A. COURSE INFORMATION

Course number/section: BIMS 4374.001  
Class meeting time: MW 7:00-8:15 pm  
Class location: Center for the Sciences 101  
Course Website: http://bb9.tamucc.edu

B. INSTRUCTOR INFORMATION

Instructor: Gregory W. Buck, Ph.D., Associate Professor  
Office location: Tidal Hall 309D (I am rarely in Tidal Hall 236)  
Office hours: MW 10:00-11:15; TR 1:00-2:15  
Telephone: (361) 825-3717  
e-mail: Gregory.Buck@tamucc.edu  
Appointments: Preferred method is by e-mail

C. COURSE DESCRIPTION

Catalog Course Description

Study of common human pathogenic organisms. Includes bacterial, parasitic, viral and fungal infections with emphasis on pathogenesis and treatment.

Extended Course Description

The course entails a survey of selected major pathogenic bacteria, viruses, fungi, and parasites causing disease in humans, using an organ system approach. The course only highlights major mechanisms of HOW bacteria cause disease (pathogenesis), but specifically delves into WHY specific traits encoded by bacterial genes (virulence factors) may result in disease states, what effects these diseases have on individuals (in short, human microbial ecology), and the basis for therapeutic intervention (antimicrobial treatments). Some effect on groups and populations (public health microbiology) will be discussed. Students are not expected to learn or understand the details of basic science involved in either pathogenesis or virulence of etiologic agents.

D. PREREQUISITES AND COREQUISITES

Prerequisites

BIOL 2421

Corequisites

None
E. REQUIRED TEXTBOOK(S), READINGS AND SUPPLIES

Required Textbook(s)


Optional Textbook(s) or Other References

Supplies
Required textbook. Students may need to download and print journal articles at own cost.

F. STUDENT LEARNING OUTCOMES AND ASSESSMENT

Assessment is a process used by instructors to help improve learning. Assessment is essential for effective learning because it provides feedback to both students and instructors. A critical step in this process is making clear the course’s student learning outcomes that describe what students are expected to learn to be successful in the course. The student learning outcomes for this course are listed below. By collecting data and sharing it with students on how well they are accomplishing these learning outcomes students can more efficiently and effectively focus their learning efforts. This information can also help instructors identify challenging areas for students and adjust their teaching approach to facilitate learning.

By the end of this course, students should be able to achieve all outcomes at a level of $\geq 70\%$:

1. Describe the pathology of infectious diseases caused by bacteria and viruses, and by certain selected fungi and parasites;
2. Categorize and analyze infectious diseases by each organ system;
3. Justify the general treatment of infectious diseases with current specific pharmaceutical interventions;
4. **Discuss** the epidemiology and immune responses to the pathogens;
5. **Critique** information given on the Internet for accuracy related to current diseases, organisms, or treatments;
6. **Assess** information given in case studies for differential diagnoses and most probable etiologic agent(s).

### G. INSTRUCTIONAL METHODS AND ACTIVITIES

Class exams—these four (4) evaluations are given at 100 pts each, including a comprehensive final, and may consist of short answer, essay, multiple choice, case studies, matching or descriptive T/F questions.

Four Case Studies—these exercises will be done in groups outside of class. **They will be due one week after being issued.**

Extra Credit assignments may be given at prerogative of instructor, who is NOT obligated to give make-up extra credit opportunities. These opportunities include quizzes on antibiotics, additional case studies, Internet assignments, or journal articles to read/summarize.

*N.B.*: Instructors reserve the right to assign talks by visiting seminar speakers as an extra case history not included in the four (4), or as a make-up. Instructor may also give information on selected microorganisms not covered in lecture as handouts (“The Weekly Microbe”), Web-based assignments, case histories, journal articles, or MMWR synopses. These organisms can be included on examinations. Students will be responsible for all material (textbook, guest lectures, web sites, case studies, and handouts) covered in the lecture.

### H. MAJOR COURSE REQUIREMENTS AND GRADING

Introduction—Please note that Instructor may modify assignments, number of assignments and point values depending on number of students in class. Also note that “any mid-term grades posted on S.A.I.L. and Blackboard are not official University grades, not a guarantee of final grades and are never updated; once they are posted they cannot be changed even if your grade in the class **does** change.”

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>% of FINAL GRADE</th>
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</thead>
<tbody>
<tr>
<td>Exams (Including comprehensive final)</td>
<td>80</td>
</tr>
<tr>
<td>Homework (Case Studies)</td>
<td>20</td>
</tr>
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</table>

### I. COURSE CONTENT/SCHEDULE

Chapters are from Murray et al (M) or from Gallagher and MacDougal (G)

<table>
<thead>
<tr>
<th>DATE</th>
<th>TOPIC</th>
<th>CHAPTER(S)</th>
<th>ASSIGNMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>#1-M Aug 26</td>
<td>Review of Bacteria Structure</td>
<td>M-1, 12, 13</td>
<td></td>
</tr>
<tr>
<td>#2-W Aug 28</td>
<td>Normal flora, Pathogenesis</td>
<td>M-2, 14, 15</td>
<td>WM 1-Norm Flora</td>
</tr>
<tr>
<td>#3-M Sep 2</td>
<td>Labor Day Holiday—no class</td>
<td>M-7-10</td>
<td></td>
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3
<table>
<thead>
<tr>
<th>DATE</th>
<th>TOPIC</th>
<th>CHAPTER(S)</th>
<th>ASSIGNMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>#4-W Sep 4</td>
<td>Infection &amp; Immunity 1</td>
<td>M 7-10</td>
<td>WM2-Immunology</td>
</tr>
<tr>
<td>#5-M Sep 9</td>
<td>Infection and Immunity 2</td>
<td>M-7-10</td>
<td>WM2-Immunology</td>
</tr>
<tr>
<td>#6-W Sep 11</td>
<td>Antimicrobials 1</td>
<td>M-11</td>
<td>HO 2AB Antibiotics</td>
</tr>
<tr>
<td>#7-M Sep 16</td>
<td>Vaccines (may be flipped and posted on Blackboard)</td>
<td>M-17; G-5, 7-13</td>
<td>Case Study I given</td>
</tr>
<tr>
<td>#8-W Sep 18</td>
<td>Antimicrobials 2</td>
<td>G-14-25</td>
<td>HO 2AB Antibiotics</td>
</tr>
<tr>
<td>#9-M Sep 23</td>
<td>Exam 1</td>
<td>Lec 1-8</td>
<td></td>
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<tr>
<td>#10-W Sep 25</td>
<td>Viral Resp. Infections 1</td>
<td>M-37-38, 42, 46, 47,48, 49, 53</td>
<td>HO 3 Pneumonia</td>
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<tr>
<td>#11-M Sep 30</td>
<td>Viral Res. Inf. 2; Bact Res. Inf. 1</td>
<td>M-18, 19, 22, 24</td>
<td>WM3- Staph; WM8-Pseudomonas</td>
</tr>
<tr>
<td>#12-W Oct 2</td>
<td>Bacterial Resp. Infections 2</td>
<td>M-18, 19, 22, 24</td>
<td>WM3- Staph; WM8-Pseudomonas</td>
</tr>
<tr>
<td>#13-M Oct 7</td>
<td>Bacterial Resp. Infections 3; Intravascular Inf. 1</td>
<td>M-18, 19, 27, 29</td>
<td></td>
</tr>
<tr>
<td>#14-W Oct 9</td>
<td>Intravascular Infections &amp; Sepsis 2</td>
<td>M-18, 19, 20, 35</td>
<td>Case Study 2 given</td>
</tr>
<tr>
<td>#15-M Oct 14</td>
<td>Anaerobes; CNS Infections 1</td>
<td>M-21, 23, 24, 56</td>
<td>WM5-Naegleria; WM6-Anaerobes</td>
</tr>
<tr>
<td>#16-W Oct 16</td>
<td>CNS Infections 2</td>
<td>M-29, 31, 43, 50</td>
<td></td>
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<tr>
<td>#17-M Oct 21</td>
<td>CNS Infections 3</td>
<td>M-52, 54, 58, 60, 64, 65</td>
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<tr>
<td>#18-W Oct 23</td>
<td>GI Infections 1</td>
<td>M-21, 27, 30, 34, 55</td>
<td>WM 7-Hepatitis</td>
</tr>
<tr>
<td>#19-M Oct 28</td>
<td>Exam 2</td>
<td>Lect. 10-18</td>
<td></td>
</tr>
<tr>
<td>#20-W Oct 30</td>
<td>GI Infections 2</td>
<td>M-28, 31, 32, 42, 47, 51, 65, 68</td>
<td>WM4- Enterobacteriaceae WM 4C-Vibrios Case study 3 given</td>
</tr>
<tr>
<td>#21-M Nov 4</td>
<td>GU-STD 1</td>
<td>M-23, 32, 33</td>
<td></td>
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<tr>
<td>#23-M Nov 11</td>
<td>Obligate Intracellular Bacteria</td>
<td>M-34-35</td>
<td>WM3- Staph; WM8-Pseudomonas;</td>
</tr>
<tr>
<td>#24-W Nov 13</td>
<td>Skin &amp; Soft Tissue 1</td>
<td>M-18, 19, 25, 27, 30, 32</td>
<td>WM10-Skin Lesions; Case study 4 given on Blackboard</td>
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<tr>
<td>#25-M Nov 18</td>
<td>Skin &amp; Soft Tissue 2; Viral Exanthems</td>
<td>M-41, 42, 44</td>
<td>WM13-HIV/AIDS</td>
</tr>
<tr>
<td>#26-W Nov 20</td>
<td>HIV/AIDS I</td>
<td>M- 54, 65, 66</td>
<td></td>
</tr>
<tr>
<td>#26-M Nov 25</td>
<td>Exam 3</td>
<td>Lect. 20-26</td>
<td></td>
</tr>
<tr>
<td>#27-W Nov 27</td>
<td>Reading Day-no class</td>
<td></td>
<td></td>
</tr>
<tr>
<td>#29 W Dec 4</td>
<td>Bioterrorism/Emerging Infections</td>
<td>TBA</td>
<td>WM 14- bioterrorism</td>
</tr>
<tr>
<td>#30-M Dec 9</td>
<td>Tentative Final Exam and optional Case Study 5</td>
<td>Comprehensive</td>
<td>7:15-9:45 pm Note different time</td>
</tr>
</tbody>
</table>

Handouts (subject to change):
- Weekly Microbe (WM) 1—Normal Flora v9 2018
- WM2-Immunology v4 2016
- WM3-Staph_Strep_Enterococcus v9 2015
- WM4-Enterobacteriaceae v8 2018
- WM4C-Non-cholera Vibrios v14 2018
- WM5-Naegleria v7 2016
- WM6-Anaerobes v8 2013
- WM7-Hepatitis viruses v14 2019
- WM8-Pseudomonas v10 2016
- WM9-Obligate Intracellular Bacteria v10 2018
- WM10-Skin Lesions v9 2015
- Handout 2AB Antibiotics v26 2018
- Handout 3 Pneumonia v5 2016
- WM13-HIV/AIDS v5 2011
- WM14-Bioterrorism v10 2016

Note: Changes in this course schedule may be necessary and will be announced to the class by the Instructor or on Blackboard. The assignments and exams shown are directly related to the Student Learning Outcomes described in Section F.

J. COURSE POLICIES

Attendance/Tardiness
Students are expected to attend every scheduled class meeting and to be on-time. It is the responsibility of the student to obtain any material missed during an absence from his/her classmates. Power Points are not placed in the library and placement on Blackboard will be limited.

Late Work and Make-up Exams
Students will be given a Late Assignment Penalty for tardy work: 10% assignment grade deduction per class day late. However, after the 3rd day, late assignments will not be accepted. In-class late assignments are defined by being turned in after 7:05 pm. Please note that class assignments may be sent to me by e-mail or slid under my office door; tardiness is determined by the time noted on the instructor’s Inbox, but allowances can be
made for server problems. Files contaminated by viruses, spyware, and worms will not be accepted. DO NOT ASK THE CUSTODIANS to let you into my office to place an assignment on my desk.

**Extra Credit**

Some extra credit is assured as pre- and post-test assessments. **No make-ups** are given for pre- and post-tests. Other extra credit assignments may be given at instructor’s prerogative. Instructor is **not obligated** to give make-up assignments for extra credit opportunities, whether excused or unexcused. The ONLY possible exception is for students with a university-approved scheduled absence. The make-up (if given) may not be the exact same assignment given to the class.

**Cell Phone Use**

DO NOT USE CAMERA PHONES IN LECTURE. DO NOT SEND TEXT MESSAGES DURING CLASS. Please turn off all cell phones, beepers, Bluetooth devices, Black Berries, etc., before entering the classroom, or at least place them on silent mode. I would prefer that earpieces not be worn in lecture. DO NOT TAKE PHOTOS of Power Point slides or videos with your cell phone camera unless otherwise instructed. Recording of lectures with recorders can only be done with permission of instructor—please see me privately.

**Laptop Use**

I have no problems with any student using a laptop in class, as long as they are not looking at pornography, anime, videos, etc.

**Food in Class**

I prefer that you not eat or drink in class, but I will not throw you out or ask you to leave.

**Missed Exams**

Students have two choices for making up exams due to excused absences. They can do an all-essay make-up exam, or doubling the grade on the final exam. There is no make-up for missed quizzes, or for missed exams due to unexcused absences. Missed extra credit opportunities may or may not be given make-up assignments, depending upon the nature of the assignment. Please note that instructor determines what is not excused. I define excused absences as emergency visits to the ER or physician or dentist; job, graduate and professional school interviews; death of close family members (siblings, in-laws, parents, aunts or uncles, step-parents, grandparents or great-grandparents, first cousins), or University-approved absences as described in the Catalogue and Student Handbook.

**Participation**

I expect that **all members** in the class will participate in the questioning, discussions, and interactions within the lecture. Formal assessment of class participation is not done as part of grade, but I do informally monitor it, and I will note it if you ask me for a letter of recommendation.
K. COLLEGE AND UNIVERSITY POLICIES

- **Academic Integrity (University)**
  University students are expected to conduct themselves in accordance with the highest standards of academic honesty. Academic misconduct for which a student is subject to penalty includes all forms of cheating, such as illicit possession of examinations or examination materials, falsification, forgery, complicity or plagiarism. (Plagiarism is the presentation of the work of another as one’s own work.) In this class, academic misconduct or complicity in an act of academic misconduct on an assignment or test will result in a failing grade.

- **Classroom/Professional Behavior**
  Texas A&M University-Corpus Christi, as an academic community, requires that each individual respect the needs of others to study and learn in a peaceful atmosphere. Under Article III of the Student Code of Conduct, classroom behavior that interferes with either (a) the instructor’s ability to conduct the class or (b) the ability of other students to profit from the instructional program may be considered a breach of the peace and is subject to disciplinary sanction outlined in article VII of the Student Code of Conduct. Students engaging in unacceptable behavior may be instructed to leave the classroom. This prohibition applies to all instructional forums, including classrooms, electronic classrooms, labs, discussion groups, field trips, etc.

- **Statement of Civility**
  Texas A&M University-Corpus Christi has a diverse student population that represents the population of the state. Our goal is to provide you with a high quality educational experience that is free from repression. You are responsible for following the rules of the University, city, state and federal government. We expect that you will behave in a manner that is dignified, respectful and courteous to all people, regardless of sex, ethnic/racial origin, religious background, sexual orientation or disability. Behaviors that infringe on the rights of another individual will not be tolerated.

- **Deadline for Dropping a Course with a Grade of W (University)**
  I hope that you never find it necessary to drop this or any other class. However, events can sometimes occur that make dropping a course necessary or wise. Please consult with your academic advisor, the Financial Aid Office, and me, before you decide to drop this course. Should dropping the course be the best course of action, you must initiate the process to drop the course by going to the Student Services Center and filling out a course drop form. Just stopping attendance and participation WILL NOT automatically result in your being dropped from the class. Please consult the Academic Calendar (http://www.tamucc.edu/academics/calendar/) for the last day to drop a course.

- **Grade Appeals (College of Science and Engineering)**
  As stated in University Procedure 13.02.99.C2.01, Student Grade Appeal Procedures, a student who believes that he or she has not been held to appropriate academic standards as outlined in the class syllabus, equitable evaluation procedures, or appropriate grading, may appeal the final grade given in the course. The burden of proof is upon the student to
demonstrate the appropriateness of the appeal. A student with a complaint about a grade is encouraged to first discuss the matter with the instructor. For complete details, including the responsibilities of the parties involved in the process and the number of days allowed for completing the steps in the process, see University Procedure 13.02.99.C2.01, Student Grade Appeal Procedures. These documents are accessible through the University Rules website at http://www.tamucc.edu/provost/university_rules/index.html, and the College of Science and Engineering Grade Appeals webpage at http://sci.tamucc.edu/students/GradeAppeal.html. For assistance and/or guidance in the grade appeal process, students may contact the chair or director of the appropriate department or school, the Office of the College of Science and Engineering Dean, or the Office of the Provost.

- **Disability Services**
  The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities (please see (ADA of 1990, plus amendments from 2008 [PL110-325]). Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please call (361) 825-5816 or visit Disability Services in Corpus Christi Hall 116.

  If you are a returning veteran and are experiencing cognitive and/or physical access issues in the classroom or on campus, please contact the Disability Services office for assistance at (361) 825-5816.

  http://disabilityservices.tamucc.edu/

  If you need disability accommodations in this class, please contact the instructor as soon as possible. Disabilities Service Office will provide me an electronic letter stating that you are eligible for such accommodations. For either lecture or lab, if you have mobility problems, are pregnant, or you may have a history of seizures, please notify the instructor PRIVATELY so that assistance can be given in case of fire drills or emergencies.

- **Statement of Academic Continuity**
  In the event of an unforeseen adverse event, such as a major hurricane and classes could not be held on the campus of Texas A&M University–Corpus Christi; this course would continue through the use of Blackboard and/or email. In addition, the syllabus and class activities may be modified to allow continuation of the course. Ideally, University facilities (i.e., emails, web sites, and Blackboard) will be operational within two days of the closing of the physical campus. However, students need to make certain that the course instructor has a primary and a secondary means of contacting each student.

- **Interrupted Exams**
If an exam is disrupted by situations such as weather, power outages, fire drills, or any event requiring evacuation in the middle of an exam, those persons who have finished their exam before the disruption will not be allowed to do a make-up exam. Those persons who did not finish their exam will have to take an exam the first day of class that faculty, staff and students are allowed to return to the building. The format of this exam may use Type K, short answer, essay, fill-in-the-blank, multiple matching, or all of the above. Students taking their exam with Disability Services do not have this option unless their exam is interrupted in the building where they took their exam.

Enrollment onto Opportunities List-Serve

All students are on the Blackboard list serve for the course, and to a second opportunities-list serve. To subscribe, send a separate e-mail to: opportunities-list-request@listserve.tamucc.edu. Make sure that your e-mail appears in the “From” heading. In the subject heading, type “subscribe,” then send the e-mail. Next, you will receive a second message with a long set of letters and numbers in the subject line. You must also reply to that message in order to be subscribed to the list-serve. After the initial message to subscribe, to send items on the list-serve, just type opportunities-list@listserv.tamucc.edu (do NOT add – request after list). You may not receive the messages from the list-serve if your Internet service provider (Yahoo, Hotmail, Excite, Roadrunner, Grande, etc.) keep these messages from being placed in junk-mail. The University administration prefers that you use the islander.tamucc.edu accounts. At the end of the course, send an e-mail that contains your e-mail address in the “From” heading to opportunities-list@listserve.tamucc.edu. In the subject heading, type the word “unsubscribe,” then send the e-mail. I hope that students will continue to subscribe to opportunities-list@listserve.tamucc.edu!

L. OTHER INFORMATION

- **Academic Advising**
  The College of Science & Engineering requires that students meet with an Academic Advisor as soon as they are ready to declare a major. The Academic Advisor will set up a degree plan, which must be signed by the student, a faculty mentor, and the department chair. Meetings are by appointment only; advisors do not take walk-ins. Please call or stop by the Advising Center to check availability and schedule an appointment. The College’s Academic Advising Center is located in Center for Instruction 350 or can be reached at (361) 825-3928.

- **Citation format**
  Please use Council of Science Editors (CSE) format—do not use APA format! A useful link on CSE format is available at this URL: http://writing.wisc.edu/Handbook/DocCSE.html

- **Hints on doing well in course**
  First, read the syllabus. Second, re-read the syllabus. Third, read the syllabus again.
Next, read the assigned text chapters. The text is designed for medical student use, so chapters are relatively short and contain plenty of tables, charts and graphs. You need to re and re-read the text in conjunction with the notes taken from class Power Points, the Weekly Microbes and other handouts. This course aims for higher-level critical thinking, not just memorize the textbook and regurgitate facts. If you just memorize, you will obtain a C. If you integrate material and think of how organisms correlate to body systems and to diseases, you will retain information longer and it will make more sense. Please read the frontispiece of the Medical Micro text for an example of how to approach studying for this course. This message came from a current medical student and alumnus:

*I had to stop and take a moment to think about Med Micro and be grateful about the way you taught the course. Although it has almost been [four] years, I am grateful that I took your course back then. I may not remember everything, but I know that I am not having as hard of a time as some of my peers ...*

**GENERAL DISCLAIMER**

I reserve the right to modify the information, schedule, assignments, deadlines, and course policies in this syllabus if and when necessary. I will announce such changes in a timely manner during regularly scheduled lecture periods.