

# SWS 4303/5305 Soil Microbial Ecology Fall 2020

**All sections of SWS4303/5305 will be on-line via Canvas for Fall 2020.**

**Course Description** Lectures and laboratory exercises will cover the soil as a habitat for microorganisms, the taxonomy and biology of soil microorganisms, and the fundamentals of the microbial ecology of nutrient cycles, symbiotic associations, and bioremediation.

Students in the graduate course (SWS 5305) will be required to demonstrate a deeper understanding of fundamental concepts and details than is required of SWS 4303 students. SWS 5305 exams differ in content by at least 30% from SWS 4303 exams.

**Course Learning Objectives:** By the end of the course, students will be able to analyze the physiological bases for many of the microbial activities in soil, and translate those to ecological interactions and processes. Students will be able to discuss the fundamental physiology and ecology underlying many of the important biogeochemical cycles in soils, including the carbon, nitrogen, sulfur, and iron cycles. Students will also identify the appropriate methods for addressing fundamental questions in soil microbiology.

**Instructor:**

Andrew Ogram  
Soil and Water Science Department  
2161 McCarty Hall  
Phone: (352)294-3138  
Email: [aogram@ufl.edu](mailto:aogram@ufl.edu)

**Laboratory Instructor:**

Abid Al-Agely  
2170 McCarty Hall  
Phone: (352)294-3144  
Email: [aaag@ufl.edu](mailto:aaag@ufl.edu)

**Office Hours:** By appointment.

**Format:** On-Line

**Prerequisites:** None

**Course Communications:** Students with questions are encouraged to email the instructor ([aogram@ufl.edu](mailto:aogram@ufl.edu)) directly. An appointment for either a face to face meeting or phone conversation can be set up if needed.

**Minimum Technology Requirements:** Students must have access to a stable high speed internet connection and the ability to run Adobe Connect, Zoom, and HonorLock.

**Textbooks:**

Paul, Eldor. 2015. Soil Microbiology, Ecology, and Biochemistry, 4<sup>th</sup> Ed. Academic Press. ISBN: 978-0-12-415955-6. NOTE: This text will be available free of charge via the UF Libraries ARES Course Reserve System for registered students. ***There is no need to buy the text unless you want a hardcopy or unless you would like access after the course ends.***

Laboratory Manual (available as a PDF file from the course web site).

**Materials and Supplies Fees:** N/A

**Instructional Methods:** The course is split between undergraduate (SWS4303) and graduate (SWS5305) sections, all on-line. All lectures and laboratory recordings are asynchronous.

**Quiz and Exam Policies:** Quizzes will be given for most weeks. Quizzes may be taken twice for maximum credit. They are on-line, not proctored, and open book. Quizzes will be opened on Monday mornings and closed Sunday evenings. Exams will be proctored through HonorLock.

**Make-Up Policy:** There will be no make-up quizzes or exams.

**Assignment Policy:** Most weeks will have SWS5305 discussion questions posted on Monday mornings and due on Sunday evenings. There will be no extensions. Three lab reports will be due throughout the semester. A ten percent deduction will be assessed for each day late.

**SWS4303 Grading System:**

- |  |                 |
|--|-----------------|
| ○ Three exams @ 200 points each        | 600 pts         |
| ○ Twelve lecture quizzes @ 20 pts each | 240 pts         |
| ○ Lab Quizzes: 8@10 pts each           | 80 pts          |
| ○ Lab Problem sets: 3@50 pts each      | 150 pts         |
| <i>Total:</i>                          | <i>1070 pts</i> |

**SWS5305 Grading System:**

- |   |                 |
|---|-----------------|
| ○ Three exams @ 200 points each           | 600 pts         |
| ○ Twelve lecture quizzes @ 20 pts each    | 240 pts         |
| ○ Discussion Questions: 10 @ 20 pts each: | 200 pts         |
| ○ Lab Quizzes: 8@10 pts each              | 80 pts          |
| ○ Lab Problem sets: 3@50 pts each         | 150 pts         |
| <i>Total:</i>                             | <i>1240 pts</i> |

**Grading Scale:**

100-92% = A; 91-90% = A-; 89-87% = B+; 86-82% = B; 81-80% = B-; 79-77% = C+; 77-72% = C; 71-70% = C-; 69-67% = D+; 67-62% = D; 61-60 = D-; ≤59% = E

Current UF grading policies for assigning grade points:

<https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx> .

**Basis for grades:***Exams*

- Based on lectures and assigned readings
- Combination of multiple choice, short answer, short essay.
- Closed book!
- Distance students: Exams will be administered with Proctor U  
(<http://www.dce.ufl.edu/Data/Sites/29/media/proctoru-student-handout1---december-2013.pdf>) .

*Optional Final Exam*

The regularly scheduled final exam is optional and may be taken by students who are not satisfied with their exam average for the three regular exams. The optional final may replace the low exam, or it may be used as a makeup exam. For students who wish to replace a low exam grade, there will be no penalty: the top three grades of the four will be counted. The optional final will be cumulative.

*Quizzes*

Lecture Quizzes: Approximately 11 quizzes based on lecture material and assigned readings, and 8 quizzes based on laboratory material will be administered on-line throughout the semester. They are open book and may be taken up to two times.

*Laboratory Problem Sets:*

Three laboratory problem sets will be assigned throughout the semester. These problem sets require analysis of data and will ask questions related to general concepts.

**Online Course Evaluation**

Students are expected to provide feedback on the quality of instruction in this course by completing online evaluations at <https://evaluations.ufl.edu>. Evaluations are typically open during the last two or three of the semester, but students will be given specific times with they are open. Summary results of these assessments are available to students at <https://evaluations.ufl.edu/results/>.

## **Accommodations for Students with Disabilities**

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

## **Academic Honesty**

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

## **UF Counseling Services**

Contact information for the Counseling and Wellness Center:

<http://www.counseling.ufl.edu/cwc/Default.aspx> ; (352)392-1575.

University Police Department: (352)392-1111 or 9-1-1 for emergencies.

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

- <http://helpdesk.ufl.edu>
- (352) 392-HELP (4357)
- Walk-in: HUB 132

Any requests for make-ups due to technical issues MUST be accompanied by the ticket number received from the Help Desk when the problem was reported to them. The ticket number will document the time and date of the problem. You MUST e-mail your instructor within 24 hours of the technical difficulty if you wish to request a make-up.

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

- Counseling and Wellness resources
- Disability resources
- Resources for handling student concerns and complaints

- Library Help Desk support

(Required) Should you have any complaints with your experience in this course please visit <http://www.distance.ufl.edu/student-complaints> to submit a complaint.