

# Cover Sheet: Request 11861

## MCB4203 Bacterial and Viral Pathogens

### Info

Process	Course Modify Ugrad/Pro
Status	Pending at PV - University Curriculum Committee (UCC)
Submitter	Kelly Rice kcrice@ufl.edu
Created	9/22/2017 5:34:08 PM
Updated	2/23/2018 2:40:01 PM
Description of request	Change course title for MCB 4203.

### Actions

Step	Status	Group	User	Comment	Updated
Department	Approved	CALS - Microbiology and Cell Science 514910000	Eric Triplett		12/21/2017
MCB 4203 SYLLABUS Fall 2017 syllabus.pdf					11/21/2017
MCB4203 Fall 2018 syllabus.pdf					11/21/2017
MCB5205 Fall 2018 syllabus.pdf					11/21/2017
MCB 5205 SYLLABUS Fall 2017.pdf					11/21/2017
College	Approved	CALS - College of Agricultural and Life Sciences	Joel H Brendemuhl	Corrections and revisions required by the CALS CC on 1/12/18 have been addressed.	2/23/2018
MCB 4203 SYLLABUS section 3372 Fall 2018 revised.docx					2/2/2018
University Curriculum Committee	Pending	PV - University Curriculum Committee (UCC)			2/23/2018
No document changes					
Statewide Course Numbering System					
No document changes					
Office of the Registrar					
No document changes					
Student Academic Support System					
No document changes					
Catalog					
No document changes					
College Notified					
No document changes					

## Course|Modify for request 11861

### Info

**Request:** MCB4203 Bacterial and Viral Pathogens  
**Description of request:** Change course title for MCB 4203.  
**Submitter:** Kelly Rice kcrice@ufl.edu  
**Created:** 11/21/2017 6:21:20 PM  
**Form version:** 4

### Responses

**Current Prefix** MCB  
**Course Level** 4  
**Number** 203  
**Lab Code** None  
**Course Title** Bacterial and Viral Pathogens  
**Effective Term** Fall  
**Effective Year** 2018  
**Requested Action** Other (selecting this option opens additional form fields below)  
**Change Course Prefix?** No

**Change Course Level?** No

**Change Course Number?** No

**Change Lab Code?** No

**Change Course Title?** Yes  
**Current Course Title** Bacterial and Viral Pathogens  
**Proposed Course Title** Bacterial Pathogens  
**Change Transcript Title?** Yes  
**Current Transcript Title** BACTERIA/VIRAL PATHOG  
**Proposed Transcript Title (21 char. max)** BACTERIAL PATHOGENS  
**Change Credit Hours?** No

**Change Variable Credit?** No

**Change S/U Only?** No

**Change Contact Type?** No

**Change Rotating Topic Designation?** No

**Change Repeatable Credit?** No

**Change Course Description?** Yes  
**Current Course Description** Host-parasite relationships in the diseases of humans and animals, including the characteristics of bacterial and viral pathogens and the basic techniques of isolation and identification.  
**Proposed Course Description (50 words max)** Host-microbe relationships in the diseases of

humans and animals, including the virulence characteristics of bacterial pathogens, the techniques used in their isolation/identification, and molecular approaches to the study of their virulence.

**Change Prerequisites?** No

**Change Co-requisites?** No

**Rationale** Our department currently offers separate courses in virology (MCB 4503, General Virology) and parasitology (ZOO 4232, Human Parasitology) at the 4000 level. Additionally, a new Assistant Professor in our department (Dr. Melissa Jones) will be teaching MCB 4503 effective spring 2018 semester, and after consultation with her, she plans to cover the virology topics currently taught in MCB 4203 (i.e. Ebola virus, influenza, cancer viruses, MMR vaccine, etc.). Eliminating the viruses from the curriculum of MCB 4203 will avoid content overlap with MCB 4503, will allow the inclusion of additional primary literature and bacterial pathogenesis topics not currently covered in MCB 4203 (i.e. delivery of virulence factors/type 3 secretion systems), and will allow certain lecture topics (i.e. Bacterial Evasion of Host Defenses) to be covered in more depth than is currently possible.

MCB 5205 (Microbiology of Human Pathogens) is co-taught with MCB 4203, but the proposed changes to MCB 4203 do not affect the course name or course description for MCB 5205.

## **MCB 4203: BACTERIAL AND VIRAL PATHOGENS (sections 3372,173C) Fall 2017**

**Course Delivery:** This course is taught using a “flipped-classroom approach”, comprised of web-based asynchronous lectures (Canvas course website) and **OPTIONAL LIVE MEETINGS on Wednesdays from periods 10-E1 (5:10 pm – 8:10 pm, MCCC 0100)**

**Instructor:** Dr. Kelly Rice

Office: Room 1147, Microbiology and Cell Science Bldg.

Ph: 352-392-1192, email: [kcrice@ufl.edu](mailto:kcrice@ufl.edu) (***\*\*please use this email for all correspondence, as I check this more often than email through the Canvas course website\*\****)

**Instructor Office hours:** Mondays 9:30 am – 11:30 am

**TA(s):** Daniel Noe and TBA

**Course Description (from catalogue):** Host-parasite relationships in the diseases of humans and animals, including the characteristics of bacterial and viral pathogens and the basic techniques of isolation and identification

Credits: 3; Prereq: MCB 3020 or MCB 3023 with minimum grade of C.

**Course Objectives: At the completion of this course, students should be able to:**

1. Recognize the complex nature of microbial virulence, especially with respect to the multi-faceted interplay between the host immune system and pathogen
2. Describe (using specific examples from select bacterial and viral pathogens) the strategies used by bacterial and viral pathogens that are required for host manifestation of disease (attachment and entry into host tissues, evasion of host immune defenses, multiplication in vivo, dissemination and transmission)
3. Identify strategies of treatment and prevention of host infection (ie. vaccines, antibiotics, antivirals, protective role of normal microbiota) and (where applicable) the ensuing response of the pathogen
4. Understand the theory behind various molecular, in vitro, and in vivo techniques used to assess microbial diversity and virulence
5. Analyze case studies and scientific articles using the knowledge gained from objectives 1-4 above.

**Required Textbook:**

1. Wilson et al. Principles of Bacterial Pathogenesis, A Molecular Approach (3<sup>rd</sup> Edition), ISBN 978-155581-418-2

**Optional/Recommended Textbook:**

1. Jawetz et al. Medical Microbiology, 26<sup>th</sup> Edition, ISBN 978-0-07179-031-4 (**eBook\* available through UF libraries:** <http://uf.catalog.fcla.edu/uf.jsp?st=UF031735546&ix=pm&l=0&V=D&pm=1>)

*\*Please note that you MUST be logged on to UF library website or Gatorlink VPN to access this eBook off-campus)*

**Overview of Course Format and Policies:**

- This course is co-taught with MCB5205 (Microbiology of Human Pathogens).
- **Email will be primary mode of course correspondence.** Each student is responsible for checking their “ufl.edu” email accounts and Canvas daily for course messages and announcements.
- Course syllabus, lecture notes, and other tools will be available through the Canvas Learning Support System homepage [<http://lss.at.ufl.edu/>]. You will need to enter your Gatorlink username and password to access the system. If you do not have an active GatorLink ID, cannot remember your GatorLink login information, or if your ID does not work, please refer to the GatorLink website [<http://gatorlink.ufl.edu>] or to the UF Computing Help Desk (The Hub, 392-HELP) for assistance.
- **Course format and attendance policy:** This course is taught using a “flipped-classroom approach”, whereby all weekly course lectures (pre-recorded), quizzes, etc. will be posted no later than the beginning of each week (Sunday evening) on the Canvas course website. Additionally, **OPTIONAL ATTENDANCE** in-class weekly review sessions will be held on **Wednesdays during periods 10—E1 (MCCC 0100)**. The first half (60-90 minutes) of each weekly live review session will be comprised of weekly homework/quiz review, “traditional” classroom/lecture-style Q & A review, and various interactive classroom activities designed to reinforce the week’s posted lecture material. This part of the class will be recorded by Mediasite and will be accessible through Canvas. During the second half of the class, the instructor and/or TAs will be available for informal discussion/extra help for course material with individuals/small groups of students (this portion is NOT recorded/posted to Canvas). Since NO NEW MATERIAL will be covered during these live weekly course meetings, attendance is highly encouraged but NOT mandatory. Additionally, you are highly encouraged to participate in the Canvas course chat room and discussion boards that will be scheduled periodically throughout the semester. The course instructor will not answer emails related to course content or study questions the night before a scheduled exam, so please make sure to take advantage of all the options mentioned above.
- **A note regarding course materials and copyright:** All course materials posted on the Canvas course website are assembled and intended for students taking MCB4203/MCB5205 ONLY, and this is why they are only available for student use from our secure Canvas course website. Re-posting of any of these materials to websites such as “course-hero”, You Tube, or Facebook is strictly forbidden by the course instructor and is considered a violation of copyright policies. Likewise, re-posting textbook pdfs is an infringement on the publisher’s copyright, so please do not get yourself in trouble by doing this. Unauthorized re-posting of all course materials (including textbook pdfs) infringes on UF’s copyright policies and the "Fair Use" Act (<http://www.generalcounsel.ufl.edu/faq/Copyright.pdf>).
- **Reference letter policy:** Academic reference letters may be provided at the instructor’s discretion to students ranking in the top 20% of the final course grades. Please keep in mind that these letters will be strictly academic letters (i.e. your scholastic abilities and participation in the course) and will not elaborate on other things like personal attributes, leadership and research potential, since these are qualities that are very difficult for the instructor to assess in a large-class environment. For more tips on reference letters please refer to the first lecture of the semester (asynchronous lecture). Letters must be requested no later than 6 months after the end of the course.

- **Online course evaluation process:** Student assessment of instruction is an important part of efforts to improve teaching and learning. At the end of the semester, students are expected to provide feedback on the quality of instruction in this course using a standard set of university and college criteria. These evaluations are conducted online at <https://evaluations.ufl.edu>. Evaluations are typically open for students to complete during the last two or three weeks of the semester; students will be notified of the specific times when they are open. Summary results of these assessments are available to students at <https://evaluations.ufl.edu/results>.
- Each online distance learning program has a process for, and will make every attempt to resolve, student complaints within its academic and administrative departments at the program level. See <http://distance.ufl.edu/student-complaints> for more details.

### **Course Assessments and Grading:**

- **Weekly “homework”:** There will be 15 weekly online quizzes or mini-assignments, based on the weekly lecture material, posted readings and/or case-studies. Each quiz is worth 6 points and will typically consist of 6 multiple-choice or short answer questions. ***At the end of semester your lowest 5 quiz scores will be dropped from your grade calculation. In other words, the top 10 quiz scores will be used in calculating your grade (10 x 6 points = 60 total points).*** These are open-book quizzes (administered through Canvas) that are meant to help you review the course material and practice for the exams. Students are welcome to study together and in fact collaboration is encouraged on many assignments. However, each student is responsible for submitting his/her own quiz by the posted due date.
  - IF A STUDENT FAILS TO COMPLETE A QUIZ PRIOR TO THE DUE DATE, THEY WILL RECEIVE 0 POINTS FOR THAT ASSIGNMENT OR QUIZ. EXTENSIONS OR “MAKE-UP” QUIZZES WILL NOT BE GIVEN UNDER ANY CIRCUMSTANCE, WITH THE EXCEPTION OF PROOF OF TECHNICAL DIFFICULTY (see below) THAT PRECLUDES ON-TIME SUBMISSION. The structure of the final course grade calculation with respect to the quizzes (dropping the 5 lowest quiz scores) is designed to give you a “buffer” for those rare occasions where a quiz cannot be completed due to illness, absence, or random forgetfulness. Therefore please do not ask the instructor to accept late quizzes or re-open quizzes, the answer will always be “no”...
  - CANVAS HINTS for ONLINE QUIZ AND ASSIGNMENT SUBMISSION (provided by UF Computing Help Desk): It is recommended that you take online assessments during Help Desk hours whenever possible. If you have a problem while taking an Assessment, log out and log back in as quickly as possible. If the assessment is timed, the timer will continue to run while you are logged out. ***If you still encounter difficulties, take a screen shot of the problem (Hit the “Print Scrn” button on your keyboard and paste “CTRL+V” into a program like Word or Paint) so the Help Desk can investigate and you will have “proof of technical difficulty” of the problem for your instructor.*** Call the Help Desk (352-392-4357) immediately. When you submit an Assignment/Assessment you get a confirmation screen that contains a confirmation number. You might want to make a habit of capturing a screen shot or printing it for your records. The Assignment/Assessment list will also show this Assignment/Assessment as “submitted”

including the date and time of your submission. If you do not get the confirmation screen and your Assignment/Assessment is not listed as "submitted," you have not submitted the Assignment.

- **Exams:** There will be 4 exams throughout the semester (see attached weekly course schedule), each worth 110 points towards your final course grade. All exams for this course will be administered through Canvas and students will take them online through ProctorU. The cost for the four scheduled exams is covered by the MCB4203 course fees.
  - In order to maintain a high standard of academic integrity and assure that the value of your University of Florida degree is not compromised, course exams are proctored online by ProctorU. You will take your exam electronically using the Canvas course website, but you will register with ProctorU early in the semester, and then sign up for a time for a certified proctor in a testing facility to observe you on your computer while you take your exam. You need a webcam, speakers, microphone and reliable Internet connection to be able to take your exams. **Wireless Internet connections have been found to cause issues with online exams and it is therefore strongly recommended to NOT use a wireless Internet connection when taking an online, proctored exam. You will also need a mirror or other reflective surface.**
  - [Sign up for an account with ProctorU](#) during the first week of the semester. If you already have a ProctorU account, you can use the same account. [Register with ProctorU](#) for your exam appointment times early in the semester. You should receive a confirmation email from ProctorU. If you experience any trouble with online registration, you can call **855-772-8678**.
  - Prior to each exam, go to the [ProctorU Test Page](#) to ensure your computer is ready for online proctoring. After you get the following 6 checks that your system is ready:



Take the extra step to connect to a live person:



- This process takes just a few minutes and is completely free.
- Each exam is designed to be completed in 50 minutes or less. However, **the time-limit on each ProctorU exam will always be set at 75 minutes to account for any potential technical difficulties with ProctorU.**
- If you are unable to take an exam because of a technical glitch on your end (computer broken, poor internet connectivity), that is your responsibility and does not constitute an excused absence for an exam. However, if you do experience technical difficulties during the exam, ProctorU will document those difficulties and communicate with your instructor to make possible alternative arrangements. These situations will be assessed by the course instructor on a case-by-case basis and the opportunity for a makeup exam IS NOT GUARANTEED. **Time extension requests for technical/ProctorU difficulties will only be granted if technical difficulties make you lose**

**more than 25 minutes of exam time. This request MUST be made by your proctor to Dr. Rice while you are still connected to the exam and ProctorU.**

- **For additional questions, please review the Proctored Exams Student Handout (available under “General Course Resources” Module on Canvas course website).**
- The window for completing each exam will usually be 48 hours (see weekly course schedule).
- **Make sure you sign-up for the correct exam course number - MCB4203 + your section number (3372 for on-campus students and 002H for UF Online students).**
- The rules for each Exam (i.e. open-book vs. closed-book) will be reviewed prior to each exam period. All exams, regardless of format, will be administered via ProctorU. Materials such as cell phones, scratch paper, books, notes, calculators, etc. are NEVER allowed during the exam and should not be readily accessible.
- **PROCTORU EXAM VIDEOS WILL BE REVIEWED BY THE COURSE INSTRUCTOR TO VERIFY THAT ACADEMIC INTEGRITY OF THE EXAM HAS NOT BEEN BREACHED.**
- **MAKE-UP EXAMS:** If a student has a legitimate reason for missing an exam, the exam can be made-up at an alternative time as arranged with the course instructor. Documentation supporting the inability to write the exam within the scheduled exam window may be requested by the course instructor. Excused absences follow the criteria of the UF Undergraduate Catalog (<https://catalog.ufl.edu/ugrad/1617/regulations/info/attendance.aspx>) and should be communicated to the instructor prior to the missed exam whenever possible.

### **GRADES - The grading scheme for this course is as follows:**

Weekly “homework”: 6 points each (60 points total)

EXAMS 1-4: 110 points each (440 points total)

TOTAL POINTS = 500

Final letter grades will be assigned based on the number of points earned, as follows:

A = 465-500 points	C+ = 385-399.9 points	E = 0-299.9 points
A- = 445 – 464.9 points	C = 365-384.9 points	
B+ = 435 – 444.9 points	C- = 350-364.9 points	
B = 420 – 434.9 points	D+ = 325-349.9 points	
B- = 400-419.9 points	D = 300-324.9 points	

For information on current UF policies for assigning grade points, see <https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>

### **Academic Honesty, Software Use, Campus Helping Resources, Services for Students with Disabilities**

**Academic Honesty:** As a student at the University of Florida, you have committed yourself to uphold the Honor Code, which includes the following pledge: “*We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity.*” You are expected to exhibit behavior consistent with this commitment to the UF academic community, and on all work submitted for credit 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.*” It is assumed that you will complete all work independently in each course



unless the instructor provides explicit permission for you to collaborate on course tasks (e.g. assignments, papers, quizzes, exams). Furthermore, as part of your obligation to uphold the Honor Code, you should report any condition that facilitates academic misconduct to appropriate personnel. It is your individual responsibility to know and comply with all university policies and procedures regarding academic integrity and the Student Honor Code. Violations of the Honor Code at the University of Florida will not be tolerated. Violations will be reported to the Dean of Students Office for consideration of disciplinary action. For more information regarding the Student Honor Code, please see: <http://www.dso.ufl.edu/sccr/process/student-conduct-honor-code>. These policies will be vigorously upheld at all times in this course.

**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.

**Campus Helping Resources:** Students experiencing crises or personal problems that interfere with their general wellbeing are encouraged to utilize the university's counseling resources. The Counseling & Wellness Center provides confidential counseling services at no cost for currently enrolled students. Resources are available on campus for students having personal problems or lacking clear career or academic goals, which interfere with their academic performance.

**University Counseling & Wellness Center, 3190 Radio Road, 352-392-1575, [www.counseling.ufl.edu/cwc/](http://www.counseling.ufl.edu/cwc/)**

- Counseling Services
- Groups and Workshops
- Outreach and Consultation
- Self-Help Library
- Wellness Coaching

**U Matter We Care, [www.umatter.ufl.edu/](http://www.umatter.ufl.edu/)**

**Career Resource Center, First Floor JWRU, 392-1601, [www.crc.ufl.edu/](http://www.crc.ufl.edu/)**

**Services for Students with Disabilities:** The Disability Resource Center coordinates the needed accommodations of students with disabilities. This includes registering disabilities, recommending academic accommodations within the classroom, accessing special adaptive computer equipment, providing interpretation services and mediating faculty-student disability related issues. Students requesting classroom accommodation must first register with the Dean of Students Office. The Dean of Students Office will provide documentation to the student who must then provide this documentation to the Instructor when requesting accommodation 0001 Reid Hall, 352-392-8565, [www.dso.ufl.edu/drc/](http://www.dso.ufl.edu/drc/)

**Student Complaints:**

- 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>

**DRAFT SCHEDULE OF WEEKLY LECTURE TOPICS (final version may change slightly):**

<b>WK</b>	<b>TOPIC(S)</b>	<b>TEXTBOOK CHAPTERS</b>
1	Introduction to Course, Koch's Postulates, Barry Marshall guest lecture ( <i>Helicobacter pylori</i> part 1)	Wilson Ch. 6
2	First Lines of Host Defense ( <i>Helicobacter pylori</i> part 2), Normal Flora/Microbial Census ("microbial shift disease")	Wilson Ch. 2 & 5
3	Innate and Adaptive Host Immunity	Jawetz Ch. 8
	<b>EXAM 1 WINDOW: THURS. SEPT. 14 @ 6 AM EST - SAT. SEPT. 16 @ 6 AM EST.</b>	<b>Covers weeks 1-3 material</b>
4	Measuring Infectivity and Virulence	Wilson Ch. 8
5	Bacterial Evasion of Host Defenses ( <i>Listeria monocytogenes</i> )	Wilson Ch. 11
6	Bacterial Toxins ( <i>Corynebacterium diphtheriae</i> , <i>Clostridium botulinum</i> , <i>Clostridium difficile</i> )	Wilson Ch. 12
7	Virulence gene regulation, Quorum sensing	Wilson Ch. 14
	<b>EXAM 2 WINDOW: THURS. OCT. 12 @ 6 AM EST - SAT. OCT 14 @ 6 AM. EST</b>	<b>Covers weeks 4-7 material</b>
8	Identification of Bacterial Virulence Factors (bacterial and host approaches)	Wilson Ch. 9-10
9	Antibiotics: Modes of Action and Bacterial Resistance ( <i>MRSA "superbug"</i> )	Wilson Ch. 15 and 16
10	Gram +ve Opportunistic Infections (pathogens TBA)	Wilson Ch. 18
11	Gram -ve Opportunistic Infections (pathogens TBA)	Wilson Ch. 19
	<b>EXAM 3 WINDOW: WED NOV. 8 @ 6 AM EST - FRI NOV 10 @ 6 AM. EST</b>	<b>Covers weeks 8-11 material</b>
12	Biosecurity ( <i>Bacillus anthracis</i> , <i>Yersinia pestis</i> )	Wilson Ch. 20
13	Introduction to Viruses, Smallpox	Jawetz Ch. 29-30,34
14	Cancer viruses, Influenza	Jawetz Ch. 39 & 43
15	MMR, vaccine controversies, Ebola	Jawetz Ch. 40 & TBA assigned readings
16	<b>EXAM 4 WINDOW: TUES DEC. 5 @ 6 AM EST - THURS. DEC. 7 @ 6 AM. EST</b>	<b>Covers weeks 12-15 material</b>

## **MCB 4203: BACTERIAL PATHOGENS (sections 3372,002H) Fall 2018**

**Course Delivery:** This course is taught using a “flipped-classroom approach”, comprised of web-based asynchronous lectures (Canvas course website) and a **LIVE WEEKLY MEETING on Wednesdays from periods 10-E1 (5:10 pm – 8:10 pm, MCCC 0100)**

**Instructor:** Dr. Kelly Rice

Office: Room 1147, Microbiology and Cell Science Bldg.

Ph: 352-392-1192, email: [kcrice@ufl.edu](mailto:kcrice@ufl.edu) (***\*\*please use this email for all correspondence, as I check this more often than email through the Canvas course website\*\****)

**Instructor Office hours:** Mondays 9:30 am – 11:30 am (on-campus or by Skype/phone)

**TA(s):** TBA

**Course Description (from catalogue):** Host-microbe relationships in the diseases of humans and animals, including the virulence characteristics of bacterial pathogens, the techniques used in their isolation/identification, and molecular approaches to the study of their virulence. Credits: 3; Prereq: MCB 3020 or MCB 3023 with minimum grade of C.

**Course Objectives: At the completion of this course, students should be able to:**

1. Recognize the complex nature of microbial virulence, especially with respect to the multi-faceted interplay between the host immune system and pathogen
2. Describe (using specific examples from select bacterial pathogens) the strategies used by bacterial pathogens that are required for host manifestation of disease (attachment and entry into host tissues, evasion of host immune defenses, multiplication in vivo, dissemination and transmission)
3. Identify strategies of treatment and prevention of host infection (ie. vaccines, antibiotics, protective role of normal microbiota) and (where applicable) the ensuing response of the pathogen
4. Understand the theory behind various molecular, in vitro, and in vivo techniques used to assess microbial diversity and virulence
5. Analyze case studies and scientific articles using the knowledge gained from objectives 1-4 above.

**Required Textbook:**

1. Wilson et al. Principles of Bacterial Pathogenesis, A Molecular Approach (3<sup>rd</sup> Edition), ISBN 978-155581-418-2

**Overview of Course Format and Policies:**

- This course is co-taught with MCB5205 (Microbiology of Human Pathogens).
- **Email will be primary mode of course correspondence.** Each student is responsible for checking their “ufl.edu” email accounts and Canvas daily for course messages and announcements.
- Course syllabus, lecture notes, and other tools will be available through the Canvas Learning Support System homepage [<http://lss.at.ufl.edu/>]. You will need to enter your Gatorlink username and password

to access the system. If you do not have an active GatorLink ID, cannot remember your GatorLink login information, or if your ID does not work, please refer to the GatorLink website [<http://gatorlink.ufl.edu>] or to the UF Computing Help Desk (The Hub, 392-HELP) for assistance.

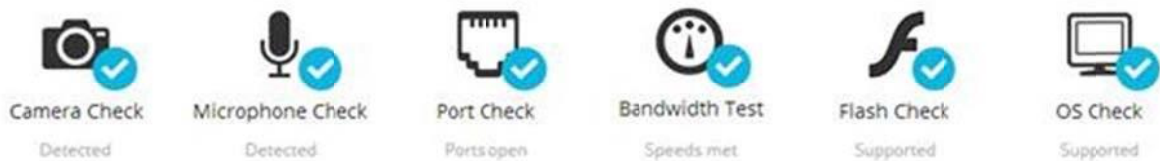
- **Course format:** This course is taught using a “flipped-classroom approach”, whereby all weekly course lectures (pre-recorded), quizzes, etc. will be posted no later than the beginning of each week (Sunday evening) on the Canvas course website. Additionally, in-class weekly review sessions will be held on **Wednesdays during periods 10—E1 (MCCC 0100)**. These live weekly reviews will be recorded by Mediasite and will be accessible through Canvas.
- **A note regarding course materials and copyright:** All course materials posted on the Canvas course website are assembled and intended for students taking MCB4203/MCB5205 ONLY, and therefore they are only available for student use from our secure Canvas course website. Verbatim re-posting of any of these materials to websites such as “course-hero”, You Tube, quizlet, Facebook, etc. is not permitted by the course instructor. Unauthorized re-posting of all course materials (including textbook pdfs) infringes on UF's copyright policies and the "Fair Use" Act (<http://www.generalcounsel.ufl.edu/faq/Copyright.pdf>).
- **Reference letter policy:** Academic reference letters may be provided at the instructor's discretion to students ranking in the top 20% of the final course grades. Please keep in mind that these letters will be strictly academic letters (i.e. your scholastic abilities and participation in the course) and will not elaborate on other things like personal attributes, leadership and research potential, since these are qualities that are very difficult for the instructor to assess in a large-class environment. For more tips on reference letters please refer to the first lecture of the semester (asynchronous lecture). Letters must be requested no later than 6 months after the end of the course.
- **Online course evaluation process:** Student assessment of instruction is an important part of efforts to improve teaching and learning. At the end of the semester, students are expected to provide feedback on the quality of instruction in this course using a standard set of university and college criteria. These evaluations are conducted online at <https://evaluations.ufl.edu>. Evaluations are typically open for students to complete during the last two or three weeks of the semester; students will be notified of the specific times when they are open. Summary results of these assessments are available to students at <https://evaluations.ufl.edu/results>.
  - Each online distance learning program has a process for, and will make every attempt to resolve, student complaints within its academic and administrative departments at the program level. See <http://distance.ufl.edu/student-complaints> for more details.
- **Attendance and Make-Up Work:** Requirements for class attendance and make-up exams, assignments and other work are consistent with university policies that can be found at: <https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>. Excused absences follow the criteria of the UF Undergraduate Catalog and should be communicated to the instructor prior to the missed exam whenever possible.

## Course Assessments and Grading:

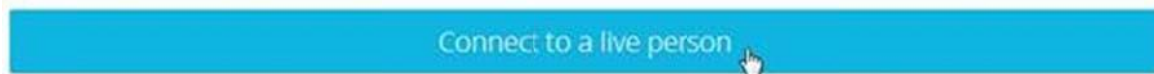
- **Weekly “homework”:** There will be 15 weekly online quizzes or mini-assignments, based on the weekly lecture material, posted readings and/or case-studies. Each quiz is worth 6 points and will typically consist of 6 multiple-choice or short answer questions. ***At the end of semester your lowest 5 quiz scores will be dropped from your grade calculation. In other words, the top 10 quiz scores will be used in calculating your grade (10 x 6 points = 60 total points).*** These are open-book quizzes (administered through Canvas) that are meant to help you review the course material and practice for the exams. Students are welcome to study together and in fact collaboration is encouraged on many assignments. However, each student is responsible for submitting his/her own quiz by the posted due date. The structure of the final course grade calculation with respect to the quizzes (dropping the 5 lowest quiz scores) is designed to give you a “buffer” for those rare occasions where a quiz cannot be completed due to illness, absence, or random forgetfulness.
  - **CANVAS HINTS for ONLINE QUIZ AND ASSIGNMENT SUBMISSION** (provided by UF Computing Help Desk): It is recommended that you take online assessments during Help Desk hours whenever possible. If you have a problem while taking an Assessment, log out and log back in as quickly as possible. If the assessment is timed, the timer will continue to run while you are logged out. ***If you still encounter difficulties, take a screen shot of the problem (Hit the “Print Scrn” button on your keyboard and paste “CTRL+V” into a program like Word or Paint) so the Help Desk can investigate and you will have “proof of technical difficulty” of the problem for your Instructor.*** Call the Help Desk (352-392-4357) immediately. When you submit an Assignment/Assessment you get a confirmation screen that contains a confirmation number. You might want to make a habit of capturing a screen shot or printing it for your records. The Assignment/Assessment list will also show this Assignment/Assessment as "submitted" including the date and time of your submission. If you do not get the confirmation screen and your Assignment/Assessment is not listed as "submitted," you have not submitted the Assignment.
- **Graded discussion boards:** There will be 4 graded discussion board activities assigned throughout the semester; these will be based on assigned videos or readings that supplement the weekly lecture material. **Each discussion board activity is worth 5 points (4 x 5 points = 20 points total).**
- **Exams:** There will be 4 exams throughout the semester (see attached weekly course schedule), each worth either 100 or 110 points towards your final course grade (see grading scheme below). All exams for this course will be administered through Canvas and students will take them online through ProctorU. The cost for the four scheduled exams is covered by the MCB4203 course fees.
  - In order to maintain a high standard of academic integrity and assure that the value of your University of Florida degree is not compromised, course exams are proctored online by ProctorU. You will take your exam electronically using the Canvas course website, but you will register with ProctorU early in the semester, and then sign up for a time for a certified proctor in a testing facility to observe you on your computer while you take your exam. **You need a webcam, speakers, microphone and reliable Internet connection to be able to take your exams. Wireless Internet connections have been found to cause issues with online exams and it is therefore strongly**

**recommended to NOT use a wireless Internet connection when taking an online, proctored exam. You will also need a mirror or other reflective surface.**

- [Sign up for an account with ProctorU](#) during the first week of the semester. If you already have a ProctorU account, you can use the same account. [Register with ProctorU](#) for your exam appointment times early in the semester. You should receive a confirmation email from ProctorU. If you experience any trouble with online registration, you can call **855-772-8678**.
- Prior to each exam, go to the [ProctorU Test Page](#) to ensure your computer is ready for online proctoring. After you get the following 6 checks that your system is ready:



Take the extra step to connect to a live person:



- This process takes just a few minutes and is completely free.
- Each exam is designed to be completed in 50 minutes or less. However, **the time-limit on each ProctorU exam will always be set at 75 minutes to account for any potential technical difficulties with ProctorU.**
- If you are unable to take an exam because of a technical glitch on your end (computer broken, poor internet connectivity), that is your responsibility and does not constitute an excused absence for an exam. However, if you do experience technical difficulties during the exam, ProctorU will document those difficulties and communicate with your instructor to make possible alternative arrangements. These situations will be assessed by the course instructor on a case-by-case basis and the opportunity for a makeup exam IS NOT GUARANTEED. **Time extension requests for technical/ProctorU difficulties will only be granted if technical difficulties make you lose more than 25 minutes of exam time.** This request **MUST** be made by your proctor to Dr. Rice while you are still connected to the exam and ProctorU.
- ***For additional questions, please review the Proctored Exams Student Handout (available under "General Course Resources" Module on Canvas course website).***
- The window for completing each exam will usually be 48 hours (see weekly course schedule).
- **Make sure you sign-up for the correct exam course number - MCB4203 + your section number (3372 for on-campus students and 002H for UF Online students).**
- The rules for each Exam (i.e. open-book vs. closed-book) will be reviewed prior to each exam period. All exams, regardless of format, will be administered via ProctorU. Materials such as cell phones, scratch paper, books, notes, calculators, etc. are NEVER allowed during the exam and should not be readily accessible.
- **PROCTORU EXAM VIDEOS WILL BE REVIEWED BY THE COURSE INSTRUCTOR TO VERIFY THAT ACADEMIC INTEGRITY OF THE EXAM HAS NOT BEEN BREACHED.**

## **GRADES - The grading scheme for this course is as follows:**

Weekly “homework”: 6 points each (60 points total)

Graded discussion boards: 5 points each (20 points total)

EXAMS 1 and 4: 100 points each (200 points total)

EXAMS 2 and 3: 110 points each (220 points total)

TOTAL POINTS = 500

Final letter grades will be assigned based on the number of points earned, as follows:

A = 465-500 points

C+ = 385-399.9 points

E = 0-299.9 points

A- = 445 – 464.9 points

C = 365-384.9 points

B+ = 435 – 444.9 points

C- = 350-364.9 points

B = 420 – 434.9 points

D+ = 325-349.9 points

B- = 400-419.9 points

D = 300-324.9 points

For information on current UF policies for assigning grade points, see <https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>

### **Academic Honesty:**

As a student at the University of Florida, you have committed yourself to uphold the Honor Code, which includes the following pledge: “*We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity.*” You are expected to exhibit behavior consistent with this commitment to the UF academic community, and on all work submitted for credit 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.*”

It is assumed that you will complete all work independently in each course unless the instructor provides explicit permission for you to collaborate on course tasks (e.g. assignments, papers, quizzes, exams). Furthermore, as part of your obligation to uphold the Honor Code, you should report any condition that facilitates academic misconduct to appropriate personnel. It is your individual responsibility to know and comply with all university policies and procedures regarding academic integrity and the Student Honor Code. Violations of the Honor Code at the University of Florida will not be tolerated. Violations will be reported to the Dean of Students Office for consideration of disciplinary action. For more information regarding the Student Honor Code, please see: <http://www.dso.ufl.edu/sccr/process/student-conduct-honor-code>.

### **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.

### **Services for Students with Disabilities:**

The Disability Resource Center coordinates the needed accommodations of students with disabilities. This includes registering disabilities, recommending academic accommodations within the classroom, accessing special adaptive computer equipment, providing interpretation services and mediating faculty-student disability related issues. Students requesting classroom accommodation must first register with the Dean of Students Office. The Dean of Students Office will provide documentation to the student who must then provide this documentation to the Instructor when requesting accommodation.



**Campus Helping Resources:**

Students experiencing crises or personal problems that interfere with their general well-being are encouraged to utilize the university’s counseling resources. The Counseling & Wellness Center provides confidential counseling services at no cost for currently enrolled students. Resources are available on campus for students having personal problems or lacking clear career or academic goals, which interfere with their academic performance.

- *University Counseling & Wellness Center, 3190 Radio Road, 352-392-1575, [www.counseling.ufl.edu](http://www.counseling.ufl.edu)*

Counseling Services  
 Groups and Workshops  
 Outreach and Consultation  
 Self-Help Library  
 Wellness Coaching

- U Matter We Care, [www.umatter.ufl.edu/](http://www.umatter.ufl.edu/)
  - *Career Resource Center, First Floor JWRU, 392-1601, [www.crc.ufl.edu/next-level](http://www.crc.ufl.edu/next-level)*
- Student Complaints:
  - 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>

**DRAFT SCHEDULE OF WEEKLY LECTURE TOPICS (final version may change slightly):**

<b>WK</b>	<b>TOPIC(S)</b>	<b>TEXTBOOK CHAPTERS</b>
1	Introduction to Course, Koch’s Postulates, Barry Marshall guest lecture ( <i>H. pylori</i> part 1)	Wilson Ch. 6
2	Host Physical Defenses, <i>H. pylori</i> part 2	Wilson Ch. 2
3	Normal Flora/Microbial Census, microbial shift disease	Wilson Ch. 5
	<b><u>EXAM 1 WINDOW: THURS. SEPT. __ @ 6 AM EST</u></b> <b><u>– SAT. SEPT. __ @ 6 AM EST.</u></b>	<b>Covers weeks 1-3 material</b>
4	Innate Immunity	Wilson Ch. 3
5	Adaptive Immunity	Wilson Ch. 4
6	Measuring Infectivity and Virulence	Wilson Ch. 8
7	Bacterial Evasion of Host Defenses I	Wilson Ch. 11
	<b><u>EXAM 2 WINDOW: THURS. OCT. __ @ 6 AM EST</u></b> <b><u>– SAT. OCT __ @ 6 AM. EST</u></b>	<b>Covers weeks 4-7 material</b>
8	Bacterial Evasion of Host Defenses II	Wilson Ch. 11



9	Bacterial Toxins	Wilson Ch. 12
10	Delivery of Virulence Factors	Wilson Ch. 13
11	Identification of Bacterial Virulence Factors (bacterial and host approaches)	Wilson Ch. 9-10
	<b><u>EXAM 3 WINDOW: WED NOV. __ 8 @ 6 AM EST</u></b> <b>- FRI NOV __ @ 6 AM. EST</b>	<b>Covers weeks 8-11 material</b>
12	Antibiotics: Modes of Action and Bacterial Resistance	Wilson Ch. 15-16
13	Quorum sensing/bacterial communication	Wilson Ch. 14
14	Biosecurity ( <i>Bacillus anthracis</i> , <i>Yersinia pestis</i> )	Wilson Ch. 20
15	Opportunistic Infections	Wilson Ch. 18-19
	<b><u>EXAM 4 WINDOW: TUES DEC. __ @ 6 AM EST</u></b> <b>- THURS. DEC. __ @ 6 AM. EST</b>	<b>Covers weeks 12-15 material</b>

## **MCB 5205: MICROBIOLOGY OF HUMAN PATHOGENS Fall 2017 sections 24H5, 173C**

**Course Delivery:** This course is taught using a “flipped-classroom approach”, comprised of web-based asynchronous lectures (Canvas course website). **On-campus OPTIONAL LIVE MEETINGS on Wednesdays from periods 10-E1 (5:10 pm – 8:10 pm, MCCC 0100) will be recorded and posted to Mediasite (accessible through Canvas course website).**

**Instructor:** Dr. Kelly Rice

Office: Room 1147, Microbiology and Cell Science Bldg.

Ph: 352-392-1192, email: [kcrice@ufl.edu](mailto:kcrice@ufl.edu) (***\*\*please use this email for all correspondence, as I check this more often than email through the Canvas course website\*\****)

**Instructor Office hours:** Mondays 9:30 am – 11:30 am

**\*\*For off-campus students, please arrange office hour appointments by email ([kcrice@ufl.edu](mailto:kcrice@ufl.edu)). Skype or Canvas will be the communication tool for these appointments.**

**TA(s):** Daniel Noe and TBA

**Course Description:** Survey of advanced topics and current scientific literature related to human host-pathogen interactions and microbial pathogenesis, focusing on emerging bacterial and viral pathogens as agents of human disease, biosecurity, molecular identification methods, spread of multi-drug resistance among bacterial pathogens, drug discovery and alternative treatment research.

**Course Objectives: At the completion of this course, students should be able to:**

1. Recognize the complex nature of microbial virulence, especially with respect to the multi-faceted interplay between the host immune system and pathogen
2. Describe (using specific examples) the strategies used by bacterial and viral pathogens that are required for host manifestation of disease (attachment and entry into host tissues, evasion of host immune defenses, multiplication in vivo, dissemination and transmission)
3. Identify strategies of treatment and prevention of host infection (ie. vaccines, antibiotics, antivirals, protective role of normal microbiota) and the ensuing response of the pathogen
4. Analyze hypothetical medical case studies using the knowledge gained from objectives 1-3 above.
5. Relate objectives 1-3 above to contemporary research literature in the field of microbial pathogenesis
6. Research, design and create a comprehensive recorded lecture outlining the history, pathogenesis, current treatment strategies, and unanswered questions of a historic, emerging or re-emerging pathogen.

### **Required Textbook:**

1. Wilson et al. Principles of Bacterial Pathogenesis, A Molecular Approach (3<sup>rd</sup> Edition), ISBN 978-155581-418-2

### **Optional/Recommended Textbook:**

1. Jawetz et al. Medical Microbiology, 26<sup>th</sup> Edition, ISBN 978-0-07179-031-4 (eBook\* available through UF libraries: <http://uf.catalog.fcla.edu/uf.jsp?st=UF031735546&ix=pm&l=0&V=D&pm=1>)

\*Please note that you **MUST** be logged on to UF library website or Gatorlink VPN to access this eBook off-campus)

### **Bibliography of Assigned Readings and Presentations (available online or through UF libraries):**

\*\*an online synchronous discussion group for each of these readings/presentations will be scheduled before each exam throughout the semester\*\*

1. Gibson, G. (2011), "Probiotics and prebiotics", in Finlay, B. (ed.), *Microbiota: Agents for Health and Disease*, The Biomedical & Life Sciences Collection, Henry Stewart Talks Ltd, London (online at <http://hstalks.com/bio>) (**EXAM 1**)
2. Daniel J. Hassett, Mark D. Sutton, Michael J. Schurr, Andrew B. Herr, Charles C. Caldwell, Joseph O. Matu. (2009), *Pseudomonas aeruginosa* hypoxic or anaerobic biofilm infections within cystic fibrosis airways, *Trends in Microbiology*, 17: 130-138, doi: 10.1016/j.tim.2008.12.003. (**EXAM 2**)
3. Schultz, G. (2014), "Biofilms and chronic wounds: winning the war in wounds", in Schultz, G. (ed.), *Wound Healing*, The Biomedical & Life Sciences Collection, Henry Stewart Talks Ltd, London (online at <http://hstalks.com/?t=BL1863835>) (**EXAM 3**)
4. Walker, B. (2007), "How HIV Causes Disease", in Gallo, R. (ed.), *Retroviruses: Biology, Pathogenic Mechanisms and Treatment*, The Biomedical & Life Sciences Collection, Henry Stewart Talks Ltd, London (online at <http://hstalks.com/?t=BL0401757>) (**EXAM 4**)

### **Overview of Course Format and Policies:**

- MCB5205 is co-taught with the undergraduate course MCB4203 (Bacterial and Viral Pathogens). In addition to the lecture material and exams that are shared with MCB4203, **students enrolled in MCB5205 are required to complete the following: (1) approximately 10% of each proctored exam 1-4 will be drawn from a pool of questions specifically associated with an additional series of four assigned readings/presentations (see Bibliography above); (2) Research and prepare a recorded online lecture (see below for more details).**
- **Email will be primary mode of course correspondence.** Each student is responsible for checking their "ufl.edu" email accounts and Canvas daily for course messages and announcements.
- Course syllabus, lecture notes, and other tools will be available through the Canvas Learning Support System homepage [<http://lss.at.ufl.edu/>]. You will need to enter your Gatorlink username and password to access the system. If you do not have an active GatorLink ID, cannot remember your GatorLink login information, or if your ID does not work, please refer to the GatorLink website [<http://gatorlink.ufl.edu>] or to the UF Computing Help Desk (The Hub, 392-HELP) for assistance.
- **Course format and attendance policy:** This course is taught using a "flipped-classroom approach", whereby all weekly course lectures (pre-recorded), quizzes, etc. will be posted no later than the beginning of each week (Sunday evening) on the Canvas course website. Additionally, **OPTIONAL ATTENDANCE** in-class weekly review sessions will be held on **Wednesdays during periods 10—E1 (MCCC 0100)**. The first half (60-90 minutes) of each weekly live review session will be comprised of weekly homework/quiz review, "traditional" classroom/lecture-style Q & A review, and various interactive classroom activities designed to reinforce the week's posted lecture material. This part of the class will be recorded by Mediasite and will be accessible through Canvas. During the second half

of the class, the instructor and/or TAs will be available for informal discussion/extra help for course material with individuals/small groups of students (this portion is NOT recorded/posted to Canvas). Since NO NEW MATERIAL will be covered during these live weekly course meetings, attendance is highly encouraged but NOT mandatory. Additionally, you are highly encouraged to participate in the Canvas course chat room and discussion boards that will be scheduled periodically throughout the semester. The course instructor will not answer emails related to course content or study questions the night before a scheduled exam, so please make sure to take advantage of all the options mentioned above.

- **A note regarding course materials and copyright:** All course materials posted on the Canvas course website are assembled and intended for students taking MCB4203/MCB5205 ONLY, and this is why they are only available for student use from our secure Canvas course website. Re-posting of any of these materials to websites such as “course-hero”, You Tube, or Facebook is strictly forbidden by the course instructor and is considered a violation of copyright policies. Likewise, re-posting textbook pdfs is an infringement on the publisher’s copyright, so please do not get yourself in trouble by doing this. Unauthorized re-posting of all course materials (including textbook pdfs) infringes on UF's copyright policies and the "Fair Use" Act (<http://www.generalcounsel.ufl.edu/fag/Copyright.pdf>).
- **Reference letter policy:** Academic reference letters may be provided at the instructor's discretion to students ranking in the top 20% of the final course grades. Please keep in mind that these letters will be strictly academic letters (i.e. your scholastic abilities and participation in the course) and will not elaborate on other things like personal attributes, leadership and research potential, since these are qualities that are very difficult for the instructor to assess in a large-class environment. For more tips on reference letters please refer to the first lecture of the semester (asynchronous lecture). Letters must be requested no later than 6 months after the end of the course.
- **Online course evaluation process:** Student assessment of instruction is an important part of efforts to improve teaching and learning. At the end of the semester, students are expected to provide feedback on the quality of instruction in this course using a standard set of university and college criteria. These evaluations are conducted online at <https://evaluations.ufl.edu>. Evaluations are typically open for students to complete during the last two or three weeks of the semester; students will be notified of the specific times when they are open. Summary results of these assessments are available to students at <https://evaluations.ufl.edu/results>.
- Each online distance learning program has a process for, and will make every attempt to resolve, student complaints within its academic and administrative departments at the program level. See <http://distance.ufl.edu/student-complaints> for more details.

### **Course Assessments and Grading:**

- **Weekly “homework”:** There will be 15 weekly online quizzes or mini-assignments, based on the weekly lecture material, posted readings and/or case-studies. Each quiz is worth 6 points and will typically consist of 6 multiple-choice or short answer questions. ***At the end of semester your lowest 5 quiz scores will be dropped from your grade calculation. In other words, the top 10 quiz scores***

**will be used in calculating your grade (10 x 6 points = 60 total points).** These are open-book quizzes (administered through Canvas) that are meant to help you review the course material and practice for the exams. Students are welcome to study together and in fact collaboration is encouraged on many assignments. However, each student is responsible for submitting his/her own quiz by the posted due date.

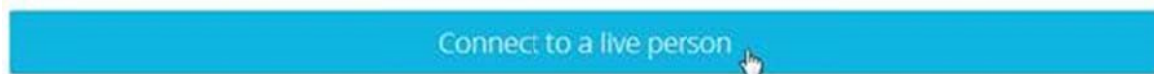
- IF A STUDENT FAILS TO COMPLETE A QUIZ PRIOR TO THE DUE DATE, THEY WILL RECEIVE 0 POINTS FOR THAT ASSIGNMENT OR QUIZ. EXTENSIONS OR “MAKE-UP” QUIZZES WILL NOT BE GIVEN UNDER ANY CIRCUMSTANCE, WITH THE EXCEPTION OF PROOF OF TECHNICAL DIFFICULTY (see below) THAT PRECLUDES ON-TIME SUBMISSION. The structure of the final course grade calculation with respect to the quizzes (dropping the 5 lowest quiz scores) is designed to give you a “buffer” for those rare occasions where a quiz cannot be completed due to illness, absence, or random forgetfulness. Therefore please do not ask the instructor to accept late quizzes or re-open quizzes, the answer will always be “no”...
- CANVAS HINTS for ONLINE QUIZ AND ASSIGNMENT SUBMISSION (provided by UF Computing Help Desk): It is recommended that you take online assessments during Help Desk hours whenever possible. If you have a problem while taking an Assessment, log out and log back in as quickly as possible. If the assessment is timed, the timer will continue to run while you are logged out. **If you still encounter difficulties, take a screen shot of the problem (Hit the “Print Scrn” button on your keyboard and paste “CTRL+V” into a program like Word or Paint) so the Help Desk can investigate and you will have “proof of technical difficulty” of the problem for your Instructor.** Call the Help Desk (352-392-4357) immediately. When you submit an Assignment/Assessment you get a confirmation screen that contains a confirmation number. You might want to make a habit of capturing a screen shot or printing it for your records. The Assignment/Assessment list will also show this Assignment/Assessment as "submitted" including the date and time of your submission. If you do not get the confirmation screen and your Assignment/Assessment is not listed as "submitted," you have not submitted the Assignment.
- **Final Presentation:** Each student enrolled in MCB5205 will be responsible for choosing a historic, emerging, or re-emerging pathogen (bacterial or viral) of interest (ANY PATHOGEN NOT COVERED BY THE COURSE INSTRUCTOR IN CLASS), and will research and preparing a 10-minute recorded online lecture (to be submitted through Canvas course website) outlining the history, pathogenesis (both host and pathogen aspects), current treatment strategies (if any), and unanswered questions in the field of study. 5 multiple-choice questions will also be submitted with the recorded lecture. **This presentation and question set must be submitted no later than FRIDAY, NOV. 24<sup>th</sup> by 11:59 pm EST.** Periodic online meetings will be held throughout the semester to discuss this assignment.
- **Exams:** There will be 4 exams throughout the semester (see attached weekly course schedule), each worth 110 points towards your final course grade. All exams for this course will be administered through Canvas and students will take them online through ProctorU. The cost for the four scheduled exams is covered by the MCB5205 course fees.
- In order to maintain a high standard of academic integrity and assure that the value of your University of Florida degree is not compromised, course exams are proctored online by ProctorU.

You will take your exam electronically using the Canvas course website, but you will register with ProctorU early in the semester, and then sign up for a time for a certified proctor in a testing facility to observe you on your computer while you take your exam. You need a webcam, speakers, microphone and reliable Internet connection to be able to take your exams. **Wireless Internet connections have been found to cause issues with online exams and it is therefore strongly recommended to NOT use a wireless Internet connection when taking an online, proctored exam. You will also need a mirror or other reflective surface.**

- [Sign up for an account with ProctorU](#) during the first week of the semester. If you already have a ProctorU account, you can use the same account. [Register with ProctorU](#) for your exam appointment times early in the semester. You should receive a confirmation email from ProctorU. If you experience any trouble with online registration, you can call **855-772-8678**.
- Prior to each exam, go to the [ProctorU Test Page](#) to ensure your computer is ready for online proctoring. After you get the following 6 checks that your system is ready:



Take the extra step to connect to a live person:



- This process takes just a few minutes and is completely free.
- Each exam is designed to be completed in 50 minutes or less. However, **the time-limit on each ProctorU exam will always be set at 75 minutes to account for any potential technical difficulties with ProctorU.**
- If you are unable to take an exam because of a technical glitch on your end (computer broken, poor internet connectivity), that is your responsibility and does not constitute an excused absence for an exam. However, if you do experience technical difficulties during the exam, ProctorU will document those difficulties and communicate with your instructor to make possible alternative arrangements. These situations will be assessed by the course instructor on a case-by-case basis and the opportunity for a makeup exam IS NOT GUARANTEED. **Time extension requests for technical/ProctorU difficulties will only be granted if technical difficulties make you lose more than 25 minutes of exam time.** This request **MUST** be made by your proctor to Dr. Rice while you are still connected to the exam and ProctorU.
- ***For additional questions, please review the Proctored Exams Student Handout (available under “General Course Resources” Module on Canvas course website).***
- The window for completing each exam will usually be 48 hours (see weekly course schedule).
- **Make sure you sign-up for the correct exam course number – MCB5205 + your section number (173C for on-campus students and 24H5 for UF Online students).**
- The rules for each Exam (i.e. open-book vs. closed-book) will be reviewed prior to each exam period. All exams, regardless of format, will be administered via ProctorU. Materials such as cell phones, scratch paper, books, notes, calculators, etc. are NEVER allowed during the exam and should not be readily accessible.

- **PROCTORU EXAM VIDEOS WILL BE REVIEWED BY THE COURSE INSTRUCTOR TO VERIFY THAT ACADEMIC INTEGRITY OF THE EXAM HAS NOT BEEN BREACHED.**
- **MAKE-UP EXAMS:** If a student has a legitimate reason for missing an exam, the exam can be made-up at an alternative time as arranged with the course instructor. Documentation supporting the inability to write the exam within the scheduled exam window may be requested by the course instructor. Excused absences follow the criteria of the UF Undergraduate Catalog (<https://catalog.ufl.edu/ugrad/1617/regulations/info/attendance.aspx>) and should be communicated to the instructor prior to the missed exam whenever possible.

**GRADES - The grading scheme for this course is as follows:**

Weekly “homework” - 6 points each (60 points total)

EXAMS 1-4: 110 points each (440 points total)

Final Presentation: 100 points

TOTAL POINTS = 600

Final letter grades will be assigned based on the number of points earned, as follows:

A = 552-600 points	C+ = 462-479.9 points	E = 0-359.9 points
A- = 534 – 551.9 points	C = 438-461.9 points	
B+ = 522 – 533.9 points	C- = 420-437.9 points	
B = 504 – 521.9 points	D+ = 390-419.9 points	
B- = 480-503.9 points	D = 360-389.9 points	

For information on current UF policies for assigning grade points, see <https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>

**Academic Honesty, Software Use, Campus Helping Resources, Services for Students with Disabilities**

**Academic Honesty:** As a student at the University of Florida, you have committed yourself to uphold the Honor Code, which includes the following pledge: *“We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity.”* You are expected to exhibit behavior consistent with this commitment to the UF academic community, and on all work submitted for credit 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.”* It is assumed that you will complete all work independently in each course unless the instructor provides explicit permission for you to collaborate on course tasks (e.g. assignments, papers, quizzes, exams). Furthermore, as part of your obligation to uphold the Honor Code, you should report any condition that facilitates academic misconduct to appropriate personnel. It is your individual responsibility to know and comply with all university policies and procedures regarding academic integrity and the Student Honor Code. Violations of the Honor Code at the University of Florida will not be tolerated. Violations will be reported to the Dean of Students Office for consideration of disciplinary action. For more information regarding the Student Honor Code, please see: <http://www.dso.ufl.edu/sccr/process/student-conduct-honor-code>. These policies will be vigorously upheld at all times in this course.

**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.



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**University Counseling & Wellness Center, 3190 Radio Road, 352-392-1575, [www.counseling.ufl.edu/cwc/](http://www.counseling.ufl.edu/cwc/)**

- Counseling Services
- Groups and Workshops
- Outreach and Consultation
- Self-Help Library
- Wellness Coaching

**U Matter We Care, [www.umatter.ufl.edu/](http://www.umatter.ufl.edu/)**

**Career Resource Center, First Floor JWRU, 392-1601, [www.crc.ufl.edu/](http://www.crc.ufl.edu/)**

**Services for Students with Disabilities:** The Disability Resource Center coordinates the needed accommodations of students with disabilities. This includes registering disabilities, recommending academic accommodations within the classroom, accessing special adaptive computer equipment, providing interpretation services and mediating faculty-student disability related issues. Students requesting classroom accommodation must first register with the Dean of Students Office. The Dean of Students Office will provide documentation to the student who must then provide this documentation to the Instructor when requesting accommodation 0001 Reid Hall, 352-392-8565, [www.dso.ufl.edu/drc/](http://www.dso.ufl.edu/drc/)

**Student Complaints:**

- 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>



**DRAFT SCHEDULE OF WEEKLY LECTURE TOPICS (final version may change slightly):**

<b>WK</b>	<b>TOPIC(S)</b>	<b>TEXTBOOK CHAPTERS</b>
1	Introduction to Course, Koch's Postulates, Barry Marshall guest lecture ( <i>Helicobacter pylori</i> part 1)	Wilson Ch. 6
2	First Lines of Host Defense ( <i>Helicobacter pylori</i> part 2), Normal Flora/Microbial Census ("microbial shift disease")	Wilson Ch. 2 & 5
3	Innate and Adaptive Host Immunity	Jawetz Ch. 8
	<b>EXAM 1 WINDOW: THURS. SEPT. 14 @ 6 AM EST</b> <b>- SAT. SEPT. 16 @ 6 AM EST.</b>	<b>Covers weeks 1-3 material</b>
4	Measuring Infectivity and Virulence	Wilson Ch. 8
5	Bacterial Evasion of Host Defenses ( <i>Listeria monocytogenes</i> )	Wilson Ch. 11
6	Bacterial Toxins ( <i>Corynebacterium diphtheriae</i> , <i>Clostridium botulinum</i> , <i>Clostridium difficile</i> )	Wilson Ch. 12
7	Virulence gene regulation, Quorum sensing	Wilson Ch. 14
	<b>EXAM 2 WINDOW: THURS. OCT. 12 @ 6 AM EST</b> <b>- SAT. OCT 14 @ 6 AM. EST</b>	<b>Covers weeks 4-7 material</b>
8	Identification of Bacterial Virulence Factors (bacterial and host approaches)	Wilson Ch. 9-10
9	Antibiotics: Modes of Action and Bacterial Resistance ( <i>MRSA "superbug"</i> )	Wilson Ch. 15 and 16
10	Gram +ve Opportunistic Infections (pathogens TBA)	Wilson Ch. 18
11	Gram -ve Opportunistic Infections (pathogens TBA)	Wilson Ch. 19
	<b>EXAM 3 WINDOW: WED NOV. 8 @ 6 AM EST</b> <b>- FRI NOV 10 @ 6 AM. EST</b>	<b>Covers weeks 8-11 material</b>
12	Biosecurity ( <i>Bacillus anthracis</i> , <i>Yersinia pestis</i> )	Wilson Ch. 20
13	Introduction to Viruses, Smallpox	Jawetz Ch. 29-30,34
14	Cancer viruses, Influenza	Jawetz Ch. 39 & 43
15	MMR, vaccine controversies, Ebola	Jawetz Ch. 40 & TBA assigned readings
16	<b>EXAM 4 WINDOW: TUES DEC. 5 @ 6 AM EST</b> <b>- THURS. DEC. 7 @ 6 AM. EST</b>	<b>Covers weeks 12-15 material</b>

## **MCB 4203: BACTERIAL PATHOGENS (sections 3372.002H) Fall 2018**

**Course Delivery:** This course is taught using a “flipped-classroom approach”, comprised of web-based asynchronous lectures (Canvas course website) and **OPTIONAL LIVE MEETINGS on Wednesdays from periods 10-E1 (5:10 pm – 8:10 pm, MCCC 0100)**

**Instructor:** Dr. Kelly Rice

Office: Room 1147, Microbiology and Cell Science Bldg.

Ph: 352-392-1192, email: [kcrice@ufl.edu](mailto:kcrice@ufl.edu) (***\*\*please use this email for all correspondence, as I check this more often than email through the Canvas course website\*\****)

**Instructor Office hours:** Mondays 9:30 am – 11:30 am (on-campus or by Skype/phone)

**TA(s):** TBA

**Course Description (from catalogue):** Host-microbe relationships in the diseases of humans and animals, including the virulence characteristics of bacterial pathogens, the techniques used in their isolation/identification, and molecular approaches to the study of their virulence. Credits: 3; Prereq: MCB 3020 or MCB 3023 with minimum grade of C.

**Course Objectives: At the completion of this course, students should be able to:**

1. Recognize the complex nature of microbial virulence, especially with respect to the multi-faceted interplay between the host immune system and pathogen
2. Describe (using specific examples from select bacterial pathogens) the strategies used by bacterial pathogens that are required for host manifestation of disease (attachment and entry into host tissues, evasion of host immune defenses, multiplication in vivo, dissemination and transmission)
3. Identify strategies of treatment and prevention of host infection (ie. vaccines, antibiotics, antivirals, protective role of normal microbiota) and (where applicable) the ensuing response of the pathogen
4. Understand the theory behind various molecular, in vitro, and in vivo techniques used to assess microbial diversity and virulence
5. Analyze case studies and scientific articles using the knowledge gained from objectives 1-4 above.

**Required Textbook:**

1. Wilson et al. Principles of Bacterial Pathogenesis, A Molecular Approach (3<sup>rd</sup> Edition), ISBN 978-155581-418-2

**Overview of Course Format and Policies:**

- This course is co-taught with MCB5205 (Microbiology of Human Pathogens).
- **Email will be primary mode of course correspondence.** Each student is responsible for checking their “ufl.edu” email accounts and Canvas daily for course messages and announcements.
- Course syllabus, lecture notes, and other tools will be available through the Canvas Learning Support System homepage [<http://lss.at.ufl.edu/>]. You will need to enter your Gatorlink username and password

to access the system. If you do not have an active GatorLink ID, cannot remember your GatorLink login information, or if your ID does not work, please refer to the GatorLink website [<http://gatorlink.ufl.edu>] or to the UF Computing Help Desk (The Hub, 392-HELP) for assistance.

- **Course format and attendance policy:** This course is taught using a “flipped-classroom approach”, whereby all weekly course lectures (pre-recorded), quizzes, etc. will be posted no later than the beginning of each week (Sunday evening) on the Canvas course website. Additionally, OPTIONAL ATTENDANCE in-class weekly review sessions will be held on **Wednesdays during periods 10—E1 (MCCC 0100)**. The first half (60-90 minutes) of each weekly live review session will be comprised of weekly homework/quiz review, “traditional” classroom/lecture-style Q & A review, and various interactive classroom activities designed to reinforce the week’s posted lecture material. This part of the class will be recorded by Mediasite and will be accessible through Canvas. During the second half of the class, the instructor and/or TAs will be available for informal discussion/extra help for course material with individuals/small groups of students (this portion is NOT recorded/posted to Canvas). Since NO NEW MATERIAL will be covered during these live weekly course meetings, attendance is highly encouraged but NOT mandatory. Additionally, you are highly encouraged to participate in the Canvas course chat room and discussion boards that will be scheduled periodically throughout the semester. The course instructor will not answer emails related to course content or study questions the night before a scheduled exam, so please make sure to take advantage of all the options mentioned above.
- **A note regarding course materials and copyright:** All course materials posted on the Canvas course website are assembled and intended for students taking MCB4203/MCB5205 ONLY, and this is why they are only available for student use from our secure Canvas course website. Verbatim re-posting of any of these materials to websites such as “course-hero”, You Tube, quizlet, Facebook, etc. is strictly forbidden by the course instructor and is considered a violation of copyright policies. Likewise, re-posting textbook pdfs is an infringement on the publisher’s copyright, so please do not get yourself in trouble by doing this. Unauthorized re-posting of all course materials (including textbook pdfs) infringes on UF’s copyright policies and the “Fair Use” Act (<http://www.generalcounsel.ufl.edu/faq/Copyright.pdf>).
- **Reference letter policy:** Academic reference letters may be provided at the instructor’s discretion to students ranking in the top 20% of the final course grades. Please keep in mind that these letters will be strictly academic letters (i.e. your scholastic abilities and participation in the course) and will not elaborate on other things like personal attributes, leadership and research potential, since these are qualities that are very difficult for the instructor to assess in a large-class environment. For more tips on reference letters please refer to the first lecture of the semester (asynchronous lecture). Letters must be requested no later than 6 months after the end of the course.
- **Online course evaluation process:** Student assessment of instruction is an important part of efforts to improve teaching and learning. At the end of the semester, students are expected to provide feedback on the quality of instruction in this course using a standard set of university and college criteria. These evaluations are conducted online at <https://evaluations.ufl.edu>. Evaluations are typically open for students to complete during the last two or three weeks of the semester; students will be

notified of the specific times when they are open. Summary results of these assessments are available to students at <https://evaluations.ufl.edu/results>.

- Each online distance learning program has a process for, and will make every attempt to resolve, student complaints within its academic and administrative departments at the program level. See <http://distance.ufl.edu/student-complaints> for more details.

### **Course Assessments and Grading:**

- **Weekly “homework”:** There will be 15 weekly online quizzes or mini-assignments, based on the weekly lecture material, posted readings and/or case-studies. Each quiz is worth 6 points and will typically consist of 6 multiple-choice or short answer questions. ***At the end of semester your lowest 5 quiz scores will be dropped from your grade calculation. In other words, the top 10 quiz scores will be used in calculating your grade (10 x 6 points = 60 total points).*** These are open-book quizzes (administered through Canvas) that are meant to help you review the course material and practice for the exams. Students are welcome to study together and in fact collaboration is encouraged on many assignments. However, each student is responsible for submitting his/her own quiz by the posted due date.
  - IF A STUDENT FAILS TO COMPLETE A QUIZ PRIOR TO THE DUE DATE, THEY WILL RECEIVE 0 POINTS FOR THAT ASSIGNMENT OR QUIZ. EXTENSIONS OR “MAKE-UP” QUIZZES WILL NOT BE GIVEN UNDER ANY CIRCUMSTANCE, WITH THE EXCEPTION OF PROOF OF TECHNICAL DIFFICULTY (see below) THAT PRECLUDES ON-TIME SUBMISSION. The structure of the final course grade calculation with respect to the quizzes (dropping the 5 lowest quiz scores) is designed to give you a “buffer” for those rare occasions where a quiz cannot be completed due to illness, absence, or random forgetfulness. Therefore please do not ask the instructor to accept late quizzes or re-open quizzes, the answer will always be “no”...
  - CANVAS HINTS for ONLINE QUIZ AND ASSIGNMENT SUBMISSION (provided by UF Computing Help Desk): It is recommended that you take online assessments during Help Desk hours whenever possible. If you have a problem while taking an Assessment, log out and log back in as quickly as possible. If the assessment is timed, the timer will continue to run while you are logged out. ***If you still encounter difficulties, take a screen shot of the problem (Hit the “Print Scrn” button on your keyboard and paste “CTRL+V” into a program like Word or Paint) so the Help Desk can investigate and you will have “proof of technical difficulty” of the problem for your Instructor.*** Call the Help Desk (352-392-4357) immediately. When you submit an Assignment/Assessment you get a confirmation screen that contains a confirmation number. You might want to make a habit of capturing a screen shot or printing it for your records. The Assignment/Assessment list will also show this Assignment/Assessment as "submitted" including the date and time of your submission. If you do not get the confirmation screen and your Assignment/Assessment is not listed as "submitted," you have not submitted the Assignment.
- **Graded discussion boards:** There will be 4 graded discussion board activities assigned throughout the semester; these will be based on assigned videos or readings that supplement the weekly lecture material. **Each discussion board activity is worth 5 points (4 x 5 points = 20 points total).**

- **Exams:** There will be 4 exams throughout the semester (see attached weekly course schedule), each worth either 100 or 110 points towards your final course grade (see grading scheme below). All exams for this course will be administered through Canvas and students will take them online through ProctorU. The cost for the four scheduled exams is covered by the MCB4203 course fees.
- In order to maintain a high standard of academic integrity and assure that the value of your University of Florida degree is not compromised, course exams are proctored online by ProctorU. You will take your exam electronically using the Canvas course website, but you will register with ProctorU early in the semester, and then sign up for a time for a certified proctor in a testing facility to observe you on your computer while you take your exam. You need a webcam, speakers, microphone and reliable Internet connection to be able to take your exams. **Wireless Internet connections have been found to cause issues with online exams and it is therefore strongly recommended to NOT use a wireless Internet connection when taking an online, proctored exam. You will also need a mirror or other reflective surface.**
- [Sign up for an account with ProctorU](#) during the first week of the semester. If you already have a ProctorU account, you can use the same account. [Register with ProctorU](#) for your exam appointment times early in the semester. You should receive a confirmation email from ProctorU. If you experience any trouble with online registration, you can call **855-772-8678**.
- Prior to each exam, go to the [ProctorU Test Page](#) to ensure your computer is ready for online proctoring. After you get the following 6 checks that your system is ready:



Take the extra step to connect to a live person:



- This process takes just a few minutes and is completely free.
- Each exam is designed to be completed in 50 minutes or less. However, **the time-limit on each ProctorU exam will always be set at 75 minutes to account for any potential technical difficulties with ProctorU.**
- If you are unable to take an exam because of a technical glitch on your end (computer broken, poor internet connectivity), that is your responsibility and does not constitute an excused absence for an exam. However, if you do experience technical difficulties during the exam, ProctorU will document those difficulties and communicate with your instructor to make possible alternative arrangements. These situations will be assessed by the course instructor on a case-by-case basis and the opportunity for a makeup exam IS NOT GUARANTEED. **Time extension requests for technical/ProctorU difficulties will only be granted if technical difficulties make you lose more than 25 minutes of exam time. This request MUST be made by your proctor to Dr. Rice while you are still connected to the exam and ProctorU.**

- **For additional questions, please review the Proctored Exams Student Handout (available under “General Course Resources” Module on Canvas course website).**
- The window for completing each exam will usually be 48 hours (see weekly course schedule).
- **Make sure you sign-up for the correct exam course number - MCB4203 + your section number (3372 for on-campus students and 002H for UF Online students).**
- The rules for each Exam (i.e. open-book vs. closed-book) will be reviewed prior to each exam period. All exams, regardless of format, will be administered via ProctorU. Materials such as cell phones, scratch paper, books, notes, calculators, etc. are NEVER allowed during the exam and should not be readily accessible.
- **PROCTORU EXAM VIDEOS WILL BE REVIEWED BY THE COURSE INSTRUCTOR TO VERIFY THAT ACADEMIC INTEGRITY OF THE EXAM HAS NOT BEEN BREACHED.**
- **MAKE-UP EXAMS:** If a student has a legitimate reason for missing an exam, the exam can be made-up at an alternative time as arranged with the course instructor. Documentation supporting the inability to write the exam within the scheduled exam window may be requested by the course instructor. Excused absences follow the criteria of the UF Undergraduate Catalog (<https://catalog.ufl.edu/ugrad/1617/regulations/info/attendance.aspx>) and should be communicated to the instructor prior to the missed exam whenever possible.

### **GRADES - The grading scheme for this course is as follows:**

Weekly “homework”: 6 points each (60 points total)

Graded discussion boards: 5 points each (20 points total)

EXAMS 1 and 4: 100 points each (200 points total)

EXAMS 2 and 3: 110 points each (220 points total)

TOTAL POINTS = 500

Final letter grades will be assigned based on the number of points earned, as follows:

A = 465-500 points

C+ = 385-399.9 points

E = 0-299.9 points

A- = 445 – 464.9 points

C = 365-384.9 points

B+ = 435 – 444.9 points

C- = 350-364.9 points

B = 420 – 434.9 points

D+ = 325-349.9 points

B- = 400-419.9 points

D = 300-324.9 points

For information on current UF policies for assigning grade points, see <https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>

### **Academic Honesty, Software Use, Campus Helping Resources, Services for Students with Disabilities**

**Academic Honesty:** As a student at the University of Florida, you have committed yourself to uphold the Honor Code, which includes the following pledge: “*We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity.*” You are expected to exhibit behavior consistent with this commitment to the UF academic community, and on all work submitted for credit 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.*” It is assumed that you will complete all work independently in each course



unless the instructor provides explicit permission for you to collaborate on course tasks (e.g. assignments, papers, quizzes, exams). Furthermore, as part of your obligation to uphold the Honor Code, you should report any condition that facilitates academic misconduct to appropriate personnel. It is your individual responsibility to know and comply with all university policies and procedures regarding academic integrity and the Student Honor Code. Violations of the Honor Code at the University of Florida will not be tolerated. Violations will be reported to the Dean of Students Office for consideration of disciplinary action. For more information regarding the Student Honor Code, please see: <http://www.dso.ufl.edu/sccr/process/student-conduct-honor-code>. These policies will be vigorously upheld at all times in this course.

**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.

**Campus Helping Resources:** Students experiencing crises or personal problems that interfere with their general wellbeing are encouraged to utilize the university's counseling resources. The Counseling & Wellness Center provides confidential counseling services at no cost for currently enrolled students. Resources are available on campus for students having personal problems or lacking clear career or academic goals, which interfere with their academic performance.

**University Counseling & Wellness Center, 3190 Radio Road, 352-392-1575, [www.counseling.ufl.edu/cwc/](http://www.counseling.ufl.edu/cwc/)**

- Counseling Services
- Groups and Workshops
- Outreach and Consultation
- Self-Help Library
- Wellness Coaching

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**Career Resource Center, First Floor JWRU, 392-1601, [www.crc.ufl.edu/](http://www.crc.ufl.edu/)**

**Services for Students with Disabilities:** The Disability Resource Center coordinates the needed accommodations of students with disabilities. This includes registering disabilities, recommending academic accommodations within the classroom, accessing special adaptive computer equipment, providing interpretation services and mediating faculty-student disability related issues. Students requesting classroom accommodation must first register with the Dean of Students Office. The Dean of Students Office will provide documentation to the student who must then provide this documentation to the Instructor when requesting accommodation 0001 Reid Hall, 352-392-8565, [www.dso.ufl.edu/drc/](http://www.dso.ufl.edu/drc/)

**Student Complaints:**

- 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>

**DRAFT SCHEDULE OF WEEKLY LECTURE TOPICS (final version may change slightly):**

<b>WK</b>	<b>TOPIC(S)</b>	<b>TEXTBOOK CHAPTERS</b>
1	Introduction to Course, Koch's Postulates, Barry Marshall guest lecture ( <i>H. pylori</i> part 1)	Wilson Ch. 6
2	Host Physical Defenses, <i>H. pylori</i> part 2	Wilson Ch. 2
3	Normal Flora/Microbial Census, microbial shift disease	Wilson Ch. 5
	<b>EXAM 1 WINDOW: THURS. SEPT. __ @ 6 AM EST - SAT. SEPT. __ @ 6 AM EST.</b>	<b>Covers weeks 1-3 material</b>
4	Innate Immunity	Wilson Ch. 3
5	Adaptive Immunity	Wilson Ch. 4
6	Measuring Infectivity and Virulence	Wilson Ch. 8
7	Bacterial Evasion of Host Defenses I	Wilson Ch. 11
	<b>EXAM 2 WINDOW: THURS. OCT. __ @ 6 AM EST - SAT. OCT __ @ 6 AM. EST</b>	<b>Covers weeks 4-7 material</b>
8	Bacterial Evasion of Host Defenses II	Wilson Ch. 11
9	Bacterial Toxins	Wilson Ch. 12
10	Delivery of Virulence Factors	Wilson Ch. 13
11	Identification of Bacterial Virulence Factors (bacterial and host approaches)	Wilson Ch. 9-10
	<b>EXAM 3 WINDOW: WED NOV. __ 8 @ 6 AM EST - FRI NOV __ @ 6 AM. EST</b>	<b>Covers weeks 8-11 material</b>
12	Antibiotics: Modes of Action and Bacterial Resistance	Wilson Ch. 15-16
13	Quorum sensing/bacterial communication	Wilson Ch. 14
14	Biosecurity ( <i>Bacillus anthracis</i> , <i>Yersinia pestis</i> )	Wilson Ch. 20
15	Opportunistic Infections	Wilson Ch. 18-19
	<b>EXAM 4 WINDOW: TUES DEC. __ @ 6 AM EST - THURS. DEC. __ @ 6 AM. EST</b>	<b>Covers weeks 12-15 material</b>



## MCB 5205: MICROBIOLOGY OF HUMAN PATHOGENS Fall 2018 sections 24H5, 173C

**Course Delivery:** This course is taught using a “flipped-classroom approach”, comprised of web-based asynchronous lectures (Canvas course website). **On-campus OPTIONAL LIVE MEETINGS on Wednesdays from periods 10-E1 (5:10 pm – 8:10 pm, MCCC 0100) will be recorded and posted to Mediasite (accessible through Canvas course website).**

**Instructor:** Dr. Kelly Rice

Office: Room 1147, Microbiology and Cell Science Bldg.

Ph: 352-392-1192, email: [kcrice@ufl.edu](mailto:kcrice@ufl.edu) (**\*\*please use this email for all correspondence, as I check this more often than email through the Canvas course website\*\***)

**Instructor Office hours:** Mondays 9:30 am – 11:30 am

\*\*For off-campus students, please arrange office hour appointments by email ([kcrice@ufl.edu](mailto:kcrice@ufl.edu)). Skype or Canvas will be the communication tool for these appointments.

**TA(s):** TBA

**Course Description:** Survey of advanced topics and current scientific literature related to human host-pathogen interactions and microbial pathogenesis, focusing on emerging bacterial and viral pathogens as agents of human disease, biosecurity, molecular identification methods, spread of multi-drug resistance among bacterial pathogens, drug discovery and alternative treatment research.

**Course Objectives: At the completion of this course, students should be able to:**

1. Recognize the complex nature of microbial virulence, especially with respect to the multi-faceted interplay between the host immune system and pathogen
2. Describe (using specific examples) the strategies used by bacterial and viral pathogens that are required for host manifestation of disease (attachment and entry into host tissues, evasion of host immune defenses, multiplication in vivo, dissemination and transmission)
3. Identify strategies of treatment and prevention of host infection (ie. vaccines, antibiotics, antivirals, protective role of normal microbiota) and the ensuing response of the pathogen
4. Analyze hypothetical medical case studies using the knowledge gained from objectives 1-3 above.
5. Relate objectives 1-3 above to contemporary research literature in the field of microbial pathogenesis
6. Research, design and create a comprehensive recorded lecture outlining the history, pathogenesis, current treatment strategies, and unanswered questions of a historic, emerging or re-emerging pathogen.

### **Required Textbook:**

1. Wilson et al. Principles of Bacterial Pathogenesis, A Molecular Approach (3<sup>rd</sup> Edition), ISBN 978-155581-418-2

**Bibliography of Assigned Readings and Presentations (available through Canvas or through UF libraries):** \*\*an online synchronous discussion group for each of these presentations will be scheduled before each exam throughout the semester\*\*

1. Jansen, K. (2015). *Bacterial vaccines in development 1*. In The Biomedical & Life Sciences Collection, Henry Stewart Talks. (online at <https://hstalks.com/bs/3125/>) (**EXAM 1**)
2. Reid, G. (2016). *Probiotics*. In The Biomedical & Life Sciences Collection, Henry Stewart Talks. (online at <https://hstalks.com/bs/3333/>) (**EXAM 2**)
3. Smith TC. Vaccine Rejection and Hesitancy: A Review and Call to Action. *Open Forum Infect Dis.* 2017 Jul 18;4(3):ofx146. doi: 10.1093/ofid/ofx146. eCollection 2017 Summer. Review. PubMed PMID: 28948177; PubMed Central PMCID: PMC5597904 (**EXAM 3**)
4. Rice, KC (2018). Measles, Mumps, Rubella lecture. Canvas course website (**EXAM 3**)
5. Rice, KC (2018). Ebola lecture. Canvas course website (**EXAM 4**)
6. Vetter P, Kaiser L, Schibler M, Ciglenecki I, Bausch DG 2016). Sequelae of Ebola virus disease: the emergency within the emergency. *Lancet Infect Dis.* 16(6):e82-e91. doi: 10.1016/S1473-3099(16)00077-3. PubMed PMID: 27020309 (**EXAM 4**)

### **Overview of Course Format and Policies:**

- MCB5205 is co-taught with the undergraduate course MCB4203 (Bacterial and Viral Pathogens). In addition to the lecture material and exams that are shared with MCB4203, **students enrolled in MCB5205 are required to complete the following: (1) approximately 10% of each proctored exam 1-4 will be drawn from a pool of questions specifically associated with an additional series of four assigned readings/presentations (see Bibliography above); (2) Research and prepare a recorded online lecture (see below for more details).**
- **Email will be primary mode of course correspondence.** Each student is responsible for checking their “ufl.edu” email accounts and Canvas daily for course messages and announcements.
- Course syllabus, lecture notes, and other tools will be available through the Canvas Learning Support System homepage [<http://lss.at.ufl.edu/>]. You will need to enter your Gatorlink username and password to access the system. If you do not have an active GatorLink ID, cannot remember your GatorLink login information, or if your ID does not work, please refer to the GatorLink website [<http://gatorlink.ufl.edu>] or to the UF Computing Help Desk (The Hub, 392-HELP) for assistance.
- **Course format and attendance policy:** This course is taught using a “flipped-classroom approach”, whereby all weekly course lectures (pre-recorded), quizzes, etc. will be posted no later than the beginning of each week (Sunday evening) on the Canvas course website. Additionally, **OPTIONAL ATTENDANCE** in-class weekly review sessions will be held on **Wednesdays during periods 10—E1 (MCCC 0100)**. The first half (60-90 minutes) of each weekly live review session will be comprised of weekly homework/quiz review, “traditional” classroom/lecture-style Q & A review, and various interactive classroom activities designed to reinforce the week’s posted lecture material. This part of the class will be recorded by Mediasite and will be accessible through Canvas. During the second half of the class, the instructor and/or TAs will be available for informal discussion/extra help for course material with individuals/small groups of students (this portion is NOT recorded/posted to Canvas). Since **NO NEW MATERIAL** will be covered during these live weekly course meetings, attendance is highly encouraged but NOT mandatory. Additionally, you are highly encouraged to participate in the Canvas course chat room and discussion boards that will be scheduled periodically throughout the semester. The course instructor will not answer emails related to course content or study questions the night before a scheduled exam, so please make sure to take advantage of all the options mentioned above.

- **A note regarding course materials and copyright:** All course materials posted on the Canvas course website are assembled and intended for students taking MCB4203/MCB5205 ONLY, and this is why they are only available for student use from our secure Canvas course website. Re-posting of any of these materials to websites such as “course-hero”, You Tube, or Facebook is strictly forbidden by the course instructor and is considered a violation of copyright policies. Likewise, re-posting textbook pdfs is an infringement on the publisher’s copyright, so please do not get yourself in trouble by doing this. Unauthorized re-posting of all course materials (including textbook pdfs) infringes on UF's copyright policies and the "Fair Use" Act (<http://www.generalcounsel.ufl.edu/faq/Copyright.pdf>).
- **Reference letter policy:** Academic reference letters may be provided at the instructor’s discretion to students ranking in the top 20% of the final course grades. Please keep in mind that these letters will be strictly academic letters (i.e. your scholastic abilities and participation in the course) and will not elaborate on other things like personal attributes, leadership and research potential, since these are qualities that are very difficult for the instructor to assess in a large-class environment. For more tips on reference letters please refer to the first lecture of the semester (asynchronous lecture). Letters must be requested no later than 6 months after the end of the course.
- **Online course evaluation process:** Student assessment of instruction is an important part of efforts to improve teaching and learning. At the end of the semester, students are expected to provide feedback on the quality of instruction in this course using a standard set of university and college criteria. These evaluations are conducted online at <https://evaluations.ufl.edu>. Evaluations are typically open for students to complete during the last two or three weeks of the semester; students will be notified of the specific times when they are open. Summary results of these assessments are available to students at <https://evaluations.ufl.edu/results>.
- Each online distance learning program has a process for, and will make every attempt to resolve, student complaints within its academic and administrative departments at the program level. See <http://distance.ufl.edu/student-complaints> for more details.

### **Course Assessments and Grading:**

- **Weekly “homework”:** There will be 15 weekly online quizzes or mini-assignments, based on the weekly lecture material, posted readings and/or case-studies. Each quiz is worth 6 points and will typically consist of 6 multiple-choice or short answer questions. ***At the end of semester your lowest 5 quiz scores will be dropped from your grade calculation. In other words, the top 10 quiz scores will be used in calculating your grade (10 x 6 points = 60 total points).*** These are open-book quizzes (administered through Canvas) that are meant to help you review the course material and practice for the exams. Students are welcome to study together and in fact collaboration is encouraged on many assignments. However, each student is responsible for submitting his/her own quiz by the posted due date.

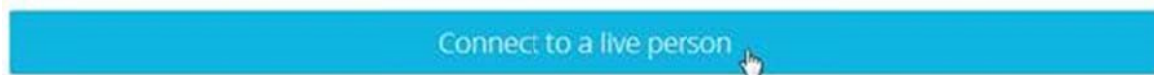
- IF A STUDENT FAILS TO COMPLETE A QUIZ PRIOR TO THE DUE DATE, THEY WILL RECEIVE 0 POINTS FOR THAT ASSIGNMENT OR QUIZ. EXTENSIONS OR “MAKE-UP” QUIZZES WILL NOT BE GIVEN UNDER ANY CIRCUMSTANCE, WITH THE EXCEPTION OF PROOF OF TECHNICAL DIFFICULTY (see below) THAT PRECLUDES ON-TIME SUBMISSION. The structure of the final course grade calculation with respect to the quizzes (dropping the 5 lowest quiz scores) is designed to give you a “buffer” for those rare occasions where a quiz cannot be completed due to illness, absence, or random forgetfulness. Therefore please do not ask the instructor to accept late quizzes or re-open quizzes, the answer will always be “no”...
- CANVAS HINTS for ONLINE QUIZ AND ASSIGNMENT SUBMISSION (provided by UF Computing Help Desk): It is recommended that you take online assessments during Help Desk hours whenever possible. If you have a problem while taking an Assessment, log out and log back in as quickly as possible. If the assessment is timed, the timer will continue to run while you are logged out. **If you still encounter difficulties, take a screen shot of the problem (Hit the “Print Scrn” button on your keyboard and paste “CTRL+V” into a program like Word or Paint) so the Help Desk can investigate and you will have “proof of technical difficulty” of the problem for your Instructor.** Call the Help Desk (352-392-4357) immediately. When you submit an Assignment/Assessment you get a confirmation screen that contains a confirmation number. You might want to make a habit of capturing a screen shot or printing it for your records. The Assignment/Assessment list will also show this Assignment/Assessment as "submitted" including the date and time of your submission. If you do not get the confirmation screen and your Assignment/Assessment is not listed as "submitted," you have not submitted the Assignment.
- **Graded discussion boards:** There will be 4 graded discussion board activities assigned throughout the semester; these will be based on assigned videos or readings that supplement the weekly lecture material. **Each discussion board activity is worth 5 points (4 x 5 points = 20 points total).**
- **Final Presentation:** Each student enrolled in MCB5205 will be responsible for choosing a historic, emerging, or re-emerging pathogen (bacterial or viral) of interest (ANY PATHOGEN NOT COVERED BY THE COURSE INSTRUCTOR IN CLASS), and will research and preparing a 10-minute recorded online lecture (to be submitted through Canvas course website) outlining the history, pathogenesis (both host and pathogen aspects), current treatment strategies (if any), and unanswered questions in the field of study. 5 multiple-choice questions will also be submitted with the recorded lecture. **This presentation and question set must be submitted no later than FRIDAY, NOV. 24<sup>th</sup> by 11:59 pm EST.** Periodic online meetings will be held throughout the semester to discuss this assignment.
- **Exams:** There will be 4 exams throughout the semester (see attached weekly course schedule), each worth either 100 or 110 points towards your final course grade (see grading scheme below). All exams for this course will be administered through Canvas and students will take them online through ProctorU. The cost for the four scheduled exams is covered by the MCB5205 course fees.
- In order to maintain a high standard of academic integrity and assure that the value of your University of Florida degree is not compromised, course exams are proctored online by ProctorU. You will take your exam electronically using the Canvas course website, but you will register with ProctorU early in the semester, and then sign up for a time for a certified proctor in a testing facility

to observe you on your computer while you take your exam. You need a webcam, speakers, microphone and reliable Internet connection to be able to take your exams. **Wireless Internet connections have been found to cause issues with online exams and it is therefore strongly recommended to NOT use a wireless Internet connection when taking an online, proctored exam. You will also need a mirror or other reflective surface.**

- [Sign up for an account with ProctorU](#) during the first week of the semester. If you already have a ProctorU account, you can use the same account. [Register with ProctorU](#) for your exam appointment times early in the semester. You should receive a confirmation email from ProctorU. If you experience any trouble with online registration, you can call **855-772-8678**.
- Prior to each exam, go to the [ProctorU Test Page](#) to ensure your computer is ready for online proctoring. After you get the following 6 checks that your system is ready:



Take the extra step to connect to a live person:



- This process takes just a few minutes and is completely free.
- Each exam is designed to be completed in 50 minutes or less. However, **the time-limit on each ProctorU exam will always be set at 75 minutes to account for any potential technical difficulties with ProctorU.**
- If you are unable to take an exam because of a technical glitch on your end (computer broken, poor internet connectivity), that is your responsibility and does not constitute an excused absence for an exam. However, if you do experience technical difficulties during the exam, ProctorU will document those difficulties and communicate with your instructor to make possible alternative arrangements. These situations will be assessed by the course instructor on a case-by-case basis and the opportunity for a makeup exam IS NOT GUARANTEED. **Time extension requests for technical/ProctorU difficulties will only be granted if technical difficulties make you lose more than 25 minutes of exam time.** This request MUST be made by your proctor to Dr. Rice while you are still connected to the exam and ProctorU.
- ***For additional questions, please review the Proctored Exams Student Handout (available under "General Course Resources" Module on Canvas course website).***
- The window for completing each exam will usually be 48 hours (see weekly course schedule).
- **Make sure you sign-up for the correct exam course number – MCB5205 + your section number (173C for on-campus students and 24H5 for UF Online students).**
- The rules for each Exam (i.e. open-book vs. closed-book) will be reviewed prior to each exam period. All exams, regardless of format, will be administered via ProctorU. Materials such as cell phones, scratch paper, books, notes, calculators, etc. are NEVER allowed during the exam and should not be readily accessible.
- **PROCTORU EXAM VIDEOS WILL BE REVIEWED BY THE COURSE INSTRUCTOR TO VERIFY THAT ACADEMIC INTEGRITY OF THE EXAM HAS NOT BEEN BREACHED.**

- **MAKE-UP EXAMS:** If a student has a legitimate reason for missing an exam, the exam can be made-up at an alternative time as arranged with the course instructor. Documentation supporting the inability to write the exam within the scheduled exam window may be requested by the course instructor. Excused absences follow the criteria of the UF Undergraduate Catalog (<https://catalog.ufl.edu/ugrad/1617/regulations/info/attendance.aspx>) and should be communicated to the instructor prior to the missed exam whenever possible.

**GRADES - The grading scheme for this course is as follows:**

Weekly “homework” - 6 points each (60 points total)

Discussion board – 5 points each (20 points total)

EXAMS 1-2: 100 points each (200 points total)

EXAMS 3-4: 110 points each (220 points total)

Final Presentation: 100 points

TOTAL POINTS = 600

Final letter grades will be assigned based on the number of points earned, as follows:

A = 552-600 points

C+ = 462-479.9 points

E = 0-359.9 points

A- = 534 – 551.9 points

C = 438-461.9 points

B+ = 522 – 533.9 points

C- = 420-437.9 points

B = 504 – 521.9 points

D+ = 390-419.9 points

B- = 480-503.9 points

D = 360-389.9 points

For information on current UF policies for assigning grade points, see <https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>

**Academic Honesty, Software Use, Campus Helping Resources, Services for Students with Disabilities**

**Academic Honesty:** As a student at the University of Florida, you have committed yourself to uphold the Honor Code, which includes the following pledge: “*We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity.*” You are expected to exhibit behavior consistent with this commitment to the UF academic community, and on all work submitted for credit 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.*” It is assumed that you will complete all work independently in each course unless the instructor provides explicit permission for you to collaborate on course tasks (e.g. assignments, papers, quizzes, exams). Furthermore, as part of your obligation to uphold the Honor Code, you should report any condition that facilitates academic misconduct to appropriate personnel. It is your individual responsibility to know and comply with all university policies and procedures regarding academic integrity and the Student Honor Code. Violations of the Honor Code at the University of Florida will not be tolerated. Violations will be reported to the Dean of Students Office for consideration of disciplinary action. For more information regarding the Student Honor Code, please see: <http://www.dso.ufl.edu/sccr/process/student-conduct-honor-code>. These policies will be vigorously upheld at all times in this course.

**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.



**Campus Helping Resources:** Students experiencing crises or personal problems that interfere with their general wellbeing are encouraged to utilize the university's counseling resources. The Counseling & Wellness Center provides confidential counseling services at no cost for currently enrolled students. Resources are available on campus for students having personal problems or lacking clear career or academic goals, which interfere with their academic performance.

**University Counseling & Wellness Center, 3190 Radio Road, 352-392-1575, [www.counseling.ufl.edu/cwc/](http://www.counseling.ufl.edu/cwc/)**

- Counseling Services
- Groups and Workshops
- Outreach and Consultation
- Self-Help Library
- Wellness Coaching

**U Matter We Care, [www.umatter.ufl.edu/](http://www.umatter.ufl.edu/)**

**Career Resource Center, First Floor JWRU, 392-1601, [www.crc.ufl.edu/](http://www.crc.ufl.edu/)**

**Services for Students with Disabilities:** The Disability Resource Center coordinates the needed accommodations of students with disabilities. This includes registering disabilities, recommending academic accommodations within the classroom, accessing special adaptive computer equipment, providing interpretation services and mediating faculty-student disability related issues. Students requesting classroom accommodation must first register with the Dean of Students Office. The Dean of Students Office will provide documentation to the student who must then provide this documentation to the Instructor when requesting accommodation 0001 Reid Hall, 352-392-8565, [www.dso.ufl.edu/drc/](http://www.dso.ufl.edu/drc/)

**Student Complaints:**

- 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>

**DRAFT SCHEDULE OF WEEKLY LECTURE TOPICS (final version may change slightly):**

<b>WK</b>	<b>TOPIC(S)</b>	<b>TEXTBOOK CHAPTERS</b>
1	Introduction to Course, Koch's Postulates, Barry Marshall guest lecture ( <i>H. pylori</i> part 1)	Wilson Ch. 6
2	Host Physical Defenses, <i>H. pylori</i> part 2	Wilson Ch. 2
3	Normal Flora/Microbial Census, microbial shift disease	Wilson Ch. 5
	<b><u>EXAM 1 WINDOW: THURS. SEPT. __ @ 6 AM EST</u></b> <b>- SAT. SEPT. __ @ 6 AM EST.</b>	<b>Covers weeks 1-3 material</b>
4	Innate Immunity	Wilson Ch. 3
5	Adaptive Immunity	Wilson Ch. 4
6	Measuring Infectivity and Virulence	Wilson Ch. 8
7	Bacterial Evasion of Host Defenses I	Wilson Ch. 11
	<b><u>EXAM 2 WINDOW: THURS. OCT. __ @ 6 AM EST</u></b> <b>- SAT. OCT __ @ 6 AM. EST</b>	<b>Covers weeks 4-7 material</b>
8	Bacterial Evasion of Host Defenses II	Wilson Ch. 11
9	Bacterial Toxins	Wilson Ch. 12
10	Delivery of Virulence Factors	Wilson Ch. 13
11	Identification of Bacterial Virulence Factors (bacterial and host approaches)	Wilson Ch. 9-10
	<b><u>EXAM 3 WINDOW: WED NOV. __8 @ 6 AM EST</u></b> <b>- FRI NOV __ @ 6 AM. EST</b>	<b>Covers weeks 8-11 material</b>
12	Antibiotics: Modes of Action and Bacterial Resistance	Wilson Ch. 15-16
13	Quorum sensing/bacterial communication	Wilson Ch. 14
14	Biosecurity ( <i>Bacillus anthracis</i> , <i>Yersinia pestis</i> )	Wilson Ch. 20
15	Opportunistic Infections	Wilson Ch. 18-19
	<b><u>EXAM 4 WINDOW: TUES DEC. __ @ 6 AM EST</u></b> <b>- THURS. DEC. __ @ 6 AM. EST</b>	<b>Covers weeks 12-15 material</b>