Introductory Microbiology

MCB2000
Florida International University
Dept. of Biological Sciences
(Spring 2022, section U01)

Instructor: Dr. Alexis Lainoff (she/her/hers)
Contact: Preferred contact through Canvas Inbox messaging (I will be able to answer faster)
Email: alainoff@fiu.edu (but slower response)

Class Lecture: Tuesdays and Thursdays from 9:30 – 10:45am EST in Green Library 100.
Attendance Policy: Do NOT come to class if you are sick and/or if you are not fully vaccinated and have been in close proximity with someone who has COVID19! My attendance policy is *FLEXIBLE* this semester to keep you and each other safe. Read below!

Office Hours: Mondays and Thursdays from 12:00 – 1:00pm EST, or by appointment, on Zoom
Office Hours Zoom Meeting ID: Meeting ID: 920 3755 7309 Passcode: ACh2uU. You don’t need an appointment for posted office hours—just “stop by” on Zoom, and join the waiting room! You may come by yourself or with a classmate or classmates. Can’t make scheduled office hours? Then write to make an appointment for a time that works for you.

Course Description and Objectives: MCB 2000 is a 3-credit course intended to introduce non-science major students to the principles of Biology using microorganisms. The course is also a requirement for students in Dietetics, Nutrition and Nursing. The role played by microbes in the earth, aquatic environments, air, biotechnology, as well as in humans and other organisms, has a major impact on human affairs. The course covers basic concepts of microbes as pathogens, food spoilage and fermentative organisms. Students who successfully complete this course will be able to:

1. Use the scientific method to evaluate situations in which microorganisms play role
2. Compare and contrast the cellular structure and life cycle of various microorganisms.
3. Understand how certain microbes may cause human disease.
4. Describe the beneficial impact that microbes can have on their environments, including host organisms such as humans. (Understand that not all microbes are “bad”)
5. Define a microbiome, both healthy and unhealthy
6. Discuss the principles of evolution as they apply to microbiology.
7. Assess and critically evaluate claims made about microorganisms in both popular media and in scientific research journals for their clarity and scientific merit.
8. Critically evaluate the role of public health initiatives in the management of problems such as antimicrobial resistance, the spread of infectious disease, ensuring the safety of the food supply chain, and maintaining healthy microbial communities in a variety of ecosystems.
9. Understand the scientific concepts that underlies the global nature of diseases caused by microorganisms
10. Understand the interrelationship between microbiological diseases and social/economic factors

This is a Global Learning Foundations course that counts towards your FIU Global Learning graduation requirement. Therefore it will enhance students’ Global Awareness, Perspective, and Engagement, so that all students in this course will develop knowledge of how scientific discoveries arise globally, affect human affairs globally and should be shared globally. The assessment for Global learning will be in the form of embedded test questions and assignments.

Global Awareness: Students will be able to show awareness of the global interrelationship between human affairs on one side and disease-causing microorganisms, biotechnology, and environment issues on the other side. More specifically it will include: (1) Understanding of the scientific concepts that underlies the global nature of diseases
caused by microorganisms; (2) Developing critical thinking based on new global scientific information obtained in class; (3) Understanding the impact of discoveries in microbiology on global human affairs (novel cures, bioterrorism...); (4) Understanding the interrelationship between microbiological diseases and social/economic factors; (5) Navigating through time - connecting/associating discoveries in microbiology with the achievements in arts and humanities.

Global Perspective: Students will be able to analyze health and economic issues related to microbiological situations that occur globally. The global industrial and agricultural use of microbes and their effect on social interaction will be analyzed with respect to global economies and pollution. This will include: (1) Comprehension of why microorganisms have a global impact on human affairs; (2) Analyze why socio-economic factors may be responsible for outbreaks of diseases (Example: Outbreak of cholera in post-disaster Haiti)

Global Engagement: Students will demonstrate a willingness to engage in disease prevention/intervention to address individual or global health problems, and other microbiological situations. This will include the development of the following abilities: (1) to analyze students’ own willingness to be involved in problem remediation regarding microbiological situations, and (2) to present their own plans for potential abatement of crisis situations caused by microbiological issues.

Prerequisites:
None.

Course Materials:
We will be using Cowan, 6th edition, “Microbiology” (McGraw Hill) and associated online course materials called “Connect.” This textbook represents multiple and diverse perspectives through case studies on infectious diseases in a global context.

There are two ways to pay for access to the eText + “Connect” online course materials. One is to use the new program at FIU called “Panther Book Pack,” where all students are automatically enrolled in unless they opt out. Alternatively, you can pay for the course materials outright. This video describes how to access and register for the eText and Connect through Panther Book Pack: https://video.mhhe.com/watch/NbeaLqleY3ezP8mhhbQag. See below for another video on how to register outright if you choose to opt out of the Panther Book Pack.

Option 1: Pay for materials using Panther Book Pack

What is Panther Book Pack? Panther Book Pack is a pilot program to provide course materials rental/access code at a discounted rate to students when all materials are purchased through the FIU bookstore. This potentially saves students money by charging $20/credit hour for all course materials. To learn more, go to https://shop.fiu.edu/bookpack-2/.

NOTE: Be informed that ALL STUDENTS AT FIU ARE AUTOMATICALLY ENROLLED IN PANTHER BOOK PACK. If you do not wish to be enrolled, you need to manually opt out anytime from the date you register until 3 days after the add/drop period. Note that you are either enrolled in Panther Book Pack for ALL of your courses, or none of them. It is up to you to compare your options and decide if Panther Book Pack vs. paying outright is right for you.

If you do nothing, you are automatically enrolled in Panther Book Pack. If you do nothing, then you do not need to take any special steps to access the eText or Connect content. To access Connect Homework, simply open any Connect Homework assignment in Canvas. You will NOT be prompted for payment information or an access code. You will just have the homework assignment available to you.
Option 2: Pay for materials outright

If you choose to pay for materials outright instead of using Panther Book Pack, do NOT forget to opt out of Panther Book Pack. **How do you opt out of Panther Book Pack?** You can do this by going through the MyFIU portal from the day you receive your Panther Book Pack email until 3 days after the add/drop date on the Academic Calendar for the term.

Without the Panther Book Pack, the “Microbiology 6th edition” eText + Connect access costs $135 if purchased at the FIU bookstore, or for $95 if purchased directly from McGrawHill. To pay outright for the eText + Connect materials directly from McGrawHill, simply open any Connect Homework assignment in Canvas. You will be prompted for payment information or an access code. Once this is entered, you will be walked through some registration steps before accessing the assignment. This video on how to register outright for the eText + Connect may help you: [https://video.mhhe.com/watch/xUs68jEUwVnAB2K64eWMg](https://video.mhhe.com/watch/xUs68jEUwVnAB2K64eWMg).

Note that you have temporary free access to Connect assignments until 3 days after the add/drop date on the Academic Calendar for the term, even if you opt out of Panther Book Pack at any point during that period.

FAQs:

For all students:

1. **What if I also want a print copy of the book?** Most students find that their eBook is sufficient but after your Connect account is activated, there will be links within the platform to purchase a full-color loose-leaf version of the text.
2. **What if I have more questions about purchasing?**
   b. For questions about Panther Book Pack or purchasing materials at FIU Bookstore, find information and contact numbers at: [https://shop.fiu.edu/bookpack-2/](https://shop.fiu.edu/bookpack-2/)

Course Structure:

Class Meetings: We will be meeting each week on **Tuesdays and Thursdays from 9:30am – 10:45pm EST** in Green Library (GL) 100.

Attendance policy: If you are sick (sore throat, fever, body aches, etc) and/or you are not fully vaccinated and have been exposed to someone who has tested positive for COVID-19, do **NOT** come to class. Due to surging COVID-19 case numbers and the comparatively lax measures put in place at a state and institutional level, my attendance policy has been modified to give students maximum flexibility to stay home when needed. All lectures/in-class activities will be recorded and posted. Participation is 16% of the grade, but it is measured by quizzes and written assignments turned in after class (see below) this semester. Do **what you need to do to stay safe and keep those around you safe.** See below for details.

Participation: **Lecture-based Quizzes + Class Activity-based Written Assignments (16%)**

**Participation:** What do Introductory Microbiology class sessions look like? Most sessions are lectures during which I ask students to answer 5-10 multiple-choice questions. Instead of asking you to purchase “clickers,” I am asking you to always bring index cards that have “A,” “B,” “C,” and “D” written on them. During the lecture, I will ask students to answer the multiple-choice questions by holding up an index card. This is a way to keep students engaged so that lecture is not just your professor droning on and on! It also can help me find out right
Do not copy without the express written consent of the instructor.

If concepts I am covering are making sense. If they are not, I can then backtrack. The multiple-choice questions that come up in lecture are posted right after class as quizzes on Canvas. Quizzes are due at 11:59pm the day after the class was held. (Example: Class is held on Thursday, May 18th. The quiz for that day is due at 11:59pm on Friday, May 19th). If you cannot come to class, you can watch the recorded lecture to find out what the multiple-choice questions and answers were. Recorded lectures can be found in the “Class Videos” tab in our course’s Canvas shell, and are typically available 24 hours after the course is held.

Some sessions include class activities, and often cover case studies from multiple and diverse contexts. Activities are group-based, but everyone turns in their own work. Written work from class activities is due at 11:59pm on Canvas the day after the class was held. If you cannot come to class, you can watch the recorded lecture found in the “Class Videos” tab in Canvas to find out what the activity was and work on it yourself or with a study buddy. Note that these activities are not structured for asynchronous learning and may be more difficult to do remotely; the point of allowing them to be turned in after class is to allow flexibility and the prioritization of human health during a pandemic.

Policies for Participation:

- The 3 lowest participation scores (either quiz or written assignment set) will be dropped.
- Late participation work is not accepted after the first 2 weeks of class unless students reach out to Dr. Lainoff to request an extension.

Connect Homework Assignments (16%):

There will be 1-2 homework assignments per week given through the Connect platform. Homework assignments will be available on Thursdays and due on the following Tuesday at 9:30am. They will cover content from class and the reading of the previous week.

Policies for Connect Homework:

- You are allowed 2 attempts (retesting incorrect answers). The best score is your final grade.
- There is an allowed late policy. You can turn in Connect Homework assignments late, but 1% will be deducted automatically for each day that the assignment is late.
- How do these policies work? Here is a scenario. Let’s say you complete your first Connect Homework attempt before the due date and score 9/10. Your grade would be 90%. If you chose to do a second attempt 3 days later, and score 10/10, then the late policy (-1%/day) would be applied to this score so that it would come out to 97%. Since your best score is your final score, your final score would be 97%. If you chose to do a second attempt 3 days later, and score 8/10 (which would result in a score of 77% with the late policy applied), your best score (90% from your first attempt, with no late penalty applied) would be your final score.
- Connect Homework assignments will count as assessments of your Global Awareness and Global Perspective.

Career Exploration: Informational Interview (2%)

You will conduct an informational interview with a professional or pre-professional working in a career that you are interested in. An informational interview is a 30-45 minute long conversation meant to help you gain real-world insight and perspective from an experienced professional on their career path and experiences to help you build your path (it is NOT a job interview or job-seeking experience). You will ask at least one question related to microbiology. The questions you ask in this interview + a reflection on the experience will count as the assessment of your Global Engagement. More details about these assignments will be provided in class.

Proctored Exams (60%):
The purpose of the exams is for you to study, review (and thereby reinforce) what you have learned in the previous weeks, and then to demonstrate your learning. Desired learning outcomes will be provided for each class period. **These learning outcomes are your study guide for the exams.** You can use them to assess how well you understand the material each week, or use them to cram right before the exams (but I suggest the former).

Midterm I and Midterm II are each worth 18% of the total grade. The Final Exam is worth 24% of the total grade. However, the Final exam is a "rescue exam," which means that if you scored low on a one previous midterm, the final exam score will be substituted for that one previous midterm (but not both midterms). How does this work? Here's an example: Karla scores 67% on Midterm I, 80% on Midterm II, and 88% on the cumulative final exam. Her final proctored exam score is \[(0.67 \times 18\text{ for Midterm I substitution}) + (0.80 \times 18\text{ for Midterm II}) + (0.88 \times 24\text{ for the Final Exam})\] / 60 = 51.36/60 = 85.6%.

**Policies around Exams:**

- Students are permitted to bring into the exam a hand-written (front and back) 4x6 index card with notes on it relevant to the exam material (a piece of paper cut to be 4x6 is fine too).
- If you cannot come to class for a proctored exam for health or other reasons, you can take the exam at home using Honorlock during the exam period. **You must notify me at least 2 hours in advance if you wish to take this option!** In order to use Honorlock, you need a computer (laptop or desktop) with a working webcam. Honorlock doesn't work on iPads or tablets -- you must use a computer. Please check your computer to make sure it will work with Honorlock during the first week of class: go to this page and click on "RUN SYSTEM CHECK": [https://honorlock.com/support/](https://honorlock.com/support/). If you need further assistance please contact FIU Online Support Services ([http://online.fiu.edu/supportservices](http://online.fiu.edu/supportservices)). Note that each exam taken with Honorlock costs $4.45.
- Early exams will be considered for students providing documentation for important and unavoidable reasons (e.g. nursing school interview, jury duty, FIU NCAA athletics) if Dr. Lainoff is contacted at least 2 weeks in advance of the exam. Make-up exams occurring after the exam are only considered for students who provide documentation of a serious and unavoidable reason. Such reasons include a medical emergency or death in the immediate family and do NOT include issues such as too many exams, vacation, common cold symptoms, oversleeping, car trouble, traffic, family problems, etc. If an exam is missed for a serious and unavoidable reason, Dr. Lainoff must be notified ASAP and provided with official documentation (e.g. ER or hospital admit, doctor’s or military orders, police report, coach’s letter). **Note: The alternative for students who are quarantining due to experiencing mild Covid-19 symptoms is to take the exam via Honorlock.** Simply emailing Dr. Lainoff after the exam and explaining that you had a cough is NOT sufficient reason for missing an exam.
- The goal of this course is to promote student growth into independent and empowered thinkers. As cheating is counterproductive to that effort, please be aware that anyone submitting fraudulent exams in this course will be referred to the Dean of Undergraduate Education as outlined under “Academic Misconduct” in the Policies and Regulations section of the FIU Student Handbook.

**(Mandatory) Practice Exams and Reflection Assignments (8%):**

Prior to taking the proctored exams in class, you will take mandatory practice tests as homework for each. The purpose of these practice exams is to allow you to self-assess to determine which concepts from each unit you need to review. For this to work, you must take the practice exam as seriously as an exam. You must study for it as you would for any exam. After completing the practice exam, you will get access to a reflection assignment, where you will reflect on what you need to adjust in your study habits in order to do well on the actual proctored exams. These are graded based on completion (as long as you finish it on time, you receive a score of 100%). Be truthful to yourself by preparing accordingly and answering the self-evaluation honestly. The practice exams are released on the Thursday before Tuesday exams.
Supplemental Instruction for Extra Credit (+4%): Peer Led Team Learning (PLTL) – OR – SmartBook

The exams in this course require you not just to know the definitions but actually to be able to apply those concepts to new situations. However, you need to be familiar with the concepts before you can apply them. PLTL and Connect SmartBook can help you practice the concepts so that you are better able to apply them.

You can earn up to +4% extra credit by both enrolling in and completing PLTL - OR - by completing Connect SmartBook assignments for Chapters 1-16. It’s up to you which one you choose to do. **However, once you make a choice, you must continue for the duration of the semester.** You cannot get partial credit for either one, you cannot replace one week of one with the other. All your credit will come from a full semester of either PLTL or SmartBook reading assignments. However, you can complete both for the entire semester and the one in which you have the highest grade will count.

**What is PLTL?** PLTL is an active learning program incorporated into several courses within the department of Biological Sciences at FIU. Each week students in a course offering PLTL meet with a PLTL Peer Leader in small teams (6-12 students) performing tasks in a workshop format. A PLTL Peer Leader is a peer who has successfully completed the course and is trained to facilitate the workshop for the course. The Peer Leader’s role is to guide current students through workshop content each week as a team. Students are responsible for bringing their textbook/notes from class to the session in order to receive full credit for being there. Further policies can be found on the PLTL syllabus.

You can receive extra credit (+4%) by completing PLTL. In order to receive extra credit for PLTL, you must choose a section to enroll in and attend this section for the entire semester (it is not “drop in”). You only have until 3 weeks after your official enrollment date to choose your permanent PLTL section for Introductory Microbiology. After that, enrollment will no longer be available. More information on how to enroll can be found here: [http://pltl.fiu.edu/?page_id=149](http://pltl.fiu.edu/?page_id=149)

**What is Connect SmartBook?** 1-2 chapters of reading from Cowen, 6th ed. are associated with the class meetings each week. See the course schedule for the complete list. Through Connect, you have access to the complete e-text version of Cowen. You also have access to “SmartBook” versions of each chapter, which can help you identify and address any “sticky points” as you read. (Sometimes we think we understand something when we read it, but we don’t! We only realize we don’t understand when we try to apply what we’ve learned). “SmartBook” chapter assignments space the reading in easy-to-absorb chunks and then ask the reader questions as they go along. The questions are adaptive to the reader’s previous responses, meaning that they will continue being asked questions about a topic until they demonstrate understanding. To complete any of this reading on your phone, download the “ReadAnywhere” app.

You can receive extra credit (+4%) by completing Connect SmartBook assignments for Chapters 1-16. Note that SmartBook assignment typically take students 2-3 hours to complete.

**Grade Breakdown:**

I. Proctored Exams – 60%
   a. Midterm I (18%)
   b. Midterm II (18%)
   c. Final Exam (24%)
II. Practice Exams and Reflections – 6%
III. Connect Homework – 16%
IV. Participation: Lecture-based quizzes + class activity-based written assignments – 16%
V. Career Exploration: Informational Interview – 2%
VI. Extra credits earned:
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Grade Scheme:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>90-100%</td>
</tr>
<tr>
<td>B+</td>
<td>86-89.9%</td>
</tr>
<tr>
<td>B</td>
<td>80-85.9%</td>
</tr>
<tr>
<td>C+</td>
<td>76-79.9%</td>
</tr>
<tr>
<td>C</td>
<td>70-75.9%</td>
</tr>
<tr>
<td>D</td>
<td>60-69.9%</td>
</tr>
<tr>
<td>F</td>
<td>59.9% or below</td>
</tr>
</tbody>
</table>

If the class does well overall, the final grades for the class will be determined by the scale above. If the final grades indicate that it is appropriate to do so, your professor will consider developing an alternate grading curve at her discretion.

Pre-Nursing Students:

Note of Advice: MCB2000 and Lab are required along with other science courses for entry into BSN in the School of Nursing. This course will cover the basics of biological sciences as well as the basic nature of microbial diseases, immunology and epidemiology. This course is not simply a requirement, but rather one that can provide the fundamental scientific background to Nursing.

Please note that the admission requirements to FIU’s Nursing program do not allow repeats in science courses. That means you must earn at a minimum a grade of C. Nursing program is very competitive, and a grade of C does not guarantee that you will get in.

Honesty Statement:

FIU defines academic misconduct in the Student Conduct and Honor Code (Code) as, “any act or omission by a Student, which violates the concept of academic integrity and undermines the academic mission of the University in violation of the Code.” Code violations include, but are not limited to: academic dishonesty, bribery, cheating, commercial use, complicity, falsification, and plagiarism. The Code is available here: [https://studentaffairs.fiu.edu/get-support/student-conduct-and-academic-integrity/student-conduct-and-honor-code/index.php](https://studentaffairs.fiu.edu/get-support/student-conduct-and-academic-integrity/student-conduct-and-honor-code/index.php)

Mutual Respect:

The success of this class hinges on mutual respect. Please phrase your comments in a constructive manner. Science is full of conflicting ideas; please focus on “what,” not “who” when you are stating a disagreement with another student. Be aware of how much “space” you take up in group discussion and activities. If you tend to always jump in right away, please step back so that others can have a turn. If you tend to let others speak / try activities first, try doing these things sooner.

Getting Help:
If you are struggling in the course and would like to go over exams or talk about whatever problems you have, please message or talk to me ASAP. I want you to do well, and I won’t judge! Sometimes, a simple change of studying strategy makes all the difference. Sometimes it’s something bigger (life outside of school), and we can strategize together for how to address it. I am here to help you, so please keep in touch. If you have any questions about anything related to our course materials or requirements, please reach out to me as early as possible so that I can address your concerns and assist you through whatever situation you have. ***It is ALWAYS easier for me to help before small issues become large problems!!

Note: If you come to talk to me about abuse or sexual harassment, you should know beforehand that I am a mandated reporter. This means that I am required legally to report what you tell me to the Title IX Office at FIU, which is an office that exists to address gender-based discrimination at FIU. This does not mean that I do not want you to talk to me (please come talk to me – I DO want to help), but rather that I want you to be informed of this obligation before you disclose to me so that it is not a surprise. How this works: If you tell me about abuse or sexual harassment, then I inform the Title IX office, and someone in that office subsequently reaches out to you to offer assistance. You can choose whether or not you talk to them or not. Title IX is private but not confidential (see below). However, there are 100% confidential resources as FIU for those who have experienced or been threatened with violence specifically (see: Victim Empowerment Program), and general counseling services (see: CAPS) available.

Resources at FIU:

Counseling and Psychological Services (CAPS): CAPS offers free and 100% confidential services with licensed psychologists, clinical social workers, and trainees with expertise dealing with student concerns and development. Call 305-348-2277 to make an appointment or for 24-hour emergency/crisis/after-hours assistance to speak with a licensed clinician. More information can be found at https://studentaffairs.fiu.edu/health-and-fitness/counseling-and-psychological-services/.

Victim Empowerment Program (VEP): The Victim Empowerment Program (VEP) provides free and 100% confidential services to assist students who have experienced actual or threatened violence, or have been affected by it. Supportive services offered include but are not limited to trauma-informed counseling, accompaniment to court/meetings/depositions, and help facilitating academic accommodations. VEP offers 24-hour support, information, referrals and advocacy; their after-hours direct crisis services include on-site response, accompaniment to Rape Treatment Center, assistance accessing safe shelter for domestic violence and help with basic needs. More information can be found at https://studentaffairs.fiu.edu/get-support/victim-empowerment-program/services/index.php or by calling 305-348-2277.

Title IX Office: Title IX is a law that prohibits discrimination based on gender from any education program or activity receiving federal financial assistance. The Title IX office at FIU, operating within the Division on Diversity, Equity, and Inclusion (DEI), exists to address gender-based discrimination at FIU, which includes sex, harassment, sexual violence. The Title IX office is private, but not confidential.

Student Food Pantry: The pantries are available to all currently enrolled students, and are located on both the MMC and BBC campuses. The FIU Student Pantry remains operational with modifications during the university’s remote work/learning schedule. Pre-made 10-pound bags containing an assortment of food and non-perishable items are available weekly to students. https://studentaffairs.fiu.edu/get-support/student-food-pantry/index.php

Resources to report bias: https://studentaffairs.fiu.edu/get-support/panthers-care/stop-bias/index.php

Resources for LGBTQIA students: FIU mentor program, scholarships, Student Ambassadors program, social fraternity, and more at https://library.fiu.edu/FIULGBTQ/CampusServices
Disability Resource Center (DRC): FIU’s Disability Resource Center is committed to helping students be successful in university life. It provides one-on-one consultation throughout the academic journey and can help students to access adaptive technology, testing and assignment accommodations, course substitutions and more. The DRC office can, with the student’s permission, inform professors of the accommodations that the student is entitled to. Professors are legally required to provide these accommodations. Accommodation letters are normal (we get several each semester), and do not provide any information to the professor about the disability or other personal information – only the accommodations themselves. More information can be found here: https://studentaffairs.fiu.edu/get-support/disability-resource-center/index.php

Guidelines for the Introductory Microbiology classroom during the current COVID-19 crisis

On the next page I have pasted the official university guidelines for what faculty should put in their syllabi for addressing teaching during the current COVID-19 crisis. Please note that these policies are lax in comparison to many other universities. I strongly encourage you to wear a mask in our classroom— if you can an N95 or KN95 mask—regardless of vaccination status, to keep each other and each other’s loved ones safe.

Additionally, the Covid-19 vaccines and boosters continue to offer substantial protection against severe disease and death caused by Covid-19. 95% of hospitalization cases for Covid-19 are unvaccinated.

Note that with the new Omicron variant, early data has demonstrated that vaccine effectiveness against Omicron infection increases to 70-80% with a Pfizer booster from 30-40% with only 2 doses. Boosters help, and they are NOT a sign of a bad vaccine! We will talk about adaptive immunity, and how vaccination and boosters work, using Covid-19 vaccines as a highly relevant example during this course, but feel free to reach out to me earlier if you have questions, concerns, or want resources regarding Covid-19 vaccines in advance. I always want to talk to students about this topic, and I won’t judge.

Note that when it comes to vaccination, not everyone has a choice. Immunocompromised individuals, even if they are vaccinated, are not fully protected against COVID-19. Why? Vaccination relies on a healthy immune response to fully work. Additionally, young children have not been approved to receive COVID-19 vaccines yet. The reason reaching “herd immunity” is a goal is to protect these individuals in particular. We have not achieved herd immunity yet. (Herd immunity is normally considered to be when a high enough percentage of a community is vaccinated against a microbe to lower the risk of a disease transmitted person-to-person, making the whole community effectively immune. Experts estimate that 80-90% of the population would have to have Covid-19 immunity in order for herd immunity to be reached).

A good source for the most current data on Covid-19 (recommended by a medical doctor to me) is here: https://yourlocalepidemiologist.substack.com/archive?sort=new

Official FIU guidelines:

“As cases and hospitalizations due to the Omicron variant continue to increase in our community, we must unite and take necessary steps to prevent further spread.

a) **Daily and before arriving to campus, complete the P3 app.** If you are not given the green check mark to enter campus, then stay home, and contact me by email by forwarding your P3 app email notification advising you to stay home.

b) **Please check your FIU email account and your Canvas course at least once a day.** Email and Canvas are the official ways for the university, and your professors, to contact you.
Do not copy without the express written consent of the instructor.

c) If you do not feel well and/or have tested positive for COVID-19, please do not come to class, immediately complete the P3 app to notify the COVID Response Team and contact me by email by forwarding your P3 app email notification as soon as you can. In order to receive an excused absence for P3 failure/COVID-19, you must complete the P3 app and forward the email notification. If directed to stay home by the P3 app, that email notification will serve as your excused absence when you forward it to me. The make-up policies are outlined in this syllabus. [FACULTY INSERT YOUR MAKE-UP POLICY, IF APPLICABLE.]

d) FIU is following current CDC Guidance. Please refer to the link where you can access their most current information.

e) Please take every precaution to keep yourself and others healthy. Per CDC guidelines, you are encouraged to get vaccinated and strongly advised to wear a mask indoors and in public including all FIU facilities.

f) Missing excessive days may lead to failing a class or a grade of incomplete.

g) For me to assist you in achieving your goals, it is important for you to contact me as soon as you experience any events that might disrupt your course participation. For up-to-date information about COVID-19, please see the repopulation.fiu.edu FAQs.

h) Please be advised that classes may be audio and visually recorded and/or subject to course capture for future access by students in this course. Your attendance/participation in this course constitutes consent to such recordings, which will only be used for educational purposes by students in the course and securely stored in University systems. If there is a concern regarding the recording and use of such recording, please contact FERPA@fiu.edu.”

Non-FIU Mental Health / Health Resources:

**Options for finding affordable therapists:** FIU’s CAPS office, described above, offers free and 100% confidential counseling services to students and make outside referrals as well as offering a 24-hour emergency/crisis/after-hours assistance to speak to a licensed clinician (see above for more information). However, in the case it is not possible to get the counseling that you need from CAPS, the following options may help. Both “Open Path Collective” (https://openpathcollective.org/) and “Psychology Today” (https://www.psychologytoday.com/us/practice/1442809496953875008) allow people to search for a counselor based on their insurance/no insurance and price. You can ask for a price before accepting and making an appointment. It’s likely you can get connected to sessions at an average cost of $30-$50 per session.

**Meditation resource (free):** The meditation app "Headspace" is offering free guided meditations during this period: https://www.headspace.com/covid-19

**Fitness resources (free):** Some fitness organizations have made video lessons free during this period. One is Nike Fitness (https://www.nike.com/ntc-app). And here's several more options, including yoga (https://www.goodhousekeeping.com/health/fitness/a31792038/coronavirus-live-stream-workout-classes/)

**Coronavirus anxiety resource:** Provides articles related to experiencing anxiety, isolation, xenophobia, financial fears, and other issues related to the pandemic at https://www.virusanxiety.com/.

**Career Exploration and Preparation Resources:**

**My Individual Development Plan (myIDP):** A tool that uses your individual interests, skills, and values to suggest different STEM-based careers. Developed for PhD scientists, but useful for STEM undergraduates as well): https://myidp.sciencecareers.org/

**Micro-Internships:** http://info.parkerdewey.com/fiu

**Remote shadowing for pre-health students:** https://virtualshadowing.com/
Intersect Jobs IMS: A job simulation tool (made for PhD scientists, but useful for students with BA/BS too): https://intersectjobsims.com/library/

Course Calendar for Spring 2022

Note: Associated topics and chapter readings are tentative, but exam dates will NOT change.

Week 1: Welcome and Introduction to Microbiology (Ch. 1)
01-11: Lecture/Class activity
01-13: Lecture/Class activity

Week 2: History of Microbiology (Ch. 1), Tools of Microbiology (Ch. 3), Peer Reviewed Literature
01-18: Last day of Add/Drop period for Main session courses
01-18: Lecture/Class activity
01-20: Lecture/Class activity

Week 3: Chemistry of Microbes (Ch. 2), Prokaryotic Cells (Ch. 4)
01-25: Lecture/Class activity
01-27: Lecture/Class activity

Week 4: Eukaryotic Cells (Ch. 5), Genetics of Microbes (Ch. 9)
02-01: Lecture/Class activity
02-03: Lecture/Class activity

Week 5: Viruses (Ch. 6)
02-08: Lecture/Class activity
02-10: Lecture/Class activity

Week 6: MIDTERM I & Genetics of Microbes (Ch. 9)
02-15: MIDTERM I (Note: Practice Exam I + Reflection due at 9:30am)
02-16: Lecture/Class activity

Week 7: Genetic Engineering (Ch. 10)
02-22: Lecture/Class activity
02-24: Lecture/Class activity

Week 8: Spring Break
03-01: NO CLASS (Spring break)
03-03: NO CLASS (Spring break)

Week 9: Microbial Nutrition and Growth (Ch. 7), Microbial Metabolism (Ch. 8), Drugs and Microbes (Ch. 12)
03-08: Lecture/Class activity
03-10: Lecture/Class activity

Week 10: Drugs and Microbes (Ch. 12), Microbial Control (Ch. 11), Microbe-Human Interactions (Ch. 13)

03-15: Lecture/Class activity
03-17: Lecture/Class activity

Week 11: Microbe-Human Interactions (Ch. 13) + REVIEW

03-21: Last day to drop any Spring main session courses with a “DR” grade
03-22: Lecture/Class activity
03-24: Lecture/Class activity

Week 12: MIDTERM II + Non-specific Defense (Ch. 14)

03-29: MIDTERM II (Note: Practice Exam II + Reflection due at 9:30am)
03-31: NO CLASS (Take a break)

Week 13: Non-specific Defense (Ch. 14), Specific Immunity (Ch. 15)

04-05: Lecture/Class activity
04-07: Lecture/Class activity

Week 14: Vaccination, Clinical Trials

04-12: Lecture/Class activity
04-14: Lecture/Class activity – maybe try new Clinical trials class activity

Week 15: Disorders in Immunity (Ch. 16), Diagnosing Infections (Ch. 17) + REVIEW

04-19: Lecture/Class activity
04-21: Lecture/Class activity

Week 16: FINAL EXAM (Final exam week schedule posted in my.fiu later in the term)

Date/time TBA: FINAL EXAM (Note: Practice Exam III + Reflection due at 9:30am)