is a 3 credit course that you teach in
Spring (FAS 4932 – Invasion Ecology of Aquatic Animals). Please I would need your acknowledgement of the inclusion of your course in the certificate. Please respond with an email acknowledging your course as one of the elective courses for the certificate. I hope to read from you soon concerning this. Thank you.

Best Regards,
Tolulope Agunbiade, Ph.D.
Re: Undergraduate Biosecurity Certificate

Schneider, Keith R

Thu 9/5/2019 3:00 PM

To: Agunbiade, Tolulope <agunbiade@ufl.edu>

Don’t think there will be a problem. FOS4202 is a 2-credit course, FOS5205 is a 3-credit course. It’s a piggyback course with grad students doing a back to back lecture on Tuesdays. Involves more writing. They need a micro 2000 level prereq. Only taught live, each fall.

Keith

--
Keith R. Schneider, Ph.D.
Professor, FSHN
University of Florida
359 FSHN Bldg., Newell Dr.
Gainesville, FL 32611
Tel: 352-294-3910
E-mail: keiths29@ufl.edu

From: "Agunbiade, Tolulope" <agunbiade@ufl.edu>
Date: Thu, September 5, 2019 at 1:08 PM
To: Keith Schneider <keiths29@ufl.edu>
Subject: Undergraduate Biosecurity Certificate

Good day Dr. Schneider,

I am Tolulope Agunbiade, a Lecturer in the Entomology and Nematology Department, University of Florida. I am working on an undergraduate Biosecurity certificate and I am pleased to inform you that one of the elective courses being considered for the certificate program is a 2 credit course that you teach in Fall (FOS 4202 – Food Safety and Sanitation). Please I would need your acknowledgement of the inclusion of your course in the certificate. Please respond with an email acknowledging your course as one of the elective courses for the certificate. I hope to read from you soon concerning this. Thank you.

Best Regards,

Tolulope Agunbiade, Ph.D.
Hi Tolu,
Nice to nice from you and yes, I am delightful to participated in the certificate major for undergrad.
I am just about to review my IPM course for next semester and hope we have a chance to talk and see how I can improve my course to attend your expectations for this certification.

Best
Silvana

Silvana Paula-Moraes | Entomology, PhD
UF/IFAS West Florida Research and Education Center
4253 Experiment Drive, Hwy 182
Jay, FL 32565
Email: paula.moraes@ufl.edu
Phone: 850-983-7101

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From: Agunbiade,Tolulope <agunbiade@ufl.edu>
Sent: Thursday, September 05, 2019 11:47 AM
To: Paula-Moraes,Silvana <paula.moraes@ufl.edu>
Subject: Undergraduate Biosecurity Certificate

Good day Dr. Paula-Moraes,

I am Tolulope Agunbiade, a Lecturer in the Entomology and Nematology Department, University of Florida. I am working on an undergraduate Biosecurity certificate and I am pleased to inform you that one of the elective courses being considered for the certificate program is a 3 credit course that you teach in Spring (IPM 3022 - Fundamentals of Plant-Pest Management). Please I would need your acknowledgement of the inclusion of your course in the certificate. Please respond with an email acknowledging your course as one of the elective courses for the certificate. I hope to read from you soon concerning this. Thank you.

Best Regards,

Tolulope Agunbiade, Ph.D.
https://mail.ufl.edu/owa/#viewmodel=ReadMessageItem&ItemID=AAMkADawNTzzC78LTlzYWQ1NDNimZC04YmJhLTg4Mz11NGjJNWQ3MQBGAAAA...