

**University of Connecticut**  
**MCB 2610 – Fundamentals of Microbiology**  
**Course Outline and Policies**  
**Spring Semester 2019**

This course is designed to provide students with an introduction to the field of microbiology. Through in person lectures, guest speakers, assigned primary literature readings, and on-line assignments, students will learn the fundamentals of microbiology, survey the world of microorganisms, and study the interaction between microbes, their hosts, and their effects on the environment. Topics covered include history, evolution, the development of microbiology, the diversity of microorganisms and their importance, characterization and identification of microbes based on morphology, physiology, biochemistry, ecology, chemotaxonomy and molecular systematics.

We study the use of microscopy to examine microbial cell structure as well as the preparation and staining of specimens, look at microbial nutrition, nutritional types, growth requirements, design and types of nutrient media, and microbial growth kinetics. Also investigated are the influences of environmental factors on growth, microbial control, methods of sterilization, physical methods and chemical agents, and isolation and enumeration of cultures by spread plate, streak plate, and pour plate techniques.

There are also laboratory exercises each week that teach the basics of handling, culturing, and identifying microorganisms.

This class is particularly beneficial to individuals pursuing careers in the health care professions, pharmacy, the veterinary sciences, cell and molecular biology majors, and other biological sciences majors. All majors are welcome and will gain a better understanding of the microbial world around them provided students meet the general biology and organic chemistry pre-requisites.

There are three one-hour multiple-choice exams and a one-hour non-cumulative final exam. All exams are taken at the computer exam center in Arjona.

<b>COURSE:</b>	MCB 2610, Fundamentals of Microbiology, 4 credits
<b>LECTURE:</b>	Tues. and Thurs. 8:00 am – 9:15 am in Torrey Life Science Lecture Room 154
<b>LABORATORY:</b>	Laboratory begins the first day of class in TLS 207
<b>INSTRUCTOR:</b>	Dr. Kathleen Feldman
<b>INSTRUCTOR CONTACT INFORMATION:</b>	Office: Beach Hall Room 201B Office Hours: Tuesdays and Thursdays 9:30 am to 10:45 am Voice Mail: 860-486-4337 Email: <a href="mailto:kathleen.feldman@uconn.edu">kathleen.feldman@uconn.edu</a>

You may come to my office or communicate by email or telephone. When communicating by email please include “MCB2610” in the subject line to help distinguish your message from other emails. I will try to answer email questions promptly, but the questions must be short and to-the-point. Also, do not count on getting last minute advice before an exam; contact me well before the exam if you need help. Email is more efficient than voice mail. Please do not send email and voice mail on the same subject

**Note: Policy on Letters of Recommendation:** Due to the large numbers of students in my classes it is difficult to get to know all of you. Students requiring letters of recommendation should keep in mind that I can only reference the grade you received for the class if I don't know you. I suggest you make it a point to attend office hours and ask/answer questions in class if you require a more personal recommendation.

**Scheduling Questions including changing lab sections should be directed to:**  
**Sharyn Rusch: BPB Advisor Office BPB 101**  
**[Sharyn.Rusch@uconn.edu](mailto:Sharyn.Rusch@uconn.edu)**

**LECTURE TA  
CONTACT  
INFORMATION:  
LABORATORY  
SUPERVISOR  
CONTACT  
INFORMATION:**

Dr. Gino Intrieri – Microbiology Laboratory Supervisor  
Office: Torrey Life Science Room 209  
Voice Mail: 860-486-4253  
Email: [gino.intrieri@uconn.edu](mailto:gino.intrieri@uconn.edu)

**LABORATORY TA  
CONTACT  
INFORMATION:**

**Lecture Text:** *This semester we will be using a totally on-line textbook and learning assessment tool called "WileyPlus". You may purchase the access code to WileyPlus from the UCONN CO-OP (\$109.35) or directly from John Wiley & Sons publishers (\$90) at [www.wileyplus.com](http://www.wileyplus.com). All students MUST purchase the access code to view the e-text and access on-line assignments.* Note: Any technical problems with accessing Wileyplus should be directed to: Amy Wosencroft at Wiley. email: [awosencrof@wiley.com](mailto:awosencrof@wiley.com). Note: Wiley plus offers a 14 day grace period if you don't have the funds to purchase the access immediately.

Access to WileyPlus: Go to [www.wileyplus.com](http://www.wileyplus.com)  
click on "Get Started"  
click on "University of CONN Storrs or use course ID# 685046"  
click on "+" Fund of Microbiology  
click arrow for Feldman-Spring 2019  
click "Create Account"  
Check "user agreement" then "continue"

**Laboratory Manual:** Fundamentals of Microbiology MCB 2610 Laboratory Manual, Spring Semester, 2019 (Available from the UCONN CO-OP) – All students **MUST** purchase the current edition of the Lab Manual. Earlier editions cannot be used and due to copyright laws sharing of books is not allowed.

**Lab supplies:** You will need a lab coat that can stay in the lab all semester. You can purchase one at the UCONN CO-OP (\$8.98 - disposable, long version blue or purple coats) or use one you already have.

**COURSE  
OBJECTIVES:**

This course is designed to provide students with an introduction to the field of microbiology. Students will learn the fundamentals of microbiology, survey the world of microorganisms, and study the interaction between microbes, their hosts, and their effects on the environment. There will also be laboratory exercises each week that will teach the basics of handling, culturing, and identifying microorganisms.

**Specific Learning Outcomes:**

By the conclusion of this course students will be:

- Acquainted with the harmful and beneficial effects of microbes on their hosts and the environment.
- Familiar with the ecology, genetics, life cycle, and biological processes found in microorganisms.
- Knowledgeable of the classification of microorganisms and the tools used to study them.

**HuskyCT:**

Course information and all PowerPoint slides will be posted on the HuskyCT website which is accessible with your net ID at <http://huskyct.uconn.edu>

**GRADING:**

**The final course grade is based on lecture (75%) and laboratory (25%)**

**Lecture Grading (75% of course grade):** The lecture grade will consist of 4 exams and 16 on-line WileyPlus assignments. Each exam will cover ¼ of the course material and each will be worth 15% of your final lecture grade. You will also be required to complete 16 on-line WileyPlus assignments (available at [www.wileyplus.com](http://www.wileyplus.com)), which will be worth 15% of your final lecture grade. **Wiley Plus assignment #1 is a tutorial and must be completed by Sunday, Feb 10th at 11:59 pm. All other assignments**

may be completed at any time during the semester with a final completion deadline of Sunday, May 5th at 11:59 pm. **NO ASSIGNMENTS WILL BE ACCEPTED AFTER THE 5/5/2019 DEADLINE!!** (note: the lowest Wiley plus assignment grade will be dropped)

**All exams will be taken at the exam center in Arjona!!!**

EXAM 1: Tues., Feb 19, 2019

EXAM 2: Thurs., Mar 14, 2019

EXAM 3: Thurs., Apr 11, 2019

FINAL EXAM: (non-cumulative) – dates/times/location of final exams are set by the university

### EXAM FORMAT

- 1) All class exams are 60 minute exams and will be taken in the Uconn Testing Center in Room 115/109, Arjona. It is the student's responsibility to make sure they know where 115/109 Arjona is before the exam.
- 2) Students can take exams during any of the four scheduled exam periods (8:00am, 9:10am, 10:20am and 11:30am). (Students must register for a specific exam period by going to the following web page (to be provided) on a first-come, first-served basis. Students need to register by 6:00am the morning of the exam. **The system does not allow changes to be made after 6:00 am the morning of the exam.**
- 3) Students will not be allowed to take the exam unless they have preregistered for the exam! If students have not preregistered for an exam then they will not be allowed to take it and will get a "0" for that exam
- 4) To take an exam, students must present themselves in Room 115/109, Arjona before the scheduled exam with **their University ID**. Only students who are currently enrolled in the class and who can prove their identity will be allowed to take an exam. In the exam facility, students are not allowed backpacks, drinks, food, bags, coats, or any electronic devices. There are lockers in room 110 where students can safely store their belongings. The center will provide scratch paper and pencils for students, if requested.
- 5) Exams will consist of 50 multiple-choice questions based on pools of 90-100 questions of which each student is asked to answer 50 questions chosen randomly. I remind all students that it is in their best interest not to tell other students taking the exams at a later time period about the questions they saw on their exams. Remember **cheating is a violation of the Student Code of Conduct and students shown to have done this will receive a "0" on the exam.**

**Lab Grading (25% of course grade):**

See Lab manual for Laboratory grading policies

**Final course grade:**

Your final course grade will be based on the grading chart below. **There will be no scaling of final grades.**

Letter Grade	Average	Letter Grade	Average
A	93-100%	C	73-76%
A-	90-92%	C-	70-72%
B+	87-89%	D+	67-69%
B	83-86%	D	63-66%

B-	80-82%	D-	60-62%
C+	77-79%	F	< 60%

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**ATTENDANCE** STUDENTS ARE EXPECTED TO ATTEND AND BE ON TIME FOR ALL CLASSES.

**MAKE-UPS:** No make-up exams or make-up labs will be given unless necessitated by medical or family EMERGENCY. The instructor will require proof of such emergency. **The student must contact the instructor within 24 hours of the examination/lab to discuss possible arrangements.**

**ACADEMIC INTEGRITY AND STUDENT HONOR CODE:** All cases of academic misconduct, both during examinations and in the laboratory, will be handled in accordance with the policies set forth by the University of Connecticut. Misconduct includes, but is not limited to, cheating on exams, plagiarism, turning in laboratory reports for labs not actually done, copying the lab reports of others, making up, or copying another student's data, and using that data as a basis for a lab report.

**ACADEMIC INTEGRITY (CONTINUED):** **Academic Integrity:** A fundamental tenant of all educational institutions is academic honesty; academic work depends upon respect for and acknowledgement of the research and ideas of others. Misrepresenting someone else's work as one's own is a serious offense in any academic setting and it will not be condoned. Academic misconduct includes, but is not limited to, providing or receiving assistance in a manner not authorized by the instructor in the creation of work to be submitted for academic evaluation (e.g. papers, projects, and examinations); any attempt to influence improperly (e.g. bribery, threats) any member of the faculty, staff, or administration of the University in any matter pertaining to academics or research; presenting as ones' own the ideas or works of another for academic evaluation; doing unauthorized academic work for which another person will received credit or be evaluated; and presenting the same or substantially the same papers or projects in two or more courses without the explicit permission of the instructors involved. A student who knowingly assists another student in committing an act of academic misconduct shall be equally accountable for the violation, and shall be subject to the sanctions and other remedies described in *The Student Code*.

**Instructor's Role:** Instructors shall take all reasonable steps to prevent academic misconduct by students in their courses. During the course of an examination, an instructor or proctor who observes suspicious behavior should warn the individuals involved regarding the appearance of their actions and request them to cease the suspicious actions immediately. Continuation of such behavior may be considered evidence of academic misconduct. A remarkable similarity between or among two or more supposedly independent works submitted for individual evaluation also may be considered evidence of academic misconduct.

When an instructor believes there is sufficient information to demonstrate a clear case of academic misconduct, the instructor shall notify the accused student in writing (and orally, if possible) that unless the student requests a hearing to contest the instructor's belief, the instructor shall impose the appropriate academic consequence warranted by the circumstance. Normally, written notification shall occur within thirty (30) days of the discovery of the alleged misconduct. A copy of this notice is sent to the Dean of the college or a designee and to the department head. The appropriate academic consequence for serious offenses is generally considered to be failure of the course. For less serious offenses regarding small portions of the course work, failure for that portion is suggested with the requirement that the student repeat the work for no credit. The faculty member is responsible for saving the information of academic misconduct in its original form and need not return any of the papers or their materials to the student. Copies of the Student's work and information about other evidence shall be provided to the student upon request.

Please turn off all cellular phones and beepers during class and lab.

**DISABILITIES:** If you have a documented disability, please speak with me as soon as possible regarding accommodations. All accommodations must be arranged through the Services for Students with Disabilities Office. If you have a disability and have not already done so, you are encouraged to speak with a Disabilities Specialist regarding your needs.

**ADVICE FOR SUCCESSFULLY PASSING THIS COURSE:**

1. Come to the lecture on time, take notes, and then review them promptly after class. Use your text and materials from HuskyCT to fully understand the material.
2. Work in study groups!
3. Do not fall behind on the reading/homework assignments.
4. As a study aid, it is recommended that you review the material and complete the practice problems for each chapter.
5. Read the laboratory manual assignments carefully before coming to lab. This is important because there will be quizzes most weeks that will cover material pertaining to the week's lab exercise. Do not come to lab late. Do not miss lab. Hand in neat and thoughtfully prepared lab reports on time.

**READING ASSIGNMENTS:** Reading the assigned chapters in the textbook will not take the place of attending lectures and vice versa. The most important material to study is your lecture notes. All exam questions will be derived directly or indirectly from that material. A good part of the lectures will come from the text, but there will also be material from handouts and material that is not in your book. Because of this, it is essential that you come to class and take good notes if you expect to understand the material and want a passing grade.

**Microbe Minutes:** At the beginning of each class we will spend a few minutes talking about an interesting microorganism. The information will **not** be posted on HuskyCT. **There will be 4 questions on each exam on this material.**

**Guest Speakers** – I have scheduled a number of speakers to come in throughout the semester to speak about current research topics in Microbiology. **Each exam will include 4 questions from these special presentations.**

**Assigned Readings:** You will be given four (4) Primary Literature Research Articles, based on the topics of the Guest Speakers, to read, one for each exam. These articles will be posted on HuskyCT. **Each exam will include 4 questions from the assigned Research Article.**

**Extra Credit Options  
(4 points added to one exam)**

This semester I am offering two options for extra credit. **You may do only one!**

**Option #1: Primary Research Article Summary and Critique** – An extra-credit scientific paper will be posted on Husky CT which you should read and provide a thoughtful summary and critique (2 pages, 12 pt double spaced). The paper should be submitted by April 18th at 9:30am. No late submissions will be accepted.

**Option #2: Attendance at Evening Microbiology Speaker** - The UCONN Microbiology Club (Student Branch of the American Society for Microbiology) is sponsoring an evening speaker (Date/Time/Location to be determined). You must attend the presentation (approx 1 hour), stay for the entire presentation, and sign an attendance sheet upon leaving. More details to follow.

**UCONN Calendar**  
**IMPORTANT DATES**  
**SPRING SEMESTER 2019**

- Tues. Jan 22 Spring semester begins
- Mon. Jan 28 Last day to file petitions for course credit by examination
- Mon. Feb 4 Courses dropped after this date will have a "W" for withdrawal recorded on the academic record.  
Last day to add or drop courses without additional signatures  
Add/Drop via Student Administration System closes  
Last day to place courses on Pass/Fail
- Mon. Feb 11 Last day for student to make up Incomplete or Absence grades
- Tues-Mon. Feb 12-18 Examinations for course credit by examination
- Tues. Feb 19 Dean's signature required to add a course
- Fri. Mar 1 Mid-semester progress reports due students from faculty
- Sun. Mar 17 Spring recess begins
- Sat. Mar 23 Spring recess ends
- Mon. Mar 25 Registration for the Fall 2019 semester via Student Administration System begins
- Sat. Mar 30 Emergency closing class make-up date
- Mon. Apr 1 Last day to drop a course  
Last day to convert courses on Pass/Fail option to letter grade option
- Fri. May 3 Last day of Spring semester classes
- Mon. May 6 Final examinations begin
- Sat. May 11 Final examinations end
- Sat. May 11-12 University Commencement ceremonies
- Tues. May 14 Deadline for Faculty to submit Spring grades via Student Administration System

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**Spring Semester 2019**

\*Note: List of topics and appropriate text chapters may change as the semester progresses

<b>Date</b>	<b>Lecture Topic</b>	<b>Text Chapter and Reading Assignments</b>	<b>Wiley Plus Assignments</b>
TUES JAN 22	Overview of Microbiology and Evolution	1	1 (due 2/10/19)
THURS JAN 24	Microbiology History	1	2
TUES JAN 29	Microscopy and Specimen Prep	Appendix B	3
THURS JAN 31	Microbial Nutrition	6	
TUES FEB 5	<b>Guest Speaker: Dr. Jonathan Klassen</b>	Research Article #1	4
THURS FEB 7	Microbial Growth	6	
TUES FEB 12	Microbial Growth	6	5
THURS FEB 14	Bacteria and Archaea	2 and 4	
<b>TUES FEB 19</b>	<b>Lecture Exam I – at Exam Center</b>	<b>1, 6, Appendix B, and notes</b>	<b>6</b>
THURS FEB 21	Bacterial and Archaea	2 and 4	
TUES FEB 26	Bacteria and Archaea	2 and 4	7
THURS FEB 28	<b>Guest Speaker: Dr. Mary Ann Amalaradjou</b>	Research Article #2	
TUES MAR 5	Eukarya	3	8
THURS MAR 7	Eukarya	3	
TUES MAR 12	Microbial Metabolism	13	9
<b>THURS MAR 14</b>	<b>Lecture Exam 2 – at Exam Center</b>	<b>2, 3, 4 and notes</b>	
TUES MAR 19	<b>Spring Break</b>		
THURS MAR 21	<b>Spring Break</b>		
TUES MAR 26	Microbial Metabolism	13	10 and 11
THURS MAR 28	Microbial Metabolism	13	
TUES APR 2	Microbial Metabolism	13	12
THURS APR 4	<b>Guest Speaker: Dr. Spencer Nyholm</b>	Research Article #3	
TUES APR 9	DNA Replication and Gene Expression	7	13
<b>THURS APR 11</b>	<b>Lecture Exam 3 – at Exam Center</b>	<b>13 and notes</b>	
TUES APR 16	DNA Replication and Gene Expression	7	14
THURS APR 18	Bacterial Genetic Analysis	9	
TUES APR 23	Bacterial Genetic Analysis	9	15
THURS APR 25	<b>Guest Speaker – Dr. Nichole Broderick</b>	Research Article #4	
TUES APR 30	Viruses	5	16
THURS MAY 2	Viruses	5	<b>All assigns due 5/5/19</b>
<b>Week of May 6 - 11</b>	<b>Final Lecture Exam Date/Time/ Location to be determined by Registrar's Office</b>	<b>7, 9, 5 and notes</b>	

\*Lecture Text: "Microbiology", 2e, Wessner, Dupont, & Charles, 2017. John Wiley & Sons. Available through an on-line access code at [www.wileyplus.com](http://www.wileyplus.com)

WileyPlus Homework Assignments - Assignment #1 is a tutorial and is due by February 10, 2019 by 11:59 pm. All other assignments are due by May 5, 2019 at 11:59 pm. You must complete all 16-posted assignments; however, the lowest assignment grade will be dropped.