

Microbiology Lecture Syllabus
Biology 2200
10:30am-12:00pm M-W
Room: Zoom (online through canvas)

Winter 2021

Professor: Dr. James Aretakis (Ph.D.)
Office: Office hours will be virtual through zoom
Phone: Please use email or Canvas Inbox
Email: james.aretakis@wayne.edu
URL: <https://canvas.wayne.edu/>
Office hours: Monday 12:00 pm - 1:00 pm over Zoom
Office hours: Other hours may be scheduled on an individual basis.

Teaching mode: Synchronous remote lectures

Due to the Covid-19 pandemic this class will be taught “synchronous remotely” through Zoom via Canvas. You are expected to attend online for every class session.

Required Materials:

1. **Microbiology: an evolving science. 5th Edition**, Norton Press, Slonczewski and Foster (see information below)
2. **RESPONDUS lockdown browser**
3. **Webcam, microphone**, for the **RESPONDUS monitor**
4. **Reliable internet access and electronic devices that are compatible** with Canvas, Zoom and RESPONDUS lockdown browser/monitor

Textbook: The textbook is REQUIRED for this course. You will need to have the 5th edition with access to Smartwork5 through the Canvas site.

This course is participating in a new course material access and affordability program called **First Day Inclusive Access**.

→ **This program will make your required course materials directly available to you on or before the first day of class and usually at a discounted price.**

- A direct charge for the course material is placed against your student account and is visible on your tuition bill.
- Participation in the First Day program is optional; however, if you think you would like to opt-out, please partner with me first.
 - a. Opting-out will result in a refund placed against your WSU student account, which will be disbursed in accordance with the Office of the BURSAR, Student Accounts Receivables Policies.
 - b. For information regarding the First Day Inclusive Access course material pilot including price discounts, please visit

<https://studentservices.wayne.edu/bookstore/inclusive-access> or the Barnes & Noble College First Day Inclusive Access FAQ page at <https://customercare.bncollege.com>.

→ Things to consider before opting out:

- The material through this program is priced at market value or lower
 - Market value is defined as the price you would pay if you purchased the exact same material and format directly from the publisher
- The opt-out deadline for your course is:
 - Spring/Summer session deadline is 05/24/2021
- You may opt-out or back in as many times as you want through 5/24/2021
 - Regardless of your opt-out status, your access to the content will remain through 5/24/2021
- If your final status is opt-out on 5/24/2021, you will no longer have access to the course material eText or eText and courseware
 - If you opt-out, you will need to purchase the required course material independently either through the campus bookstore, publisher website, or your favorite textbook provider
- Smartwork5 is used in the course as part of homework assignments.
 - You will need to ensure that you have purchased the Smartwork5 access for this class and activated the purchased Smartwork5 through the link within Canvas no later than 5/24/2021, or you risk losing the homework, quiz work, and tests you have already completed within the First Day course material you used before you opted out.
 - You may purchase standalone Smartwork5 access through:
<https://digital.wwnorton.com/microbio5>

Respondus Lockdown Browser/Monitor FAQ:

<https://tech.wayne.edu/kb/academic-services/canvas/598>

Information for taking exams with Respondus tools

- Students must clear the data of their electronic device (cookies and cache) before attempting a quiz, midterm, or practical. Failure to clear this data may result in slow loading times on these assessments.
- Students must make sure that they have a strong Wi-Fi connection. Low connectivity could cause issues during exams (lecture) or the quizzes, midterms or practical exams (lab).
- Students are not permitted to use additional electronic devices, only the electronic device needed to obtain access to Canvas.
- All exams, quizzes, and practical's are to be the work of the individual student and should be in the student's own words.
- Students are not permitted to work with others or use study materials to assist with answers these assessments (aka No Cheating).
- Students will be asked one question at a time and will not be able to go back once an answer is submitted.
- You may visit the demo video about setting up Respondus browser/monitor by Dr. Martin Crozier on: https://www.youtube.com/watch?v=gF_ZZSHb_Jw

***The goal of a fair evaluation system is to ensure the grades reflect the efforts you put into course learning and the level of your knowledge in Microbiology that will contribute your future career. ***

Objectives:

1. To fulfill the WSU General Education Life Science requirement and the core concepts of biological literacy. Students will be instructed in the principles and procedures of modern microbiology including the concepts of

microbial growth and control, microbial structure & function, evolution and microbial diversity/adaption, and interactions of microbes with humans, plants and the environment. The influence of microbes on society will be emphasized by introducing microbial application in commercial products and microbial diseases in their co-evolution with host responses.

2. From the laboratory course, students will gain insight into the nature of scientific inquiry, the process by which knowledge is accumulated and accepted as illustrated, and the strengths and limitations of the scientific process and its progressive, self-correcting qualities. Observational and experimental skills will be imparted to students, using both traditional and discovery-based learning. The students will experience the scientific method first hand in performing experiments that reflect the current state of the art and demonstrate the principles underlying major concepts of modern microbiology. Students will also learn to properly record their data in a laboratory notebook.

Course Outcomes:

At the end of this course, students will be able to

1. explain the role microbes play in our environment/society
2. describe how microbes can be controlled and exploited for industrial application.
3. describe microbial diversity and the core features of prokaryotic versus eukaryotic cell structure and physiology.
4. describe basic concepts of medical microbiology and immunology
5. apply the principals of sterile technique and use the tools required to study microorganisms.

CONTACTING DR. ARETAKIS AND GETTING HELP

Discussion Board: New discussion boards in Canvas will be set up on a regular basis. This is a good place for simple content questions. Students are encouraged to answer your peers' questions. (You are required to post on the discussion board before asking Dr. Aretakis).

Academic Success Center: There will be tutoring and other workshops in the Academic Success Center. See <http://success.wayne.edu/> and future posts on canvas for more information. **Bio2200 has a supplemental instruction (SI) available. Your SI leader is Hadi Yassine** (email: hadyassin@wayne.edu). For information of supplemental instruction and schedule of SI leader, see <https://success.wayne.edu/pal/si>

Email: **See the email guidelines in General Policy.** Email is a good way to communicate with me about issues that do not need you to come to office hours. These include letting me know about chronic se require discussions. I do not answer emails about issues that are covered in the syllabus, in canvas or that were adequately covered in lecture.

Office Hours: **Dr. Aretakis' office hours are 12:00 pm to 1:00 pm on Monday by Zoom.** Office hours are the best time to talk about your questions on biology content or issues that are specific to you, such as concerns about the course, study strategies, grade inquiries, special needs or careers. You do not need an appointment to come to office hours. If you cannot make office hours because of conflicts with classes, email me for an appointment at least 24 hours in advance. Keep in mind you can always look for help will be your peers/peer mentors/TAs.

WSU Computing and Information Technology (C & IT): For free help with campus computing, including email, Canvas, Respondus or your AccessID call (313) 577-4778, see <http://computing.wayne.edu/> or email helpdesk@wayne.edu.

Lab: The lab is directed by Krystyn Purvis. **Contact your TA first for lab questions, then Krystyn Purvis, as directed in the lab syllabus.**

Course Credits: **5-credits**

Course Prerequisites: Students are required to have completed BIO 1510 (Basic Life Mechanisms) with a C or higher. Students who managed to enroll in this course without satisfying this prerequisite will be required to drop it. Students who have questions regarding these prerequisites should see one of the Biological Science Department's Undergraduate Advisors during the first week of class.

Withdrawals:

See WSU policy at: <http://sdcl.wayne.edu/RegistrarWeb/Registrar/policies.htm>

I encourage you to get help instead of withdrawing (see the Academic Success Center information at the end of this syllabus); this will save you money and help you graduate sooner. If you must withdraw, it must be initiated by the student through the registrar's office via Pipeline, not by the Professor. The Professor will assign the withdrawal grade based on the following WSU policies and rules regarding grade assignment, repeating and withdrawing from classes:

1. Students who drop the course by **May 23, 2021** are eligible for full tuition refund.
2. The last day you can drop this course and have no record on your transcript is **May 23, 2021**
3. Students who request course withdrawals by **July 18, 2021** (last day to withdraw) will receive one of these notations:

- “WP” Withdrawal with a passing grade earned to date
- “WF” Withdrawal with a failing grade earned to date
- “WN” Withdrawal never attended, or no graded work to date

Grade earned to date will not include lab points; all exam scores will be included (*ie* no drops allowed).

4. Students who do not complete the semester will receive a grade of F if they do not withdraw from class by Sunday, November 10th. “Incomplete” grades will not be issued to students in poor standing who are seeking an alternative to a late drop.

Grades: A total of 1025 points are possible for the course. Of these 1025 points, 625 points are from LECTURE and 400 points are from the LABORATORY (see laboratory syllabus).

Four hourly exams (120 points each) and a comprehensive final exam (240 points) will be given. The hourly exam with the lowest score will be dropped. **If you receive 0 points, or lowered points on an exam, quiz, test, or any assignment due to Academic Dishonesty, this score cannot be dropped. Any exam, quiz, test, or assignment on which you lose points from Academic Dishonesty must be used in the final calculation of your grade. The final cannot be dropped.**

Since the lowest hourly exam will be dropped, except in the case of Academic Dishonesty as noted above, NO MAKEUP EXAMS WILL BE GIVEN AND NO EXAMS WILL BE GIVEN IN ADVANCE.

Grading summary:

Lecture

4 x 120 point exams	+480 points
Lowest exam dropped	-120
In Class Poll Questions(full name, question)	+16 (Must attend/answer questions in 16 out of 19 lectures)
<u>Comprehensive final</u>	<u>+240</u>
Lecture total possible	616
<u>Extra credit from "SmartWork5"</u>	(+20)

Laboratory

Pre-lab writeup	+25
Quizzes	+54 (6 quizzes * 9 points each)
Lowest quiz dropped	- 9
Laboratory notebook	+110 (20 + 45 + 45)
Participation	+25
Laboratory midterm	+75
<u>Comprehensive Lab Final</u>	<u>+120</u>
Lab total possible	400

TOTAL COURSE POINTS POSSIBLE: 1016 POINTS

Exam corrections: When each exam is returned, you will have THREE BUSINESS DAYS to correct errors in grading or to challenge the questions on the exam. Corrections and inquiries about specific exam questions must occur on canvas in the exam discussion forum. If needed, I will normalize the exam scores to the score of the second highest student.

Final Course Grade: A letter grade is calculated after your total score is converted into a percentage and assigned a letter grade according to the table below:

Total Percentage / Final Grade

- 93% – 100% A
- 90% – <93% A-
- 88% – <90% B+
- 83% – <88% B
- 80% – <83% B-
- 78% – <80% C+
- 73% – <78% C
- 70% – <73% C-
- 68% – <70% D+
- 63% – <68% D
- 60% – <63% D-
- <60% F

Grades will **NOT** be rounded up due to the provided extra credit assignments which provide you a mechanism to bump yourself up to the next grade.

Academic integrity: To acknowledge that most, if not all, students do not cheat, the following policy will be strictly observed in accordance with the WSU policy on cheating.

Any individuals caught cheating will automatically receive a grade of "F" for at least the exam and up to and including failing the class and expulsion from WSU. Charges may be filed in accordance with the university policy on academic honesty (<http://www.doso.wayne.edu/judicial/academic-integrity.htm>). Read this carefully.

Cheating includes cheating on exams, quizzes or assigned questions by sharing answers to quizzes/questions via social apps or similar ways.

I reserve the right to change the grading to a forced scale (i.e. top 10% students get an A, top 11-20% get a B etc.) if students are sharing answers by social apps or similar ways.

Privacy and confidentiality rules: To protect the privacy of students and the confidentiality of the course materials during remote online teaching, WSU issued the following rules:

I agree that I will adhere to the following rules in connection with my participation in Bio 2200, Introductory Microbiology, Spring/Summer 2021 by Dr. James Aretakis:

- I will not record the audio or video of any online class session.
- I will not take a screenshot of any screen displayed as part of any online class session.
- I will not share any audio, video, or still image from an online class session with anyone who is not a student enrolled in the class.
- I will not share any material from the course with anyone who is not a student enrolled in the class.
- I will not share any recording of a class session made by the professor with any other person.

Study, Study Time and Exams: arrange your schedule wisely since everyone is busy with school, family and business. You should expect to have time to read your textbooks and study the class notes. Expect to spend a minimum of 2 hours per week studying per contact hour. This means that a student requires 10 hours per week study time, depending on their individual background in the subject matter (6 hours for lecture, and 4 hours for lab). This is a pre-professional college course that requires study time.

Student Disability Services: If you have a documented disability that requires accommodations, you will need to register with Student Disability Services (SDS) for coordination of your academic accommodations. The Student Disability Services (SDS) office is located at 1600 David Adamany Undergraduate Library in the Student Academic Success Services Department. SDS telephone number is (313) 577-1851 or (313) 577-3365 (TTD only). Once you have your accommodations in place, I will be glad to meet with you privately during my office hours to discuss your special needs. Student Disability Services' mission is to assist the university in creating an accessible community where students with disabilities have an equal opportunity to fully participate in their educational experience at Wayne State University. Please be aware that a delay in getting SDS accommodation letters for the current semester may hinder the availability or facilitation of those accommodations in a timely manner. Therefore, it is in your best interest to get your accommodation letters as early in the semester as possible.

General Policies:

1) Missing Class: Students are expected to remotely attend every class and lab during the scheduled time. If you are going to miss class on a non-exam day, please see the grading policies for homework (presented first day of class). I do NOT give individual extensions or exceptions for personal reasons, including but not limited to illness, travel, weddings, transportation problems, weather, funerals, dependent care or family obligations.

There are exceptions are for Student Disability accommodations, jury duty and court dates. If you have a disability, please see general policy 3 below. I want to accommodate disabilities, but I cannot accommodate situations I do not know about ahead of time. Please let me know early in the semester if you need an accommodation. If you have jury duty or a court date during lecture or an exam, please email me as soon as you know there will be a conflict so we can make arrangements.

2) Professional behavior is expected in online lecture and online labs, which includes respecting your classmates by not having distractions on electronic devices and participating in group discussion. All students must show respect in language and attitude towards the instructors, TAs and their fellow students. You are encouraged to discuss differences of opinion with each other, respectfully. Disrespectful students will be asked to leave the lecture or lab and will lose their opportunity to turn in any missed assignments or earn any points for the day. No unregistered people may attend labs or lecture, including children.

3) Any special considerations (disabilities, religious holiday conflicts, etc.) must be brought my attention by 5/26/2022 or as soon as possible as the situation arises. If you have a documented disability that requires accommodations, you need to register with Student Disability Services for coordination of your academic accommodations. The Student Disability Services (SDS) office is located at 1600 David Adamany Undergraduate Library in the Student Academic Success Services department. SDS telephone number is 313-577-1851 or 313-577-3365 (TTY: telecommunication device for the deaf; phone for hearing impaired students only). Once you have your accommodations in place, I will be glad to meet with you privately **during my office hours** to discuss your special needs. For SDS information during the COVID-19 pandemic: <https://studentdisability.wayne.edu/coronavirus>

4) If you need to see me and cannot come during office hours, you need to set up an appointment by email. In order to schedule these appointments, you need to contact me at least 24 hours in advance. Please include three unique times that you can meet me. I cannot guarantee I will be available, but I try to meet the needs of all my students.

5) **Email guidelines:** I will not reply to emails when the answer can be found in the syllabus or on canvas. I do not answer questions on biology content or study strategies by email because I need to discuss content with students to make sure they understand. I am happy to answer content questions during office hours. That is one of the main purposes of office hours. I will respond to most other emails within **two business days**. After two business days, you may email me again. **Due to privacy laws and for professionalism you must email me from your WSU email account.** I expect emails to be in a professional style, with your course number and a description of the issue (not just your name) as the subject, a proper greeting, e.g. "Dear Professor Aretakis," a proper salutation, e.g. "Sincerely, Chris Smith," correct punctuation including capitalization and no texting abbreviations. Emails that do not follow these rules may take longer get a reply, may be returned for correction, or ignored. If I cannot figure out what you want, I cannot help you. Following these email guidelines even outside of this course will enhance your success at WSU and beyond.

6) Letters of recommendation are to give people an idea of who you are beyond the grades and classes on your transcript. I do not write letters for students who I only know from my classes. You are likely to need letters from professors that actually know you personally. Start planning now how you will get involved on campus so you will have professors who know you well enough to write a letter for you. Examples of how you can get involved include doing research with a professor (uop.wayne.edu), joining a club, or becoming a peer mentor or supplemental instructor.

7) As this class will be taught remotely, we will likely hold class even if the University is closed. However, if Canvas is down or remote classes are cancelled by Wayne State University, we will cancel class. Such announcements will be publicized through the WSU Homepage (<http://www.wayne.edu/>), or WSU Academics (<http://academics.wayne.edu/>). A message will also be sent to registered cell phones and email addresses using the Broadcast Messaging Service.

You can find information about signing up for broadcast messaging here:

<https://tech.wayne.edu/kb/communicationcollaboration/mass-messagingtools/266629>

8) For any and all issues not covered in this syllabus, refer to the “Student Code of Conduct”, which can be found at <http://doso.wayne.edu/assets/codeofconduct.pdf>

9) Updates to this syllabus and schedule may be posted on the course Canvas website at <https://canvas.wayne.edu/> You are responsible for checking Canvas announcements and your University email account. I recommend checking at least once each business day of a semester in which you are enrolled. Please check your notification settings for announcements in Canvas; announcements should be forwarded to your email or text. Info here: <https://canvas.wayne.edu/courses/20804/pages/update-your-notificationpreferences>

Week	Lecture	Day	Date	Topic	Chapter
1	1	M	5/10/21	Course overview/Microorganism and microbiology	1
	2	W	5/12/21	The microbial cell	1,2
2	3	M	5/17/21	Observing the microbial cell	2
	4	W	5/19/21	Cell structure and function	3
3	5	M	5/24/21	Bacterial culture, growth, and development	4
	6	W	5/26/21	Environmental influences and control of microbial growth	5
4	-	M	5/31/21	Holiday - University Closed	-
		W	6/2/21	Exam 1 (120 points)	1-5
	7	F	6/4/21	Viruses	6
5	8	M	6/7/21	Genomes and chromosomes	7
	9	W	6/9/21	Transcription, translation, and bioinformatics	8
6	10	M	6/14/21	Gene transfer, mutations, and genome evolution	9
	11	W	6/16/21	Molecular regulation	10
7	12	M	6/21/21	Viral molecular biology	11
		W	6/23/21	Exam 2 (120 points)	6-11
8	13	M	6/28/21	Biotechniques and synthetic biology	12
	14	W	6/30/21	Energetics and catabolism	13
				Electron flow in organotrophy, lithotrophy, and phototrophy	14
9	-	M	7/5/21	Holiday - University Closed	-
	15	W	7/7/21	Biosynthesis	15
10	16	M	7/12/21	Food and industrial microbiology (Depending on time)	16
		W	7/14/21	Exam 3 (120 points)	12-16
11	17	M	7/19/21	Human microbiota and innate immunity	23
	18	W	7/21/21	The adaptive immune response	24
12	19	M	7/26/21	Microbial pathogenesis / Microbial diseases	25 / 26
				Clinical Microbiology and Immunology	28
		W	7/28/21	Exam 4 (120 points)	23-26, 28
13		M	8/2/21	Review for Comprehensive Final (Attendance Optional)	1-16, 23-26, 28
		W	8/4/21	Comprehensive Final: 10:30-12:00PM (240 points)	1-16, 23-26, 28

Wednesday, Jun 2, 2021	EXAM I
Wednesday, June 23, 2021	EXAM II
Wednesday, July 14, 2021	EXAM III
Wednesday, July 28, 2021	EXAM IV
Monday, August 2, 2021	Review for Comprehensive Final (Attendance Optional)
Wednesday, August 4, 2021	FINAL (Comprehensive) Chapters ALL

NOTE: These topics are tentative and thus may be subject to change