BIOL-2420.001 (Principles of Microbiology) Fall 2014
Schedule: 8:00-9:15 am TR CI 138

Instructor: Stella Doyungan, Ph. D.
Office: EN 308
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Office Phone: 361-825-3686
Office Hours: Tuesdays -10:00am-1:00pm; Thursdays-11:00am-1:00pm; Mondays, Tuesdays and Wednesdays -3:30-4:00pm

Students can make appointment with me if they are not available during my office hours listed above. I will only correspond by email with students who use their official islander email addresses. If you do not have an islander account, please go to http://orientation.tamucc.edu/email.html to activate your islander email account.

Course Description
This course studies the biology of microorganisms such as bacteria, fungi, viruses and selected protozoan with emphasis on those that cause diseases in humans. The laboratory component involves laboratory skills and microbiological techniques. This class is intended for non-science-, including health science majors; it cannot substitute for BIOL-2421.

Objectives for Core Courses
1. To present to students coherent, scientifically-valid microbiological information in written and oral forms.
2. To provide the students with data and information supporting major concepts in microbiology.
3. To allow students to relate and use available theoretical information to predict practical/daily situations and occurrences.
4. To engage the students in laboratory exercises and experiments which are designed to provide diverse information.
5. To require the students to gather and assess information about a wide variety of human health and environmental issues.
6. To demonstrate the relationship between microbiology, immunology and disease.

Student Learning Outcomes: At the end of the semester, the student will be able to:
1. Demonstrate a broad understanding of the types, roles and significance of microorganisms, including bacteria, viruses, fungi and protozoa.
2. Describe the basic elements of microbiology, including microscopy, structure, metabolism genetics and recombinant DNA technology.
3. Define and describe the physical and chemical agents and chemotherapeutic drugs in the control of microorganisms.
4. Discuss the basic concepts of innate immunity and adaptive immunity.
5. Describe some bacterial and viral diseases in humans, their causes, transmission, signs, symptoms and methods of prevention.
6. Perform (within the laboratory component of the course) basic laboratory skills and basic microbiological techniques, including isolation, culture, and identification of microorganisms.
Major Course Requirements

Lecture contributes 3/4 of your grade, and laboratory contributes 1/4 of your grade:

<table>
<thead>
<tr>
<th></th>
<th>Percentage</th>
</tr>
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<tbody>
<tr>
<td>Lecture</td>
<td>75 %</td>
</tr>
<tr>
<td>Laboratory</td>
<td>25 %</td>
</tr>
</tbody>
</table>

Total percentage possible 100 %

A. Lecture
The lecture grade comprises grades in lecture exams, final exam, quizzes and assignments.

1. Lecture and Final Exams. The exams cover specific assigned topics. They consist of multiple choice questions (identification, fill-in the blanks, matching type, true-false and short answer types). There are three lecture exams and final exam during the semester; each exam is worth 100 points.

2. Quizzes. Every lecture meeting, there are some questions for points and Qwizdom responders are used to answer these questions. The students are required to bring their functioning Qwizdom responder every lecture meeting. They must be present to answer the questions and are not permitted to use another student’s responder. Answering questions for another student absent in lecture is cheating and will not be tolerated. There is NO make-up for missed quizzes. The quizzes are worth 100 points.

3. Assignments. There is an assignment for each chapter to be discussed in lecture; These assignments can be accessed through Mastering Microbiology. The assignments open and close at particular dates so take note of their opening and closing dates. There is NO make-up for missed assignments. The assignments are worth 100 points.

Grading in Lecture

<table>
<thead>
<tr>
<th>Section</th>
<th>Total possible points</th>
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</thead>
<tbody>
<tr>
<td>Lecture exams (100 pts/exam x 3 exams)</td>
<td>300</td>
</tr>
<tr>
<td>Final exam</td>
<td>100</td>
</tr>
<tr>
<td>Quizzes</td>
<td>100</td>
</tr>
<tr>
<td>Assignments</td>
<td>100</td>
</tr>
</tbody>
</table>

Total possible points = 600 points

B. Laboratory
The laboratory grade comprises grades in laboratory worksheets/reports, practical exams quizzes and lab instructor’s evaluation.

Grading in Laboratory

<table>
<thead>
<tr>
<th>Section</th>
<th>Total possible points</th>
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<tbody>
<tr>
<td>Worksheets/Lab reports (8%)</td>
<td>200 pts</td>
</tr>
<tr>
<td>Lab tests (10%)</td>
<td>200 pts</td>
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<tr>
<td>Quizzes (5%)</td>
<td>45 pts</td>
</tr>
<tr>
<td>Instructor’s evaluation (2%)</td>
<td>100 pts</td>
</tr>
</tbody>
</table>

Final grading: Your final letter grade will be based on the grade you earn in the lecture and laboratory.
For example, your lecture grade is 70 and lab grade is 90, your final number grade is
75 = C.

\[
\text{Final Grade} = \text{lecture grade (0.75)} + \text{ laboratory grade (0.25)}
\]
\[
= 70 \times 0.75 + 90 \times 0.25 = 52.5 + 22.5 = 75 = C
\]

<table>
<thead>
<tr>
<th>Final Letter Grade</th>
<th>Final Number Grade (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>90 - 100</td>
</tr>
<tr>
<td>B</td>
<td>80 - 89</td>
</tr>
<tr>
<td>C</td>
<td>70 - 79</td>
</tr>
<tr>
<td>D</td>
<td>60 - 69</td>
</tr>
<tr>
<td>F</td>
<td>0 - 59</td>
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</table>

**Required or Recommended Readings**

**Textbook:**

**Laboratory Manual:**

**Laboratory Guides and Worksheets for Biol-2420 Laboratory.** Required

**Qwizdom responder:** Required

**Computer Access**
Use of computer is a major part of this course. This includes use of email, list-serve, worldwide web and PowerPoint. Computers are available for student’s use in computer labs around campus. The campus Computer Lab is located in Corpus Christi Hall - Room 200. This lab is staffed with help personnel and has very generous operating hours. Each student has a computer account set up by the university that is available from the first day of class. Call the computer help line at x2692 for more information.

The power point lectures and lecture notes-study guides are on BlackBoard.
To access BlackBoard:
- Go to TAMUCC home page: http://www.tamucc.edu
- Scroll down and near the bottom of the page under ‘Quick Links’, click BlackBoard,
- Login to BlackBoard. You will use your Islander ID account credentials to log in. These are the same credentials you use to log into at the campus computer labs and campus wireless. Type your Islander ID (Net ID) into the first section of the log in box and type your password into the second section of the log in box.
- Click Login

If you have not established your Islander ID and password, please perform the following steps.
Step 1: Go to “newuser.tamucc.edu” and select Islander ID
Step 2: Fill in the boxes with the requested information in the required format
Step 3: Click Submit
Step 4: You will see your user id and temporary password, which you should
write down carefully to avoid errors.

YOU MUST NOW WAIT 5 MINUTES FOR THE ACCOUNT TO ACTIVATE

If you have any problems logging into BlackBoard, please contact TAMUCC Island Online Help Desk at (361) 825-2825 or long distance 1-866-353-2491.

- After you have logged in, select [FALL-14] BIOL-2420.001 – PRINCIPLES OF MICROBIOLOGY

Course Policies

Attendance/Absences

Students are expected to attend on time in every scheduled class and laboratory meeting. If a student is absent in the lecture, it is the student’s responsibility to obtain the missed materials. If the student is absent in the laboratory, the student will be given a zero grade for the laboratory activity performed that day. Make-up is only permitted for an excused absence and emergencies.

Students with University’s approved absence (athletics, military duty, others) must notify the instructor in advance of the scheduled absence. In case of emergencies, students should inform the instructor about the situation as soon as possible.

Proper documentation is required for excused absences. It must be in writing and signed by the person of authority (coach, doctor, funeral director). Personal reasons such as getting married, going on vacation, attending weddings, reunions, household or car repairs and NON-EMERGENCY medical or dental visits are not acceptable.

Missed exam

Special exam is given to students with excused absence. The format of such exam is ESSAY and SHORT ANSWER TYPES.

Bonus points

NO INDIVIDUAL extra credit projects or assignments will be available in this class. Opportunities to earn bonus points however, are provided for the ENTIRE CLASS.

a) There can be bonus points built as extra questions in the Qwizdom quizzes. These bonus points cannot be made up.

b) 15 bonus points (these 15 points is 2.5% of the total possible points which is 600 points in this class) are given to students who attend 80% (16 out of 20 class days, see below) of class lecture days (Exam days not included). This 15-bonus points is ALL OR NONE, which means that if your attendance is less than 80% you will not get the 15 bonus points. Attendance in class is taken by answering the attendance question using the Qwizdom remote control at the end of the lecture. If you leave early and cannot answer this question, you are marked absent.

Class days:

Month of September 2014 : Sept 9, 11, 16, 23, 25, 30
Month of October 2014 : Oct 2, 7, 9, 14, 16, 23, 28, 30
Month of November 2014 : Nov 4, 6, 11, 18, 20
Month of December 2014 : Dec 2

c) Bonus points are given to students for attending SI sessions.

10 or more attendance =7pts;  8-9 attendance =5pts; 6-7 attendance =3pts; 4-5 attendance=2pts;
2-3 attendance=1 =pt;        0-1 attendance=0pt
**Cell phone/Electronic Device Usage**

Interruptions are disruptive to learning and will not be tolerated. Students are required to put their cell phones to silent mode during class. Taking pictures and sending text messages during class are not allowed.

Laptops, iPads or similar tablet PC usage is limited to class-related activities such as taking notes and looking at the PowerPoint lectures and study guides.

**Academic Integrity/Plagiarism**

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:

**FIRST OFFENSE:** A STERN WARNING AND AN F FOR THE PARTICULAR WORK/TEST (WHERE THE STUDENT IS FOUND TO BE DISHONEST);

**SECOND OFFENSE:** AN F FOR THE COURSE

**Dropping a Class**

I do hope that you never find it necessary to drop in this class. However, in any event that you have to, please consult with me to make sure it is the best thing to do. If dropping the course is the best course of action, you must initiate the process by going to the Student Services Center and fill out a course drop form. Just stopping attendance and participation in the class WILL NOT automatically result in your being dropped from the class. Last day to drop the class is Friday, November 07, 2014. Last day to withdraw from the University, is on Monday, December 01, 2014.

**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.

**Grade Appeals**

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 (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.

Disabilities Accommodations
The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides
comprehensive civil rights protection for persons with disabilities. 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 or visit Disability Services at (361) 825-5816 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) 825816.

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.

Academic Advising
As soon as students are ready to declare a major, they should meet with an Academic Advisor. The
Academic Advisor will guide the student through the requirements of the major, including developing and
maintaining the student’s degree plan and directing the student to an appropriate Faculty Mentor. Specific
requirements to complete degrees differ from college to college (including signatures needed, timetables
to follow, examinations to take, etc.), so each student should consult an Academic Advisor in the college
that houses his or her chosen major.

General Disclaimer
The Instructor reserves the right to modify the schedules and policies in this syllabus if and when
necessary. Such changes will be announced during regular scheduled lecture or laboratory periods and
list-serve but no attempt will be made to contact students who are absent when the announcement is
made. Students are responsible for abiding all announced changes, and it is the student’s responsibility to
obtain this information.
## Lecture Outline

Instructor: Stella Doyungan, Ph.D.

<table>
<thead>
<tr>
<th>WEEK</th>
<th>DAY</th>
<th>DATE</th>
<th>TOPIC</th>
<th>CHAPTER</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>R</td>
<td>08/28</td>
<td>Introduction to Microbiology</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>T</td>
<td>09/02</td>
<td>Introduction to Microbiology (cont’d)</td>
<td></td>
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<tr>
<td></td>
<td>R</td>
<td>09/04</td>
<td>Microbial Structure and Function</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>T</td>
<td>09/09</td>
<td>Microbial Structure and Function (cont’d)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>R</td>
<td>09/11</td>
<td>Microbial Growth and Metabolism</td>
<td></td>
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<tr>
<td>4</td>
<td>T</td>
<td>09/16</td>
<td>Microbial Growth and Metabolism (cont’d)</td>
<td>5 &amp; 6</td>
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<tr>
<td></td>
<td>R</td>
<td>09/18</td>
<td></td>
<td></td>
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<tr>
<td>5</td>
<td>T</td>
<td>09/23</td>
<td>Microbial Genetics</td>
<td>7</td>
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<tr>
<td></td>
<td>R</td>
<td>09/25</td>
<td>Microbial Genetics (cont’d)</td>
<td></td>
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<tr>
<td>6</td>
<td>T</td>
<td>09/30</td>
<td>Physical and Chemical Control of Microbes</td>
<td>9</td>
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<tr>
<td></td>
<td>R</td>
<td>10/02</td>
<td>Physical and Chemical Control of Microbes (cont’d)</td>
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<tr>
<td>7</td>
<td>T</td>
<td>10/07</td>
<td>Chemotherapy and Antibiotics</td>
<td>10</td>
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<td></td>
<td>R</td>
<td>10/09</td>
<td>Chemotherapy and Antibiotics (cont’d)</td>
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<tr>
<td>8</td>
<td>T</td>
<td>10/14</td>
<td>Infection and Diseases</td>
<td>14</td>
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<td></td>
<td>R</td>
<td>10/16</td>
<td>Infection and Diseases (cont’d)</td>
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<td>9</td>
<td>T</td>
<td>10/21</td>
<td><strong>Exam II</strong></td>
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<td>R</td>
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<td>Innate Immunity</td>
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<tr>
<td>10</td>
<td>T</td>
<td>10/28</td>
<td>Innate Immunity (cont’d)</td>
<td>16</td>
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<td></td>
<td>R</td>
<td>10/30</td>
<td>Adaptive Immunity</td>
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<td>11</td>
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<td>11/04</td>
<td>Adaptive Immunity (cont’d)</td>
<td>19</td>
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<td></td>
<td>R</td>
<td>11/06</td>
<td>Microbial Diseases of the Skin</td>
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<td>12</td>
<td>T</td>
<td>11/11</td>
<td>Microbial Diseases of the Nervous System</td>
<td>20</td>
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<tr>
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<td>R</td>
<td>11/13</td>
<td><strong>Exam III</strong></td>
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<tr>
<td>13</td>
<td>T</td>
<td>11/17</td>
<td>Microbial Diseases of the Cardiovascular System</td>
<td>21</td>
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<td></td>
<td>R</td>
<td>11/20</td>
<td>Microbial Diseases of the Respiratory System</td>
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<tr>
<td>14</td>
<td>T</td>
<td>11/25</td>
<td>Microbial Diseases of the Gastrointestinal Tract</td>
<td>23</td>
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<tr>
<td></td>
<td>R</td>
<td>11/27</td>
<td><strong>Thanksgiving Holiday</strong></td>
<td></td>
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<tr>
<td>15</td>
<td>T</td>
<td>12/02</td>
<td>Microbial Diseases of the Reproductive Tract</td>
<td>24</td>
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Final exam: Thursday, December 04, 2014, 8:00-10:30 am