COURSE DESCRIPTION

This course is primarily designed to provide pre-nursing and related health career students with a fundamental understanding of introductory medical microbiology with a focus on those microorganisms that cause disease. The first half of this course is designed to be introductory in nature and will cover broad concepts in microbiology including bacteria, protists, parasites, viruses and fungi. The second half of the course is more specific and will cover immunology and specific microbial diseases by body system. There will of necessity be some memorization but only enough to allow you to apply facts to building concepts and a well-rounded understanding of this rapidly advancing field of science.

BASIC INFORMATION ABOUT THE COURSE

Professor:  Dr. Cynthia Maurstad

Class Meeting Times:  Mondays, Wednesdays and Fridays:  11:00 – 11:50am

Location:  Miller Science, Room 137

Corequisite:  BIOL 3020 (Microbiology for Non-Science Majors Lab)
ABOUT YOUR PROFESSOR

Office: Miller Science Building, Room 111
Phone: 936-468-2038
E-mail: Cynthia.Maurstad@sfasu.edu
Office Hours: In person or Zoom
   Tuesdays and Thursdays, 9:30 -10:30am
   Wednesdays, 12:00 noon – 3:00pm

Background:
I’m an Air Force BRAT, growing up on Air Force bases all over the United States as my father was an officer and a KC-135 tanker pilot. Both my parents were from East Texas (Crockett and Frankston) so we always knew we’d end up back in the area. Upon my Dad’s retirement from the Air Force, we ended up in Nacogdoches where I completed my last two years of high school (Go, Dragons!) and then went to Texas A&M – College Station. I took a LOT of summer classes at SFA- some right here in this building! I have a BS-EDCI in Biology and History from Texas A&M. Later in life and two daughters later, I had the opportunity to go back to graduate school where I earned a Ph.D. in Immunology from The University of Louisiana at Lafayette. I have taught or been on the faculty at The University of Louisiana at Lafayette, Del Mar College – Corpus Christi, Texas A&M University – Corpus Christi, San Jacinto College- Houston, The University of Texas MD Anderson Cancer Center School of Health Professions and here at SFA. I have taught courses in biology, pathophysiology, anatomy & physiology, immunology and microbiology.

My Interests
No surprise, I’m an Aggie through and through. My family and I have Aggie football season tickets. Fall is my favorite time of the year! As mentioned above, I have two daughters and also extended family all over East Texas. I’m a grandmother to four amazing grandchildren that keep me on my toes. I love to hang out with friends, machine quilt when I can find the time, read, watch sports, murder mysteries and sci-fi fun stuff, sing and go dancing.
<table>
<thead>
<tr>
<th>Week</th>
<th>DATE</th>
<th>TOPIC</th>
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<tbody>
<tr>
<td>1</td>
<td>Mon, Aug., 28&lt;sup&gt;th&lt;/sup&gt; Wed., Aug, 30&lt;sup&gt;th&lt;/sup&gt; Fri, Sept. 1&lt;sup&gt;st&lt;/sup&gt;</td>
<td>Introduction to Class Introduction to Microbiology Biomolecules – Structure and Function</td>
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<td>Mon, Sept. 4&lt;sup&gt;th&lt;/sup&gt; Wed., Sept. 6&lt;sup&gt;th&lt;/sup&gt; Fri, Sept. 8&lt;sup&gt;th&lt;/sup&gt;</td>
<td>Biomolecules – Structure and Function Prokaryotic microorganisms Prokaryotic microorganisms</td>
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<td>2</td>
<td>Mon., Sept., 11&lt;sup&gt;th&lt;/sup&gt; Wed., Sept., 13&lt;sup&gt;th&lt;/sup&gt; Fri, Sept. 15&lt;sup&gt;th&lt;/sup&gt;</td>
<td>Eukaryotic microorganisms Eukaryotic microorganisms Review</td>
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<td>3</td>
<td>Mon., Sept., 18&lt;sup&gt;th&lt;/sup&gt; Wed., Sept. 20&lt;sup&gt;th&lt;/sup&gt; Fri., Sept. 22&lt;sup&gt;rd&lt;/sup&gt;</td>
<td>TEST 1 Viruses Viruses</td>
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<td>4</td>
<td>Mon., Sept. 25&lt;sup&gt;th&lt;/sup&gt; Wed., Sept. 27&lt;sup&gt;th&lt;/sup&gt; Fri., Sept. 29th</td>
<td>Viruses Microbes Microbial nutrition</td>
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<td>5</td>
<td>Mon., Oct. 2&lt;sup&gt;nd&lt;/sup&gt; Wed., Oct., 4&lt;sup&gt;th&lt;/sup&gt; Fri., Oct. 6&lt;sup&gt;th&lt;/sup&gt;</td>
<td>Microbial ecology Microbial growth Basics of microbial metabolism</td>
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<td>6</td>
<td>Mon., Oct. 9&lt;sup&gt;th&lt;/sup&gt; Wed., Oct. 11&lt;sup&gt;th&lt;/sup&gt; Fri., Oct. 13&lt;sup&gt;th&lt;/sup&gt;</td>
<td>Basics of microbial metabolism Review TEST 2</td>
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<td>7</td>
<td>Mon., Oct. 16&lt;sup&gt;th&lt;/sup&gt; Wed., Oct. 18&lt;sup&gt;th&lt;/sup&gt; Fri., Oct. 20&lt;sup&gt;th&lt;/sup&gt;</td>
<td>Microbial genetics Microbial genetics Genetic engineering</td>
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<td>8</td>
<td>Mon., Oct. 23&lt;sup&gt;rd&lt;/sup&gt; Wed., Oct. 25&lt;sup&gt;th&lt;/sup&gt; Fri., Oct. 27&lt;sup&gt;th&lt;/sup&gt;</td>
<td>Genetic engineering Control of microorganisms Control of microorganisms</td>
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<td>9</td>
<td>Mon., Oct. 30&lt;sup&gt;th&lt;/sup&gt; Wed., Nov. 1&lt;sup&gt;st&lt;/sup&gt; Fri., Nov. 3&lt;sup&gt;rd&lt;/sup&gt;</td>
<td>Pathogenic microbiology Pathogenic microbiology Pathogenic microbiology</td>
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<td>10</td>
<td>Mon., Nov. 6&lt;sup&gt;th&lt;/sup&gt; Wed., Nov. 8&lt;sup&gt;th&lt;/sup&gt; Fri., Nov. 10th</td>
<td>Review Test 3 Host defense mechanisms</td>
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<tr>
<td>11</td>
<td>Mon., Nov. 13&lt;sup&gt;th&lt;/sup&gt; Wed., Nov. 15&lt;sup&gt;th&lt;/sup&gt; Fri., Nov. 17&lt;sup&gt;th&lt;/sup&gt;</td>
<td>Innate Immunity Adaptive Immunity Types of Immunity</td>
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<td>12</td>
<td>Mon., Nov. 20&lt;sup&gt;th&lt;/sup&gt; Wed., Nov. 22&lt;sup&gt;nd&lt;/sup&gt; Fri., Nov. 24&lt;sup&gt;th&lt;/sup&gt;</td>
<td>THANKSGIVING HOLIDAYS</td>
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<tr>
<td>13</td>
<td>Mon., Nov. 27&lt;sup&gt;th&lt;/sup&gt; Wed., Nov. 29&lt;sup&gt;th&lt;/sup&gt; Fri., Dec, 1&lt;sup&gt;st&lt;/sup&gt;</td>
<td>Diagnosing infections Review Test 4</td>
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<td>14</td>
<td>Mon., Dec. 4&lt;sup&gt;th&lt;/sup&gt; Wed., Dec. 6&lt;sup&gt;th&lt;/sup&gt; Fri., Dec. 8&lt;sup&gt;th&lt;/sup&gt;</td>
<td>Antimicrobial treatment Antimicrobial treatment Review</td>
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<tr>
<td>15</td>
<td>Wed., Dec. 13&lt;sup&gt;th&lt;/sup&gt; 10:30 am</td>
<td>FINAL EXAMINATION</td>
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NOTE: Slight variations from the proposed calendar are possible during the course.

Tuesday, December 5<sup>th</sup> is the last day to drop a class with a W for the semester.
MATERIALS

PowerPoint presentations for each lecture will be uploaded in Brightspace (D2L) according to the provided schedule for the course so that students can follow the material and take notes more easily. These are NOT intended to replace attendance. PowerPoint slides are an outline of the topics discussed . . . attendance is required for understanding.

The required textbook for the course is *Microbiology: A Systems Approach, 6th or 7th edition*, Cowan, MK and Smith, H; McGraw-Hill Education, 2021 or 2024. You may use whatever version you prefer – online, loose leaf, or print. The SFA Barnes and Noble bookstore carries this text but it is also available directly from McGraw-Hill and at other retailers such as Amazon.


COURSE GOALS AND STUDENT LEARNING OUTCOMES

This course will provide students with basic knowledge about different groups of microorganisms, with focus on pathogenic microbiology, prevention and treatment of infectious diseases. The main goal is that students understand processes that lead to transmission and development of infectious diseases. Students who successfully complete this course should be able to:

- Explain the most important characteristics of different groups of microorganisms;
- Describe nutritional and environmental requirements for growth of microbes;
- Describe differences in main metabolic pathways between prokaryotic and eukaryotic microbes;
- Explain how pathogenic microorganisms cause disease in humans;
- Describe ways of transmission of pathogenic microorganisms;
- Explain interactions between pathogenic microorganisms and the human immune system;
- Interpret different methods used in diagnosis of infectious diseases;
- Explain common methods used in the control of microorganisms;
- List the most important human infectious diseases and their characteristics.
GRADING POLICY

During this course students will be assessed by:

- 12 quizzes (top 10 scores will be used) - 10 x 20 = 100 points (8.33% of the course grade)
- 4 tests - 4 x 125 = 500 points (41.67% of the course grade)
- 1 comprehensive final exam – 1 x 200 points (16.67% of the course grade)
- Microbiology lab grade* – 400 points (33.33% of the course grade)
  - *NOTE: You MUST pass the lab portion with a 60% (240 points) or better to pass the course. For example, you could have high A’s on all the quizzes and tests, but if you fail lab, you fail the course!

Bonus points will be assigned to each student according to the level of attendance in class, bonus questions on tests and optional class assignments (up to 50 points).

Missed assessments

Quizzes will be given online via D2L. You are allowed to miss 1 quiz without penalty as only the top 5 grades are counted.

One missed test may be substituted with the same grade as the final exam grade ONLY if an appropriate SFA approved excuse is provided.

Late assignment submission policy

Since feedback for quizzes will be provided immediately and bonus opportunities are voluntary, late submissions will not be accepted.

Grading Scale

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<thead>
<tr>
<th>Grade</th>
<th>Points Range</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>A</td>
<td>1080+</td>
<td>90 – 100%</td>
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<tr>
<td>B</td>
<td>960 – 1079</td>
<td>80 – 89.99%</td>
</tr>
<tr>
<td>C</td>
<td>840 – 959</td>
<td>70 – 79.99%</td>
</tr>
<tr>
<td>D</td>
<td>720 – 839</td>
<td>60 – 69.99%</td>
</tr>
<tr>
<td>F*</td>
<td>0 – 719</td>
<td>0 – 59.99%</td>
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</tbody>
</table>

*Again, you MUST pass the lab portion with a 60% (240 points) or better to pass the course. Failing the lab portion of the course means you automatically fail the course, no matter your lecture portion grade!
SUPPLEMENTAL INSTRUCTION

The Academic Assistance and Resource Center (AARC) provides optional supplemental instruction for this course. I highly recommend taking advantage of this free service! Supplemental Instruction is taught by a STUDENT that has taken this class, done very well, and knows how to help you do well!

Tutor: Naya Davis

Email: davisns3@jacks.sfasu.edu

Communication: Schedule coming soon!
COURSE CREDIT HOUR JUSTIFICATION
This is a 3 credit hour course (without the required lab component), which means that students will have 150 minutes of direct instruction per week. This includes traditional lecture delivery, active and flipped learning activities, and assessments. In addition, around 4 hours per week of out-of-class activities is expected from students in order to successfully accomplish all course requirements. This includes preparation for classes, review of literature or class material, work on out-of-class assignments, etc.

ATTENDANCE POLICY
Attendance in class is expected from students and will be recorded.

COVID and FLU RECOMMENDATIONS
Although we are post-pandemic, COVID, flu, colds, and other pathogenic microorganisms are prevalent in our environment. Application of all recommendations related to control of COVID, FLU, colds, etc. issued by CDC, including vaccination, physical distancing, wearing of face coverings, and hand washing is strongly encouraged but not required.
Academic Integrity (4.1)

The Code of Student Conduct and Academic Integrity outlines the prohibited conduct by any student enrolled in a course at SFA. It is the responsibility of all members of all faculty, staff, and students to adhere to and uphold this policy.

Articles IV, VI, and VII of the new Code of Student Conduct and Academic Integrity outline the violations and procedures concerning academic conduct, including cheating, plagiarism, collusion, and misrepresentation. **Cheating** includes, but is not limited to: (1) Copying from the test paper (or other assignment) of another student, (2) Possession and/or use during a test of materials that are not authorized by the person giving the test, (3) Using, obtaining, or attempting to obtain by any means the whole or any part of a non-administered test, test key, homework solution, or computer program, or using a test that has been administered in prior classes or semesters without permission of the Faculty member, (4) Substituting for another person, or permitting another person to substitute for one’s self, to take a test, (5) Falsifying research data, laboratory reports, and/or other records or academic work offered for credit, (6) Using any sort of unauthorized resources or technology in completion of educational activities. This includes Artificial Intelligence resources like ChatGPT and the like.

**In this course NO Artificial Intelligence resources may be used in any way. All work must be your own. Any resources used in your preparing your work must be clearly cited.**

**Plagiarism** is the appropriation of material that is attributable in whole or in part to another source or the use of one’s own previous work in another context without citing that it was used previously, without any indication of the original source, including words, ideas, illustrations, structure, computer code, and other expression or media, and presenting that material as one’s own academic work being offered for credit or in conjunction with a program course or degree requirements.

**Collusion** is the unauthorized collaboration with another person in preparing academic assignments offered for credit or collaboration with another person to commit a violation of any provision of the rules on academic dishonesty, including disclosing and/or distributing the contents of an exam.

**Misrepresentation** is providing false grades or résumés; providing false or misleading information in an effort to receive a postponement or an extension on a test, quiz, or other assignment for the purpose of obtaining an academic or financial benefit for oneself or another individual or to injure another student academically or financially.

Withheld Grades Semester Grades Policy (5.5)

Ordinarily, at the discretion of the instructor of record and with the approval of the academic chair/director, a grade of WH will be assigned only if the student cannot complete the coursework because of unavoidable circumstances. Students must complete the work within one calendar year from the end of the semester in which they receive a WH, or the grade automatically becomes an F. If students register for the same course in future terms the WH
will automatically become an F and will be counted as a repeated course to compute the grade point average. For additional information, go to https://www.sfasu.edu/policies/course-grades-5.5.pdf.

Students with Disabilities

To obtain disability-related accommodations, alternate formats, and/or auxiliary aids, students with disabilities must contact the Office of Disability Services (ODS), Human Services Building, and Room 325, 468-3004 / 468-1004 (TDD) as early as possible in the semester. Once verified, ODS will notify the course instructor and outline the accommodation and/or auxiliary aids to be provided. Failure to request services promptly may delay your accommodations. For additional information, go to http://www.sfasu.edu/disabilityservices/.

Student Wellness and Well-Being

SFA values students’ overall well-being, mental health and the role it plays in academic and overall student success. Students may experience stressors that can impact both their academic experience and their personal well-being. These may include academic pressure and challenges associated with relationships, emotional well-being, alcohol and other drugs, identities, finances, etc.

If you are experiencing concerns, seeking help, SFA provides a variety of resources to support students’ mental health and wellness. Many of these resources are free, and all of them are confidential.

On-campus Resources:

The Dean of Students Office (Rusk Building, 3rd floor lobby) www.sfasu.edu/deanofstudents 936.468.7249 dos@sfasu.edu

SFA Human Services Counseling Clinic Human Services, Room 202 www.sfasu.edu/humanservices/139.asp 936.468.1041

The Health and Wellness Hub “The Hub” Location: corner of E. College and Raguet St.

To support the health and well-being of every Lumberjack, the Health and Wellness Hub offers comprehensive services that treat the whole person – mind, body and spirit. Services include:

· Health Services
· Counseling Services
· Student Outreach and Support
· Food Pantry
· Wellness Coaching
· Alcohol and Other Drug Education www.sfasu.edu/thehub
936.468.4008
thehub@sfasu.edu

Crisis Resources:
· Burke 24-hour crisis line: 1.800.392.8343
· National Suicide Crisis Prevention: 9-8-8
· Suicide Prevention Lifeline: 1.800.273.TALK (8255)
· jobCrisis Text Line: Text HELLO to 741-741