

## Course Information

### Course Number: Dental Hygiene 3325

Course Title: *Microbiology*  
Section: *Lecture*  
Time: *Spring 2025: Tuesdays 10 am-11:50am, Wednesdays 11 am-11:50am*  
Location: *AEB Room 310*  
Credit Hours: *3*

## Instructor Details

Course Director: *Ms. Leah Spittle RDH, MS-EDHP*  
Office: *AEB room 138A*  
Phone: *214-370-7025*  
E-Mail: *lspittle1@tamu.edu*  
Office Hours: *Tues: 1-4pm, Wed: 1-4pm*

## Additional Participating Faculty

None at this time.

## Course Description

A lecture course designed to teach the basic principles of medical microbiology, immunology, and the infectious disease process with an emphasis on dental issues.

## Course Prerequisites

None

## Special Course Designation

Dental Hygiene

## Course Objectives and Learning Outcomes

Upon completion of the course, the student should:

- 1.) Understand the founding principles of basic microbiology and immunology. The students will build upon this knowledge base to expand their understanding of both infectious and immunologic diseases and their pathogenesis.
- 2.) Have an understanding of infectious diseases having oral-facial manifestations or implications and to become acquainted with diseases of microbial etiology that do not have an oral-facial manifestation.
- 3.) Understand the basic principles of the infectious and immunologic processes and be able to apply them to understand the mechanisms of interactions that occur between microorganisms and human beings. Students should be able to recognize the signs and symptoms of diseases, disease epidemiology, risk factors that increase disease incidence or severity, and mechanisms of

- pathogenesis (including the contributions of host responses to disease progression) of diseases associated with particular microorganisms.
- 4.) Know how the physiologic and biochemical properties of microorganisms relate to the pathogenesis of infectious diseases and their treatments. Learn the common properties of each class of microbes (e.g. bacteria vs. viruses) as well as properties that distinguish genus and species. The students should have an understanding of mechanisms of virulence and pathogenesis of clinically important microbes.
  - 5.) Be able to differentiate microorganisms from each other and begin to understand how the identity and characteristics of an infectious agent determines its pathogenesis. Students need to learn the properties that distinguish genus and species and allow for the microbes' detection and identification.
  - 6.) Appreciate how protective immunity against infection develops, from knowledge of the cellular and biochemical interactions that are the basis of the immune response. Learn the various components of the immune system, how they are generated, how they function, and what normal or pathologic processes they participate in.
  - 7.) Understand how functions and/or dysfunctions of the immune system provide clearer understanding of immunologic diseases, such as allergy and autoimmunity, and how infectious agents modulate immunity. Students should know normal immune functions and how components of the immune system contribute to immune mediated host functions.
  - 8.) Appreciate the importance of life-long continuing education, which is required for the practice of dentistry.

### Learning outcomes:

- 2.1 - Apply critical thinking skills and evidence-based decision making to the practice of dental hygiene.
- 2.2 - Commit to self-assessment and lifelong learning in order to provide contemporary clinical care.
- 3.1 - Prepare for career opportunities within health care, industry, education, research, and other roles as they evolve for the dental hygienist.
- 3.3 - Contribute to the knowledge base of dental hygiene.
- 4.1 - Promote positive values of overall health and wellness to the public and organizations within and outside of dentistry.
- 4.2 - Identify the health needs of individuals and assist them in the development of appropriate and individualized self-care regimens.
- 6.1 - Determine medical conditions that require special precautions or consideration prior to or during dental hygiene treatment.
- 6.4 - Recognize predisposing, etiologic risk factors, and life style choices that may require intervention to prevent disease.
- 6.5 - Analyze and interpret the assessment data to formulate a dental hygiene diagnosis related to and congruent with the diagnosis of the dentist and other health professionals.
- 6.6 - Determine the need for referral to the appropriate health professional.
- 7.3 - Establish a planned sequence of educational and clinical services based on the dental hygiene diagnosis using the problem-based approach.
- 7.4 - Communicate the plan for dental hygiene services to the dentist or other interdisciplinary health team members to determine its congruence with the overall plan for oral health care.
- 8.1 - Provide an environment conducive to health by using accepted infection control procedures.

8.3 - Select and administer the appropriate preventive and/or antimicrobial (chemotherapeutic) agents and provide pre- and post-treatment instructions.

### Textbook and/or Resource Materials

- **Text:** *Sherris MEDICAL MICROBIOLOGY*, sixth ed., Ryan et al., 2014.
- **Text:** *Principles of anatomy and physiology*, 15<sup>th</sup> ed., Tortora and Derrickson, 2014.
- PowerPoint presentations and recordings will be posted to Blackboard.

### Grading Policy

LETTER GRADE	NUMERICAL GRADE RANGE	GRADE POINTS	DESCRIPTOR
A	90-100	4.0	Excellent
B	80-89	3.0	Good
C	75-79	2.0	Fair
D	70-74	1.0	Poor, may require remediation
F	Below 70	0.0	Failure

### Evaluation and Grading criteria:

Five major exams, each worth 100 points, results in a total of 500 points. Students must be able to demonstrate their knowledge of material presented in the following: the assigned textbook sections, the lectures and the current event discussions. The exams may consist of a combination of multiple choice, true/false, and/or matching questions. Exams will be administered via ExamSoft. It is the student's responsibility to maintain their computing resources in a state that will enable these procedures. If the course director feels that the students are not reviewing the materials prior to the class discussions, she may introduce quizzes into the course as required.

*\*Makeup assessments for excused absences must be administered either in advance of the scheduled exam or within 5 business days of the student's return from the absence.*

### Course Schedule

\*See attached course schedule.

### Optional Course Information Items

#### Technology Support

Students are responsible for maintaining their devices and ensuring that they are in proper working order throughout the semester. This includes maintaining access to the college wireless network, access to all accounts (both TAMU and TAMU Health) and keeping passwords up to date. Students are expected to keep their devices up to date in regard to patches and OS updates.

#### Division of IT

If the student experiences issues with an electronic device, wifi access, axiUm, Zoom, or user accounts, their first point of contact should be the Division of IT Central Help Desk or the local Division of IT at COD. The Central Helpdesk provides 24-hour support.

Division of IT Central Help Desk Website: <a href="https://it.tamu.edu/help/">https://it.tamu.edu/help/</a> Phone: 1-979-845-8300 Email: <a href="mailto:helpdesk@tamu.edu">helpdesk@tamu.edu</a>	SOD Local Division of IT Office Room: 519 Phone: 214-828-8248
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### COD Instructional Design Team

For electronic exam support or problems concerning other academic technology, such as the LMS (Canvas), ExamSoft, or Exemplify, students should contact the Instructional Design team.

Room: 516 - Academic Affairs

Carmina Castro

[ccastro@tamu.edu](mailto:ccastro@tamu.edu)

(214) 828-8316

Jeff Lowry

[lowryj1@tamu.edu](mailto:lowryj1@tamu.edu)

(214) 828-8243

Canvas support 24-hours

(877) 354-4821

### Lecture Recordings and Mediasite Support

Lecture recordings are posted to the Mediasite course catalog typically no more than 24 hours after they have been received. Unless otherwise specified, all course recordings are available via the Mediasite channel link within the Canvas course.

For missing recordings, contact your instructor and the Instructional Design Team.

For problems with recording playback, Mediasite access, or performance, contact IT's Health Technology Care Team (979.436.0250).

## University Policies

### Attendance Policy

The university views class attendance and participation as an individual student responsibility. Students are expected to attend class and to complete all assignments.

DH students please refer to student rule 7 for information about excused absences, including definitions, and related documentation and timelines.

### Makeup Work Policy

Students will be excused from attending class on the day of a graded activity or when attendance contributes to a student's grade, for the reasons stated in Student Rule 7, or other reason deemed appropriate by the Office of Student Affairs.

Please refer to [Student Rule 7](#) in its entirety for information about makeup work, including definitions, and related documentation and timelines.

Absences related to Title IX of the Education Amendments of 1972 may necessitate a period of more than 30 days for make-up work, and the timeframe for make-up work should be agreed upon by the student and instructor” ([Student Rule 7, Section 7.4.1](#)).

“The instructor is under no obligation to provide an opportunity for the student to make up work missed because of an unexcused absence” ([Student Rule 7, Section 7.4.2](#)).

Students who request an excused absence are expected to uphold the Aggie Honor Code and Student Conduct Code. (See [Student Rule 24](#).)

### Academic Integrity Statement and Policy

“An Aggie does not lie, cheat or steal, or tolerate those who do.”

“Texas A&M University students are responsible for authenticating all work submitted to an instructor. If asked, students must be able to produce proof that the item submitted is indeed the work of that student. Students must keep appropriate records at all times. The inability to authenticate one’s work, should the instructor request it, may be sufficient grounds to initiate an academic misconduct case” ([Section 20.1.2.3, Student Rule 20](#)).

#### **Texas A&M College of Dentistry**

You can learn more about the Aggie Honor System Office Rules and Procedures, academic integrity, and your rights and responsibilities at [aggiehonor.tamu.edu](http://aggiehonor.tamu.edu). You can also contact Graduate Studies at 214-828-8182, Student Affairs at 214-828-8210, or your Program Director, for guidance.

### Americans with Disabilities Act (ADA) Policy

#### **Texas A&M College of Dentistry**

Texas A&M University is committed to providing equitable access to learning opportunities for all students. All students are encouraged to discuss their disability-related needs with Disability Resources and their instructors as soon as possible. If you experience barriers to your education due to a disability which may include, but not limited to: attentional, learning, mental health, sensory, physical, or chronic health conditions, visit Disability Resources for more information. <http://disability.tamu.edu>.

The primary contact for any new disability accommodation requests and for any accommodation questions/concerns:

Tracey Forman, Associate Director of Disability Resources  
979.845.1637 | [traceyf@disability.tamu.edu](mailto:traceyf@disability.tamu.edu) |

Staff and administration in Student Affairs, Student Development and Academic Affairs are available as needed to discuss any concerns and navigate the accommodations process with our students locally.

## Title IX and Statement on Limits to Confidentiality

Texas A&M University is committed to fostering a learning environment that is safe and productive for all. University policies and federal and state laws prohibit gender-based discrimination and sexual harassment, including sexual assault, sexual exploitation, domestic violence, dating violence, and stalking.

With the exception of some medical and mental health providers, all university employees (including full and part-time faculty, staff, paid graduate assistants, student workers, etc.) are Mandatory Reporters and must report to the Title IX Office if the employee experiences, observes, or becomes aware of an incident that meets the following conditions (see [University Rule 08.01.01.M1](#)):

- The incident is reasonably believed to be discrimination or harassment.
- The incident is alleged to have been committed by or against a person who, at the time of the incident, was (1) a student enrolled at the University or (2) an employee of the University.

Mandatory Reporters must file a report regardless of how the information comes to their attention – including but not limited to face-to-face conversations, a written class assignment or paper, class discussion, email, text, or social media post. Although Mandatory Reporters must file a report, in most instances, a person who is subjected to the alleged conduct will be able to control how the report is handled, including whether or not to pursue a formal investigation. The University’s goal is to make sure you are aware of the range of options available to you and to ensure access to the resources you need.

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Students can learn more about filing a report, accessing supportive resources, and navigating the Title IX investigation and resolution process on the University’s [Title IX webpage](#). College of Dentistry students can contact Graduate Studies at 214-828-8182, Student Affairs at 214-828-8210, Security at 214-828-8335, their Program Director, or their Department Head to report an incident.

## Statement on Mental Health and Wellness

Texas A&M University recognizes that mental health and wellness are critical factors that influence a student’s academic success and overall wellbeing. Students are encouraged to engage in healthy self-care by utilizing available resources and services on your campus.

### **Texas A&M College of Dentistry**

Students who need someone to talk to can call the TAMU Helpline (979-845-2700) from 4:00 p.m. to 8:00 a.m. weekdays and 24 hours on weekends. 24-hour emergency help is also available through the National Suicide Prevention Hotline (800-273-8255) or at [suicidepreventionlifeline.org](https://suicidepreventionlifeline.org). You can also contact Graduate Studies at 214-828-8182 or Student Affairs at 214-828-8210 for a referral to a local counselor. These counseling sessions are private and confidential, as are any referral requests. As part of our commitment to your well-being, we offer access to Telus Health, a service available 24/7/365 via chat, phone, or webinar. Scan the QR code to download the app and explore the resources available to you for guidance and support whenever you need it.



## Campus-Specific Policies

### Statement on the Family Educational Rights and Privacy Act (FERPA)

FERPA is a federal law designed to protect the privacy of educational records by limiting access to these records, to establish the right of students to inspect and review their educational records and to provide guidelines for the correction of inaccurate and misleading data through informal and formal hearings. Currently enrolled students wishing to withhold any or all directory information items may do so by going to [howdy.tamu.edu](http://howdy.tamu.edu) and clicking on the "Directory Hold Information" link in the Student Records channel on the MyRecord tab. The complete [FERPA Notice to Students](#) and the student records policy is available on the Office of the Registrar webpage.

Items that can never be identified as public information are a student's social security number, citizenship, gender, grades, GPR or class schedule. All efforts will be made in this class to protect your privacy and to ensure confidential treatment of information associated with or generated by your participation in the class.

Directory items include name, UIN, local address, permanent address, email address, local telephone number, permanent telephone number, dates of attendance, program of study (college, major, campus), classification, previous institutions attended, degrees honors and awards received, participation in officially recognized activities and sports, medical residence location and medical residence specialization.

## College and Department Policies

College and departmental units may establish their own policies and minimum syllabus requirements. As long as these policies and requirements do not contradict the university level requirements, colleges and departments can add them in this section. Please remove this section if not needed.

**SPIRING MICROBIOLOGY COURSE OUTLINE 2025**

**MICROBIOLOGY: TUESDAYS FROM 10-11:50 AM, WENDSDAYS 11-11:50 AM ROOM 310**

**Week 1- Jan 7-8<sup>th</sup>**

- History of Microbiology/ Bacterial and Viral Structure (TUES)
- Bacterial Growth and Energy Production (WED)

**Week 2- Jan 14-15<sup>th</sup>**

- Bacterial Growth Requirements (TUES)
- Antimicrobials (WED)

**Week 3-Jan 21-22<sup>nd</sup>**

- Immunology (TUES)
- EXAM 1 JAN 22<sup>ND</sup> (WED)**

**Week 4- Jan 28-29<sup>th</sup>**

- The Inflammatory Response/Adaptive Immunity (TUES)
- Hypersensitivity (WED)

**Week 5- February 4-5<sup>th</sup>**

- Mucosal Immunity and Oral Immunity (TUES)
- Vaccines and Vaccination/Epidemiology (WED)

**Week 6- February 11-12<sup>th</sup>**

- Microbial Pathogenesis (TUES)
- **EXAM 2 FEB 12<sup>TH</sup> (WED)**

**Week 7-February 18-19<sup>th</sup>**

- Staphylococcus (TUES)
- Streptococcus (WED)

**Week 8- February 25-26<sup>th</sup>**

- Gram + Rods Part 1 (TUES)
- Gram + Rods Part 2 (WED)

**Week 9-March 4-5<sup>th</sup>**

- Biofilms/Dental Plaque/Caries (TUES)
- Oral Inflammation and P. gingivalis (WED)

**Week 10- March 11-12<sup>th</sup>**

- **SPRING BREAK**

**Week 11- March 18-19<sup>th</sup>**

- Respiratory Pathogens (TUES)
- **EXAM 3 MARCH 19<sup>TH</sup> (WED)**

**Week 12-March 25-26<sup>th</sup>**

- Enterobacteriaceae (TUES)
- Vibrios (WED)

**Week 13- April 1-2<sup>nd</sup>**

- Mycobacteria (TUES)
- Spirochetes (WED)

**Week 14- April 8-9<sup>th</sup>**

- Spirochetes (TUES)
- Zoonoses (WED)

**Week 15- April 15-16<sup>th</sup>**

- Chlamydia/Mycoplasma (TUES)
- **EXAM 4 APRIL 16<sup>TH</sup> (WED)**

**Week 16- April 22-23<sup>rd</sup>**

- Mycology (TUES)
- Parasites (WED)

**Week 17- April 29-30<sup>th</sup>**

- Parasites if needed part 2/Virology (TUES)
- DNA Viruses (WED)

**Week 18- May 6-7<sup>th</sup>**

- RNA Viruses (TUES)
- Sterilization (WED)

**Week 19- May 13-14<sup>th</sup> FINALS WEEK**

- **EXAM 5 FINAL EXAM ON TUESDAY MAY 13<sup>TH</sup> AT 10AM ROOM 310**

**EXAM SCHEDULE QUICK GLANCE:**

- EXAM 1-WEDSDAY JANUARY 22<sup>ND</sup>
- EXAM 2- WEDSDAY FEBURARY 12<sup>TH</sup>
- EXAM 3- WEDSDAY MARCH 19<sup>TH</sup>
- EXAM 4- WEDSDAY APRIL 16<sup>TH</sup>
- FINAL EXAM 5- TUESDAY MAY 13<sup>TH</sup> (NOTE DAY CHANGE TO TUESDAY)