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# IDS2935 Microbes without Borders

## Quest 2 - Spring 2023

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Quest 2 – Gen Ed Biological – Gen Ed International

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3CR

*Prerequisites:* no prerequisites are required, open to all majors across campus

|                            | Section | TA      |
|----------------------------|---------|---------|
| Online, asynchronous (UFO) | 22851   | Blanton |
| Hybrid, in person Fridays* |         |         |
| 9:35                       | 28833   | Ojeda   |
| 10:40                      | 28834   | Ojeda   |
| 11:45                      | 28835   | Ojeda   |
| 12:50                      | 28836   | Meenan  |
| 1:55                       | 28837   | Meenan  |
| 3:00                       | 28838   | Meenan  |

\*Department of microbiology and cell Science Lab, Room 1020

### Course Description:

This course will make students aware of the importance of the diversity of microbes and the significance in our everyday 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 launch a public outreach campaign to enhance microbial literacy around the globe with current issues that are currently facing humans, animals and the environment.



### Instructor:

Monika Oli, PhD, MSE

<https://microcell.ufl.edu/people/monika-oli/>

Master Lecturer and Undergraduate Coordinator

Department of Microbiology and Cell Science, room 1049

[moli@ufl.edu](mailto:moli@ufl.edu); 352-3928434

Introduction to Microbes without Borders by Dr. Oli:

<https://mediasite.video.ufl.edu/Mediasite/Play/8d8d0e326ca14cd494d37fbbca2b37811d>

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Office Hours: by appointment (in person, phone or via zoom)

Course GTA: Amanda Ojeda, Meenan Connor and Dylan Blanton



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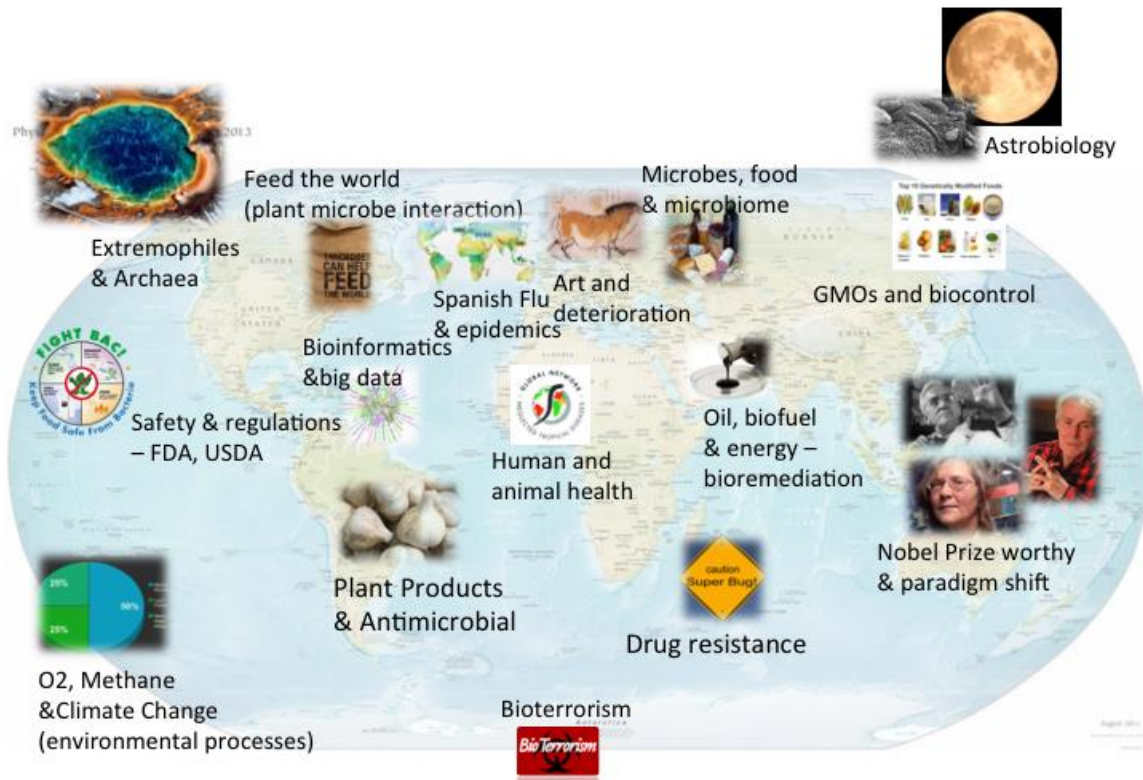
**Course Communications:** Please send general questions to the TAs first. If you need to communicate with me directly, please email me at [moli@ufl.edu](mailto:moli@ufl.edu) - **emails through Canvas will not be answered!**

**Recommended Text:** Alcamo's *Microbes and Society* (4th edition, 2015) by Pommerville and Weeks (Jones and Bartlett Learning). If you want to buy the physical book you can purchase the 4<sup>th</sup> edition (green cover, ISBN-10: 1284023478) from any other source.

Detailed reading materials are assigned week by week. Additional readings and audiovisual sources will be required and will be provided to the students.

**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 basic vocabulary and concepts in microbiology

**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 involving microbiology

- Analyze and interpret global and intercultural issues as it pertains to microbiology.

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

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

**Instructional Methods:** This course is a creative discourse into the world of microbiology. The fundamental knowledge and definitions will be acquired by textbook and other readings. Each week will have 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 teams of students will engage in a high quality outreach campaign to help educate citizens and or students and can focus on for example

Raising public awareness of microbiology and its impact on our lives.

Enthusiasing other students about microbiology.

Engaging an audience in discussion of the impact of microbiology on society.

Exploring the social and ethical aspects related to an aspect of microbiology research.

Engaging people in a citizen science project

Example activities include workshops, displays, presentations, debates, etc. Here are some examples - Pint of Science (<https://pintofscience.us/>), TED talks or TED ED presentation (<https://www.ted.com/topics/microbiology>), Citizen science (<http://microbe.net/citizen-science-2/>), designing educational material (<http://www.hhmi.org/biointeractive>), educational talks (<http://www.ibiology.org/>) etc.

### **Course Policies:**

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**Attendance Policy:** this is a Web class – no physical attendance is required. We will have bi-weekly virtual office hours (TBD). Also, for some of the activities and for the microbial challenge project, we will try to carve out physical meetings times if students want to.

**Quiz/Exam Policy:** Quizzes, assignments and activities are due on the announced date (usually Sunday night at 11:59pm). There are many small assignment, quizzes and activities thought the semester. There will be one cumulative exam worth 20%.

**Make-up/Late Policy:** If you have a UF approved excuse not to complete your assignment on time, please email us with the appropriate documentation. See

<http://www.registrar.ufl.edu/catalog1011/policies/regulationattendance.html#twelvedayrule> for more information about UF policy for excused absences/missed exams.

**Course Technology:** Canvas will be used as e-learning platform.

**ePortfolio:** WIX will be used to develop your personal ePortfolio and you will add your projects and submissions to the portfolio as well as submit them in canvas. Your final WIX portfolio will be counted as assignment as indicated. See a personal portfolio from one of UFs international scholars <http://www.sarahvitoe.com/> and a Wix portfolio specific to the Microbes without Borders course

<http://sarahvitoe23.wix.com/mcb4934portfolio>

Detailed instructions are provided!

### **Grading Policies:**

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#### **Graded activities**

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

| <b>Activity Types</b>                    | <b>Percent of grade</b> |
|--|-------------------------|
| WIX ePortfolio                           | 5                       |
| Activities                               | 15                      |
| Travel plan and map                      | 12                      |
| Discussions                              | 7.5                     |
| Power words in the News                  | 8                       |
| Module assessments/quizzes               | 10                      |
| Midterm (EDIS article)                   | 10                      |
| Global microbial challenge, Team project | 22.5                    |
| Cumulative final                         | 10                      |
| <b>TOTAL</b>                             | 100                     |
|  | <b>100</b>              |

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

Here is a detailed breakdown of your assignments and points for the whole semester.

We calculated the time you will spend on this class according to UF guidelines. For a 3CR class there is usually a 3h contact time and 3 h of studying and assignments for each credit, which comes to ~12h of time spent per week on the class.

| Assignment                 | Number | Points each | Total points | Actual %    |
|----------------------------|--------|-------------|--------------|-------------|
| WIX ePortfolio             | 1      | 50          | 50           | <b>5</b>    |
| Activities                 | 5      | varies      | -            | <b>15</b>   |
| Travel Plan and Map        | 1      | 120         | 120          | <b>12</b>   |
| Discussions                | 5      | 15          | 75           | <b>7.5</b>  |
| Power words in the news    | 8      | 10          | 80           | <b>8</b>    |
| Module assessments/quizzes | 10     | varies      | -            | <b>10</b>   |
| Midterm (EDIS Article)     | 1      | 100         | 100          | <b>10</b>   |
| Global microbial challenge | 1      | 225         | 225          | <b>22.5</b> |
| Cumulative final           | 1      | 100         | 100          | <b>10</b>   |
|                            |        |             | 1000         | <b>100</b>  |

Extra credit maybe offered throughout the semester (5% of grade max)

1. Develop your ePortfolio according to ISP expectations
2. Participate in ISP/international campus activities and summarize your experience

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

| Letter Grade | Percentage | Grade Point |
|--------------|------------|-------------|
| A            | 92–100%    | 4           |
| A-           | 90–91.9%   | 3.67        |
| B+           | 87–89.9%   | 3.33        |
| B            | 82–86.9%   | 3           |
| B-           | 80-81.9%   | 2.67        |
| C+           | 77–79.9%   | 2.33        |
| C            | 72–76.9%   | 2           |
| C-           | 70-71.9%   | 1.67        |
| D+           | 67–69.9%   | 1.33        |
| D            | 62–66.9%   | 1           |
| D-           | 60-601.9%  | 0.67        |

|       |      |   |
|-------|------|---|
| E,I,F | <60% | 0 |
|-------|------|---|

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

**Course Schedule (tentative):**

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On campus activities may vary from online activities

| Week | Module | Topic   | Activity (online)                                    | Reading/Video | Discussion topics (can vary from section to section) |
|------|--------|---|--|---------------|--|
| 1    | Intro  | Intro, syllabus,  | Microbes across campus                               | Ch 1-2        | Introductions  |
| 2    | 1      | How we see and examine Microbes, Introduce global microbial challenge | Microscopy practice and DNA replication              | Ch 1-4        | Microbes Across Campus                               |
| 3    | 2      | Viruses and Prokaryotes   | Kitchen Lab  | Ch 5-6        | To Vaccinate or not to Vaccinate                     |
| 4    | 3      | Protists and Fungi  | Fungi identification or fungi scavenger hunt         | Ch 7-8        | Antibiotics the Good and the Bad                     |
| 5    | 4      | Extremophiles and Metabolism  | Extreme living                                       | Ch 9-10, 16   | Tardigrade Genetics                                  |
| 6    | 5      | Art and Biodegradation  | Visit the caves of Lascaux or microbes at the museum | Ch 11         | Art Preservation Efforts                             |
| 7    | 6      | Bioterrorism and Biotechnology  | GMO interviews and survey                            | Ch 14-15      | The Smallpox Debate                                  |
| 8    | 7      | Diseases and Epidemics  | Gideon game  | Ch 17, 18,    | GMO Crops – Roundup and our Microbiome               |
| 9    | 8      | Food and Microbes   | Food label junkie                                    | Ch 12-13      | Are We Too Clean?                                    |

|       |         |                            |   |
|-------|---------|----------------------------|---|
| 10-15 | Project | Global Microbial Challenge | <ul style="list-style-type: none"> <li>- Form team</li> <li>- Decide on topic for high quality outreach campaign</li> <li>- Decide on mode of activity</li> <li>- Find a sponsor or public advocate</li> <li>- Submit draft of your work – peer feedback</li> <li>- Complete your project and actually execute/implement</li> </ul> |
| 16    |         | Final Exam                 |   |

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### UF Policies:

**Students Requiring Accommodations:** 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. Accommodations are not retroactive, therefore, students should contact the office as soon as possible in the term for which they are seeking accommodations.

**Make-Up Policy:** Excused missing submission deadlines or lack of participation in the team project are consistent with university policies in the undergraduate catalog (<https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>) and require appropriate documentation. Make up opportunities will be discussed with the instructor

**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 by completing online evaluations 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/results/>.

**Campus Resources:** Resources are available on campus for students having personal problems or lacking clear career and academic goals, which interfere with their academic performance. These resources include:

#### Health and Wellness

- U Matter, We Care: If you or a friend is in distress, please contact [umatter@ufl.edu](mailto:umatter@ufl.edu) or 352 392-1575 so that a team member can reach out to the student.
- Counseling and Wellness Center: <http://www.counseling.ufl.edu/cwc/Default.aspx>, 392-1575;
- Sexual Assault Recovery Services (SARS) at the Student Health Care Center, 392-1161.
- For emergencies call: University Police Department, 392-1111 (or 9-1-1 for emergencies). <http://www.police.ufl.edu/>

#### Academic Resources

- E-learning technical support, 352-392-4357 (select option 2) or e-mail to [Learning-support@ufl.edu](mailto:Learning-support@ufl.edu). <https://lss.at.ufl.edu/help.shtml>.
- Career Resource Center, Reitz Union, 392-1601. Career assistance and counseling. <http://www.crc.ufl.edu/>
- Library Support, <http://cms.uflib.ufl.edu/ask>. Various ways to receive assistance with respect to using the libraries or finding resources.
- Teaching Center, Broward Hall, 392-2010 or 392-6420. General study skills and tutoring. <http://teachingcenter.ufl.edu/>
- Writing Studio, 302 Tigert Hall, 846-1138. Help brainstorming, formatting, and writing papers. <http://writing.ufl.edu/writing-studio/>

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.

**Netiquette guide for online courses:** It is important to recognize that the online classroom is in fact a classroom, and certain behaviors are expected when you communicate with both your peers and your instructors. These guidelines for online behavior and interaction are known as netiquette. <http://teach.ufl.edu/wp-content/uploads/2012/08/NetiquetteGuideforOnlineCourses.pdf>

**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.

Microsoft Office 365 Software is free for UF students

<http://www.it.ufl.edu/gatorcloud/free-office-365-downloads/>

Other free software is available at:

<http://www.software.ufl.edu/>

To check for availability of the media and technical requirements, contact the UF Computing Help Desk at (352)392-HELP(4357).

University of Florida Complaints Policy and Student Complaint Process: Most problems, questions and concerns about the course will be resolved by professionally communicating with the instructor or the TAs. The University of Florida believes strongly in the ability of students to express concerns regarding their experiences at the University. The University encourages its students who wish to file a written complaint to submit that complaint directly to the department that manages that policy.

### Student complaints

If a problem really cannot be resolved by communicating with the instructor or the TAs you can contact

- Residential Course: [https://www.dso.ufl.edu/documents/UF\\_Complaints\\_policy.pdf](https://www.dso.ufl.edu/documents/UF_Complaints_policy.pdf).
- Online Course: <http://www.distance.ufl.edu/student-complaint-process>.

Misconduct of a student can also be reported by the instructor to the Dean of Student office in form of a complaint.

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