MBMB/MICR 403
Medical Microbiology
T, R 11:10 AM – 12:25 PM LSIII, Room 1059
Spring 2018 - Dr. Derek Fisher

COURSE DESCRIPTION:

A survey of the more common bacterial, viral, mycotic, and parasitic infections of humans with particular emphasis on the distinctive properties, pathogenic mechanisms, epidemiology, immunology, diagnosis and control of disease-causing microorganisms. Three hours lecture. Spring semester.

OBJECTIVES:

Students should develop a global view of infection including: 1) how organisms cause disease, 2) transmission of agents and agent reservoirs, 3) the immune response and host barriers to infection, 4) disease prevention, treatment, and monitoring and the role of the public health system in these processes, and 5) how disease has shaped human evolution and history. Students will also be introduced to the primary research that serves as the foundation for our knowledge of infectious diseases.

PREREQUISITE:

MICR 301 or consent of instructor.

RECOMMENDED TEXT:


Lecture slides/notes, reading material, and old exams/practice questions will be made available on D2L.

FISHER RESEARCH BACKGROUND:


http://micro.siu.edu/faculty-staff/faculty/fisher.php

CONTACT INFORMATION:

LSIII 1007 (office), LSIII 1026 and 1032 (labs)
618-453-5201 (office phone)
dfisher@siu.edu or fisher@micro.siu.edu

OFFICE HOURS:

1 PM - 2 PM on Tuesday and Thursday or by appointment.
GRADING OVERVIEW:

SCALE:  
A ≥90%  ≥558  
B 89-80%  557 – 496  
C 79-70%  495 – 434  
D 69-60%  433 – 372  
F <60%  ≤371

1) Four exams, 100 points each:  
   a) Lectures 1-7  100  
   b) Lectures 8-14  100  
   c) Lectures 15-20  100  
   d) Lectures 21-27 (during Final testing period)  100  
   
   Exam points:  400

2) Twelve, 10-point quizzes:  
   120

3) Literature Assignments – packet grading  0/65/75/85/100  
   
   Total  620

PATH COINS: You will receive six virtual PATH COINS at the start of the semester. PATH COINS may be redeemed for: 10 points (one coin), a redo on the literature assignment (three coins), and/or a one-week extension on the literature assignment (three coins). Bonus coins may be earned throughout the semester.

LITERATURE ASSIGNMENTS: Literature will be posted to D2L two weeks in advance of the scheduled due date. You must read the assigned literature and answer the three questions listed at the end of the: “How to read a scientific paper” PDF provided on D2L. Each assignment is due by the start of class on the scheduled discussion date. Assignments must be submitted as Word documents via the D2L assignment submission folder. A detailed rubric with formatting guidelines will be provided on D2L – follow the rubric and formatting guidelines! Each assignment will be graded as pass/fail using the provided rubric. **Passing one assignment = 65/100, two = 75/100, three = 85/100, four = 100/100.**

GENERAL COURSE TIMELINE:

Spring Semester 2018 Holidays (http://registrar.siu.edu/calendars/academic1718.php)  
Semester Begins  Tuesday, January 16  
Spring Break  March 10-18

Drop Information (http://registrar.siu.edu/calendars/registration18sp.php)  
Last day to drop, eligible for a refund  Sunday, January 28 (file on 26th)  
Last day to drop, NOT eligible for a refund  Sunday, April 1 (file on 30th)
<table>
<thead>
<tr>
<th>Day / Date</th>
<th>Date</th>
<th>Topic</th>
<th>Quiz and Literature</th>
<th>Book Chapter(s)</th>
<th>Lecture Number</th>
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<tbody>
<tr>
<td>T</td>
<td>Jan 16</td>
<td>Introduction to Medical Microbiology</td>
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<td>1-3</td>
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<tr>
<td>R</td>
<td>18</td>
<td>General Immunology</td>
<td>Q1</td>
<td>7-8</td>
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<tr>
<td>T</td>
<td>23</td>
<td>Immunoglobulins and Histocompatibility</td>
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<td>9-10</td>
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<tr>
<td>R</td>
<td>25</td>
<td>Humoral and Cell Mediated Immunity</td>
<td>Q2</td>
<td>9-10</td>
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<td>T</td>
<td>30</td>
<td>Complement, Hypersensitivity, Immunological Defects</td>
<td>Literature 1</td>
<td>8-10</td>
<td>5</td>
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<tr>
<td>R</td>
<td>Feb 1</td>
<td>Vaccines</td>
<td>Q3</td>
<td>11</td>
<td>6</td>
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<td>6</td>
<td>Antimicrobial Chemotherapy</td>
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<td>Microbiome and Normal Flora</td>
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<td>R</td>
<td>15</td>
<td>Gram positive cocci</td>
<td>Q4</td>
<td>18-19</td>
<td>9</td>
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<tr>
<td>T</td>
<td>20</td>
<td>Gram positive Spore-formers and Anaerobic Infections</td>
<td>Literature 1</td>
<td>20, 30, 31</td>
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<td>R</td>
<td>22</td>
<td>Gram positive bacilli</td>
<td>Q5</td>
<td>21-22</td>
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<td>T</td>
<td>27</td>
<td>Gram negative bacilli</td>
<td>Literature 2</td>
<td>25</td>
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<tr>
<td>R</td>
<td>Mar 1</td>
<td>Gram negative bacilli</td>
<td>Q6</td>
<td>27, 29</td>
<td>13</td>
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<tr>
<td>T</td>
<td>6</td>
<td>Gram negative bacilli</td>
<td></td>
<td>26, 28</td>
<td>14</td>
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<tr>
<td>R</td>
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<td>T</td>
<td>20</td>
<td>Gram negative bacilli</td>
<td>Q7</td>
<td>25, 29</td>
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<td>R</td>
<td>22</td>
<td>Fastidious Gram negative bacteria</td>
<td>Literature 3</td>
<td>23-24, 33</td>
<td>16</td>
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<tr>
<td>T</td>
<td>27</td>
<td>Spirochetes</td>
<td>Q8</td>
<td>32</td>
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<td>R</td>
<td>29</td>
<td>Obligate Intracellular bacteria</td>
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<td>34 and 35</td>
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<td>T</td>
<td>Apr 3</td>
<td>Mycotic Infections</td>
<td>Q9</td>
<td>Section 6</td>
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<td>Parasites</td>
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<td>EXAM 3</td>
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R | 12 | General Virology | 36-38, 40 | 21
T | 17 | DNA Viruses | Q10 | 41, 43, 44 | 22
R | 19 | RNA Viruses | Literature 4 | 46, 55 | 23
T | 24 | RNA Viruses | Q11 | 50, 52 | 24
R | 26 | RNA Viruses | 48-49 | 25
T | May 1 | RNA Viruses, retro | Q12 | 54 | 26
R | 3 | Public Health System | D2L | 27
R | ? | EXAM 4 Final testing period – Time/date posted 3rd week of semester

*Lecture dates and material are tentative; exam, quiz, and literature dates are not. Students will only be responsible for material covered in class prior to the exam date.

**ADDITIONAL INFORMATION**

HINTS for SUCCESS:
1) Attend class.
2) Study often, not just the night before an exam.
3) Review lecture material the evening after a lecture. This will help you learn the material and will make studying for exams much easier.
4) Read the chapters cited next to each lecture prior to class. It will help you better comprehend the lecture material.
5) Ask questions!
6) Seek out academic help before it is too late – it is very difficult to recover from two failed exams.
7) LEARNING ASSISTANCE and DISABILITY SERVICES: [http://tutoring.siu.edu/index.html](http://tutoring.siu.edu/index.html) and [http://disabilityservices.siu.edu/](http://disabilityservices.siu.edu/)

**ATTENDANCE:**
Attendance is not mandatory, but absences will negatively affect your grade as material covered exclusively in the classroom will appear on exams.

**ACADEMIC COURTESY (modified from B. Stiles, Wilson College):**
Please arrive to class on time and be prepared to discuss the material. Cell phones must be turned to silent or off during class. Ringing and buzzing cell phones bother others in the class (and the instructor) and detract from a fruitful educational environment. Sleeping, reading newspapers, talking to friends, texting, or other activities distracting the students and instructor are strictly forbidden.

**EXAMS, ASSIGNMENTS, and QUIZZES:**
Exams may only be rescheduled for extreme circumstances (death of an immediate family member, illness requiring hospitalization, etc.) or an absence due to a pre-approved academic/athletic conflict. Proof may be required (for example, a doctor’s note) and permission to reschedule will be granted on a case by case basis at the discretion of the instructor. Failure to take an exam on the scheduled date
without an approved absence will result in a 0 (F) for the exam. Make up quizzes will not be offered – you may use your PATH COINS (one coin = one quiz). Literature assignments will not be accepted after the due date unless you buy time with your PATH COINS.

ACADEMIC DISHONESTY POLICY (adapted from the College of Science policy [http://www.science.siu.edu/_common/pdfs/oppaper](http://www.science.siu.edu/_common/pdfs/oppaper)):
Students may be subject to disciplinary proceedings resulting in an academic penalty or disciplinary penalty for academic dishonesty. Academic dishonesty includes, but is not limited to, cheating on a test, plagiarism, or collusion. Sanctions for academic dishonesty available to an instructor include: assigning a failing grade, or zero, for a paper or exam; assigning a failing grade for a course (the instructor shall assign an “incomplete” in lieu of a letter grade pending adjudication and final resolution of the complaint.); recommending that a student be dropped from a program; and recommending that a student be suspended from the University.

EMERGENCY PROCEDURES:
Southern Illinois University Carbondale is committed to providing a safe and healthy environment for study and work. Because some health and safety circumstances are beyond our control, we ask that you become familiar with the SIUC Emergency Response Plan and Building Emergency Response Team (BERT) program. Emergency response information is available on posters in buildings on campus, available on BERT's website at [http://emergency.siu.edu/](http://emergency.siu.edu/), Department of Safety's website [http://www.dps.siu.edu/](http://www.dps.siu.edu/) (disaster drop down), and in the Emergency Response Guideline pamphlet. Know how to respond to each type of emergency.

Instructors will provide guidance to students in the classroom in the event of an emergency affecting your location. It is important that you follow these instructions and stay with your instructor during an evacuation or sheltering emergency. The Building Emergency Response Team will provide assistance to your instructor in evacuating the building or sheltering within the facility.

You will earn a PATH COIN for completing and turning in this form to the instructor (cut below the line). The signed form must be received no later than the end of class on January 30th, 2018 for credit.

I have read the syllabus:

__________________________________________  __________________________________________
Name – Sign and Print                                Date
IMPORTANT DATES *
Semester Classes Begin ........................................................... 01/16/2018
Last day to add full-term course (without Dean’s signature): .... 01/21/2018
Last day to withdraw from the University with a full refund: .... 01/26/2018
Last day to drop a full-term course for a credit/refund: ............ 01/28/2018
Last day to drop a full-term course (W grade, no refund): ........ 04/01/2018
Final examinations: ................................................................. 05/07–05/11/2018

The Final exam schedule will be posted the third week of class.

Please verify the above dates with the Registrar calendar and find more detailed information on deadlines at http://registrar.siu.edu/calendars. For add/drop dates that apply to shorter-than-full-term courses, please look at the Schedule of Classes search results at http://registrar.siu.edu/schedclass/index.php

SPRING SEMESTER HOLIDAYS
Martin Luther King, Jr.’s Birthday Holiday 01/15/2018
Spring Vacation 03/10—03/18/2018

WITHDRAWAL POLICY ~ Undergraduate only
Students who officially register for a session must officially withdraw from that registration in a timely manner to avoid being charged as well as receiving a failing grade for those classes. An official withdrawal must be initiated by the student, or on behalf of the student through the academic unit, and be processed by the Registrar’s office. For the proper procedures to follow when dropping courses and when withdrawing from SIU visit: http://registrar.siu.edu/students/withdrawal.php

INCOMPLETE POLICY ~ Undergraduate only
An INC grade may be assigned when, for reasons beyond their control, students engaged in passing work are unable to complete all class assignments for the course. An INC must be changed to a completed grade within one full semester (undergraduates), and one full year (graduate students), from the close of the term in which the course was taken or graduation, whichever occurs first. Should the student fail to complete the remaining course requirements within the time period designated, the incomplete will be converted to a grade of F and such grade will be computed in the student's grade point average. For more information visit: http://registrar.siu.edu/grades/incomplete.php

REPEAT POLICY
An undergraduate student may, for the purpose of raising a grade, enroll in a course for credit more than once. For students receiving a letter grade of A, B, C, D, or F, the course repetition must occur at Southern Illinois University Carbondale. Effective for courses taken Summer 2013 or later, only the most recent (last) grade will be calculated in the overall GPA and count toward hours earned. This policy will be applied to all transferrable credit in that only the last grade will be used to calculate grade point average. Only those courses taken at the same institution are considered repeats under this policy. See full policy at http://registrar.siu.edu/students/repeatclasses.php

GRADUATE POLICIES
Graduate policies often vary from Undergraduate policies. To view the applicable policies for graduate students, please refer to the graduate catalog at http://gradschool.siu.edu/about-us/grad-catalog/

DISABILITY POLICY
Disability Support Services provides the required academic and programmatic support services to students with permanent and temporary disabilities. DSS provides centralized coordination and referral services. To utilize DSS services, students must contact DSS to open cases. The process involves interviews, reviews of student-supplied documentation, and completion of Disability Accommodation Agreements. http://disabilityservices.siu.edu/

PLAGIARISM
See the Student Conduct Code http://srr.siu.edu/student-conduct-code/

ADVICEMENT: http://advisement.siu.edu/

SAFETY AWARENESS FACTS AND EDUCATION
Title IX makes it clear that violence and harassment based on sex and gender is a Civil Rights offense subject to the same kinds of accountability and the same kinds of support applied to offenses against other protected categories such as race, national origin, etc. If you or someone you know has been harassed or assaulted, you can find the appropriate resources here: http://safe.siu.edu

SALUKI CARES
The purpose of Saluki Cares is to develop, facilitate and coordinate a university-wide program of care and support for students in any type of distress—physical, emotional, financial, or personal. By working closely with faculty, staff, students and their families, SIU will continue to display a culture of care and demonstrate to our students and their families that they are an important part of the community. For Information on Saluki Cares: call (618) 453-1492, email siucares@siu.edu, or http://salukicares.siu.edu/

SIU’S EARLY WARNING INTERVENTION PROGRAM (EWIP)
Students enrolled in courses participating in SIU’s Early Warning Intervention Program might be contacted by University staff during a semester. More information can be found at the Core Curriculum’s Overview webpage: http://corecurriculum.siu.edu/program-overview/

EMERGENCY PROCEDURES
We ask that you become familiar with Emergency Preparedness @ SIU. Emergency response information is available on posters in buildings on campus, on the Emergency Preparedness @ SIU website, and though text and email alerts. To register for alerts visit: http://emergency.siu.edu/

STUDENT MULTICULTURAL RESOURCE CENTER
The Student Multicultural Resource Center serves as a catalyst for inclusion, diversity and innovation. As the Center continues its work, we are here to ensure that you think, grow and succeed. We encourage you to stop by the Center, located in Grinnell Commons, to see the resources available and discover ways you can get involved on the campus. Visit us at http://inclusiveexcellence.siu.edu/

LEARNING AND SUPPORT SERVICES
Help is within reach. Learning support services offers free tutoring on campus and math labs. To find more information please visit the Center for Learning and Support Services website: Tutoring: http://tutoring.siu.edu/ Math Labs http://math.siu.edu/courses/course-help.php

WRITING CENTER
The Writing Center offers free tutoring services to all SIU students and faculty. To find a Center or Schedule an appointment please visit: http://write.siu.edu/

DIVERSITY
Southern Illinois University Carbondale’s goal is to provide a welcoming campus, where all of our students, faculty and staff can study and work in a respectful, positive environment free from racism and intimidation. For more information visit: http://diversity.siu.edu/#

MILITARY COMMUNITY
There are complexities of being a member of the military community and also a student, and military and veteran related developments can complicate academic life. If you are a member of the military community and in need of accommodations please visit Veterans Services at http://veterans.siu.edu/

SIU ONLINE: https://online.siu.edu/

Need help with an issue? Please visit SALUKI SOLUTION FINDER at http://solutionfinder.siu.edu/