

Microbes without Borders

MCB4934 section 15GA (15G5 for MCS DE students)

3CR – WEB (Canvas <http://lss.at.ufl.edu>)

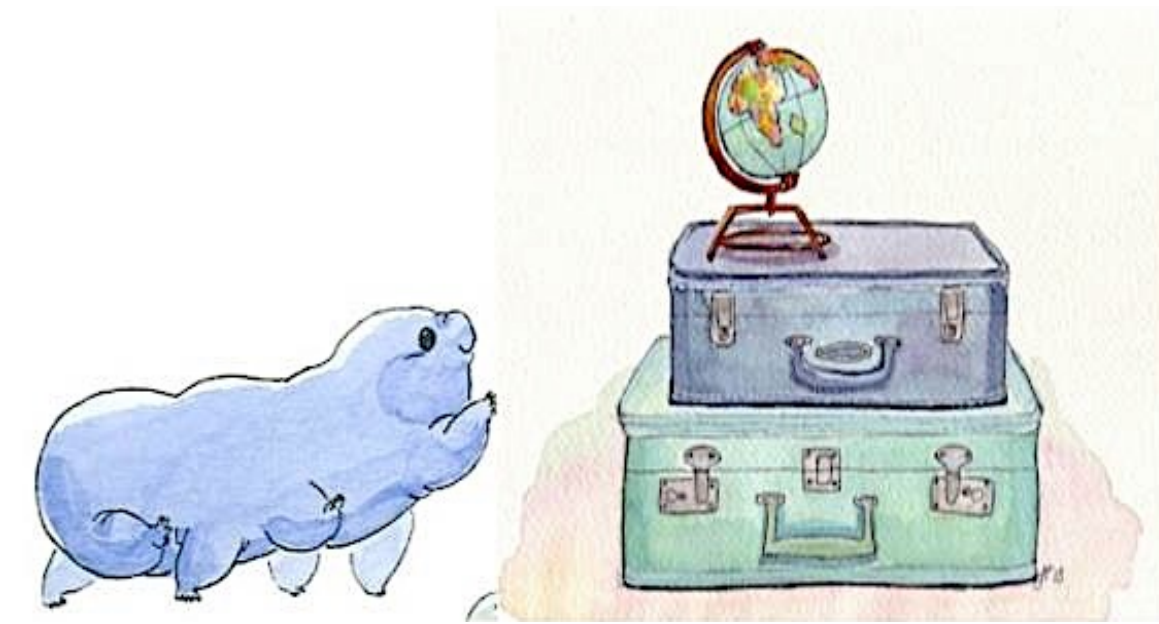
Prerequisites: no prerequisites required, open to all majors across campus, course is also a part of the UF International scholars program

<https://www.ufic.ufl.edu/UAP/InternationalScholarsProgram.html>

Offered Spring 2016 (every fall starting in 2016)

Introduction to Microbes without Borders by Dr. Oli:

<https://mediasite.video.ufl.edu/Mediasite/Play/0e58446cacbe4636945b5cb69ded19ce1d>



Instructor:

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Lecturer and Undergraduate Coordinator
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moli@ufl.edu; 352-3928434

Office Hours:

Tue/Thu 12-2pm or by appointment

Course TA:

Amanda Ojeda, BSc; ao12345@ufl.edu

Course Communications: Please send general questions to the TAs first. If you need to communicate with me directly, please email me at moli@ufl.edu - emails through Canvas may not be answered!

Required Text: A shorter version of Alcamo's Microbes and Society (4th edition, 2015) by Pommerville and Weeks. The textbook is available as cheaper e-Book and students will purchase Access Codes (necessary for redemption of eBook) for the book directly through www.jblearning.com. Detailed reading materials are assigned week by week. Additional readings and audiovisual sources will be required and will be provided to the students.

Course Description:

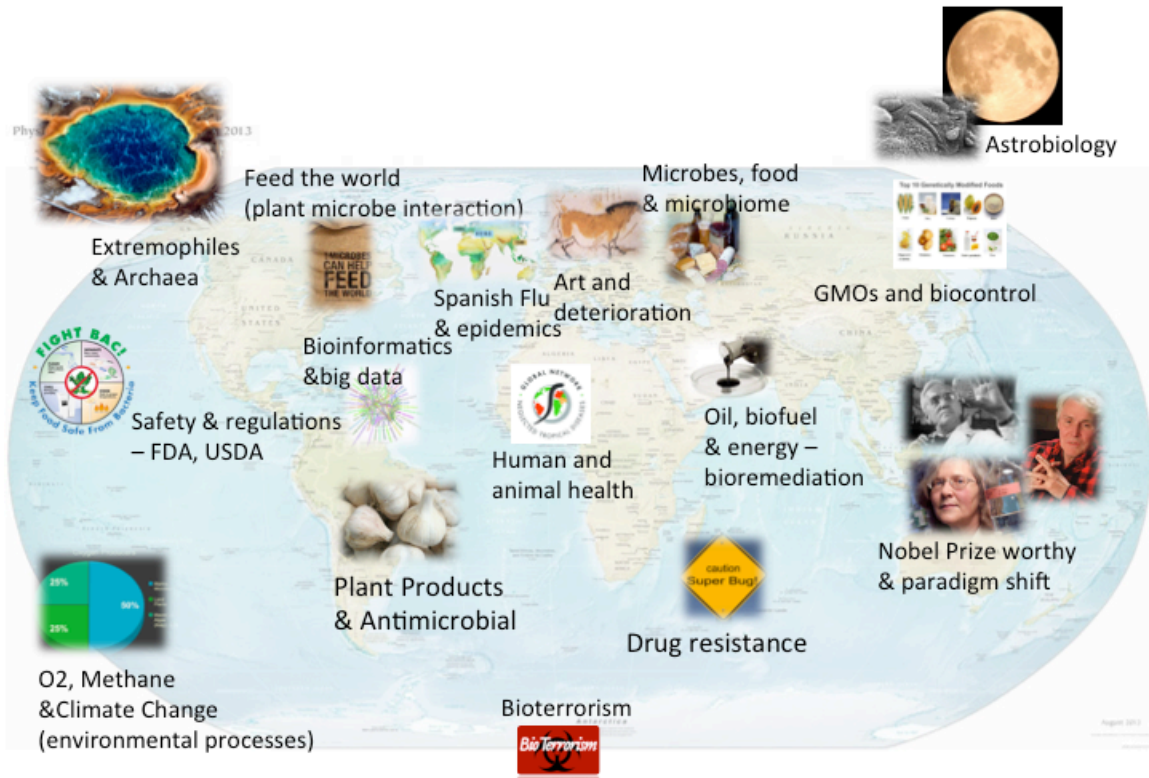
Syllabus:

<https://mediasite.video.ufl.edu/Mediasite/Play/d7d0fd99221043acbe3c1a7bc3b720181d>

This course will make you aware of the importance of the diversity of microbes and the significance in our every day lives. Different microbes are explored in readings, audiovisual materials and hands on explorations. Topics include viruses, bacteria, parasites and fungi, microbes and art, bioterrorism, GMOs and biotechnology, food production and the role of microbes in agriculture. Issues like disease spread and prevention, vaccines and drug resistance will be examined. Students will participate in a challenge project to solve some of the global issues that are currently facing humanity.

Purpose of Course: The purpose of this course is to explore student's concepts about and attitude towards "germs" and microbes at large. Readings and activities should provide a mind opening, global journey to appreciate the amazingness, creativity and importance of microbes for each individual, for our communities and for our whole planet.

Topics of the course include but are not limited to:



Course Goals and/or Objectives: By the end of this course, students

- Have examined the building blocks of life and DNA replication, understand mutations and resistance mechanisms
- Can name and explain the basic historic milestones that caused paradigm shifts in our thinking and behavior as it pertains to microbiology
- Can define and identify the basic difference between groups of microbes (viruses, bacteria, protists, parasites and fungi)
- Show increased awareness of global microbial issues and geographic locations
- Can intellectually discuss controversial topics like GMOs, vaccines and antibiotic resistance
- Defend the importance of microbes in their personal lives, their community and across the globe
- Can discuss scientifically the difference between the Germ theory of disease and the hygiene hypothesis
- Are familiar with vocabulary and concepts in microbiology to excel in other courses like MCB3023

Goals for the Globalization of the Gator Nation: By the end of this course and with help of the activities, students will be able to

- Identify, describe, and explain global and intercultural conditions and interdependencies

- Analyze and interpret global and intercultural issues.
- Communicate effectively with members of other cultures

Teaching Philosophy: The overarching goal for my teaching program is to provide a holistic learning experience that fosters students' global awareness and critical-thinking skills, enhances their personal and professional development, and prepares them for the real world. Specifically, the goals for my students in this class are to:

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

Instructional Methods: This course is a creative discourse into the world of microbiology. The fundamental knowledge and definitions will be acquired by textbook and other readings. Each week will have a "practical" component where you will have to explore a given topic, go on a field trip or create something at home. Weekly discussions should stimulate teamwork and also critical thinking. A 4-week block of the course is dedicated to the "Global microbiological challenge project", where students will decide on the problems to be solved and teams of students will provide in depth solutions to their chosen problem.

Although it is an online class the course is designed to include weekly activities and teamwork so students will feel as a "part of the class".

Course Policies:

Attendance Policy: this is a Web class – no physical attendance is required

Quiz/Exam Policy: Quizzes, assignments and activities are due on the announced date (usually Sunday night at 11:59pm). Late policy applies and you will be deducted 10% for each late day

Make-up/Late Policy: If you have a UF approved excuse not to complete your assignment, please email me BEFORE the deadline to have your submission time extended. See

<http://www.registrar.ufl.edu/catalog1011/policies/regulationattendance.html#twelvedayrule> for more information

Course Technology: Canvas will be used as e-learning platform. Pathbrite will be used for project assignments and a link to your page will be counted as assignment as indicated. See <https://pathbrite.com/monikaoli/profile>

Grading Policies:

Graded activities

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

Activity Types	Points
Portfolio activities and travel log	100
Discussions, persuasions and debates	100
Module assessments/quizzes	100
Global microbial challenge	300
Final exam	100
TOTAL	700

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

Letter Grade	Percentage	Points	Grade Point
A	92–100%	644	4
A-	90–91.9%	630	3.67
B+	87–89.9%	609	3.33
B	82–86.9%	574	3
B-	80–81.9%	560	2.67
C+	77–79.9%	539	2.33
C	72–76.9%	504	2
C-	70–71.9%	490	1.67
D+	67–69.9%	469	1.33
D	62–66.9%	434	1
D-	60–601.9%	420	0.67
E,I,F	<60%	<420	0

Grading Scale: For more information, see: <http://www.isis.ufl.edu/minusgrades.html>

Course Schedule (tentative):

Week	Topic	Activity	Reading/Video	Discussion topics
1	Intro, syllabus	Microbes across campus	Ch 1-2	Introductions
2	How we see and examine Microbes	Microscopy practice and DNA replication	Ch 1-4	Microbes across campus
3	Viruses and Prokaryotes	Kitchen Lab	Ch 5-6	Vaccines
4	Protists and Fungi	Fungi identification or fungi scavenger hunt	Ch 7-8	Antibiotics and drug resistance
5	Extremophiles and Metabolism	Extreme living	Ch 9-10, 16	Bioremediation
6	Art and	Visit the caves of	Ch 11	Biodegradation

	biodegradation	Lasceaux or microbes at the museum		
7	Bioterrorism and Biotechnology	GMO interviews and survey	Ch 14-15	How old is bioterrorism?
8	Diseases and epidemics	Gideon game	Ch 17, 18,	Plague.inc
9	Food - Mold ripened or rotten	Food label junkie	Ch 12-13	The new Gut Feeling
10	Global microbial challenge	Literature search – team building		Funding sources
11	Global microbial challenge	Find an expert – interview, draft		Science in a context
12	Global microbial challenge	Peer review		
13	Global microbial challenge	Final project		
14	Germ theory vs Hygiene Hypothesis	Big Data: Gapminder		Are we too clean? Germophobe or germophile?
15	The future of microbes and interesting careers	Paradigm shifts		Internships, research opportunities, etc.
16	Final exam			

Disclaimer: This syllabus represents our current plans and objectives. As we go through the semester, those plans may need to change to enhance the class learning opportunity. Such changes, communicated clearly, are not unusual and should be expected.

The readings in the textbook are “light reading” and each chapter should be read in less than 30 minutes.

UF Policies:

University Policy on Accommodating Students with Disabilities: Students requesting accommodation for disabilities must first register with the Dean of Students Office (<http://www.dso.ufl.edu/drc/>). The Dean of Students Office will provide documentation to the student who must then provide this documentation to the instructor when requesting accommodation. You must submit this documentation prior to submitting assignments or taking the quizzes or exams. Accommodations are not retroactive, therefore, students should contact the office as soon as possible in the term for which they are seeking accommodations.

University Policy on Academic Misconduct: Academic honesty and integrity are

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

Netiquette: Communication Courtesy: All members of the class are expected to follow rules of common courtesy in all email messages, threaded discussions and chats.

Course evaluations: Students are expected to provide feedback on the quality of instruction in this course based on 10 criteria. These evaluations are conducted online at <https://evaluations.ufl.edu>. Evaluations are typically open during the last two or three weeks of the semester, but students will be given specific times when they are open. Summary results of these assessments are available to students at <https://evaluations.ufl.edu>.

Getting Help:

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

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

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

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

- Counseling and Wellness resources
- Disability resources
- Resources for handling student concerns and complaints
- Library Help Desk support

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

Phone number and contact site for university **counseling services and mental health**

services: 392-1575, <http://www.counseling.ufl.edu/cwc/Default.aspx>

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