MICR 5031
Pathogenic Microbiology
SYLLABUS and SCHEDULE
Fall 2021

CLASS DAYS and TIMES: Mondays 9:00 – 10:00 and 10:15 - 11:15 am
Wednesdays 9:00-10:00 am (with some exceptions)
Notes: Please review the schedule carefully as certain Wednesdays have 2 meetings to accomadate holidays and other schedules, there are a few late start times and alternate room assignments

CLASSROOM: We will potentially meet in several rooms
Library 2.011 will be the main class room
Crockett class room in the microbiology department
Alamo conference room in the microbiology department

COURSE FACULTY:

Peter Dube, PhD (Course Director)	Dube@uthscsa.edu
Evelien Bunnik, PhD	Bunnik@UTHSCSA.EDU
Ann Griffith, PhD	griffitha3@uthscsa.edu
David Kadosh, PhD	Kadosh@UTHSCSA.EDU
T.R. Kannan, PhD	Kannan@UTHSCSA.EDU
Jesus Segovia, PhD	jsegovia3@stmarytx.edu
Alexei Tumanov, PhD	tumanov@uthscsa.edu
Brian Wickes, PhD	Wickes@UTHSCSA.EDU
Yan Xiang, PhD	XiangY@UTHSCSA.EDU
Guangming Zhong MD, PhD	Zhongg@UTHSCSA.EDU

OFFICE LOCATIONS and HOURS: To be arranged with individual faculty

TELEPHONE NUMBERS: Please contact faculty by e-mail

READ THIS SYLLABUS CAREFULLY - YOU ARE RESPONSIBLE FOR ITS CONTENTS.

COURSE DESCRIPTION AND OBJECTIVES:

Discussions of the relevant principles of Molecular Biology and associated techniques. Descriptions of basic microbial structure, physiology, and genetics, and mechanisms by which bacterial, viral, fungal, and parasitic pathogens cause disease.

By the end of this course, each student should be able to:

- Understand the key principles in Molecular Biology
- Understand the basic concepts of microbial pathogenesis.
- Understand the basic mechanisms pathogens use to interact with the immune system.
- Understand basic aspects of microbial structure, function, physiology and genetics.

PRE-REQUISITES: None

SEMESTER CREDIT HOURS: 3

MATERIALS: There are no specific materials required for this course.

COURSE ORGANIZATION:

The main teaching modalities used in this course are:

1) Didactic lectures designed to convey information to the students in traditional lecture format.
2) Classroom discussions of manuscripts and homework problems designed to engage the student in active learning.

COMPUTER ACCESS: Students will need access to a computer and the internet.

READING ASSIGNMENTS: If a particular class has a required reading assignment, it will be distributed by individual faculty prior to class.

ATTENDANCE:

Although attendance is not taken, your presence in class is expected since there is no single textbook that covers the material presented in this course. If a students misses class due to severe illness or other extreme cause, they are still responsible for the content presented on that day. There are several classes in which grades are assigned for participation in research paper discussions. There will be no make-up available for missed paper discussions; if you miss a class with a graded paper discussion, you will get no credit for that assignment. Attendance at all in-class exams is mandatory. If a student misses a scheduled exam, a makeup exam will not be given, except under extraordinary circumstances. The definition of "extraordinary circumstances" is solely at the discretion of the Course Director, but would include the sudden onset of an incapacitating illness or the recent death of an immediate family member.

TEXTBOOKS:

Required: None **Recommended:** for molecular biology related information, Lewin, Genes XII should be available in the library. You should not buy this book as it is only recommended for reference and reinforcement

GRADING POLICIES AND EXAMINATION PROCEDURES:

The course will have three exams. Exam #1 will constitute 33% of the course grade; exam #2 will be 37% of the course grade; exam #3 will be 30% of the course grade. Each exam will have an in class component and a take-home component. The exam content can take any form (long answer, short answer, multiple-choice, etc.) at each instructor's discretion. For the take-home exams, you will have a minimum of 3 days to complete the exam. Attendance at all in-class exams is mandatory. If a student misses a scheduled exam, a makeup exam will not be given, except under extraordinary circumstances. The definition of "extraordinary circumstances" is solely at the discretion of the Course Director, but would include the sudden onset of an incapacitating illness or the recent death of an immediate family member.

Grading System

The expected grading scale is shown below, although the Course Director reserves the right to "curve" the grade, if appropriate.

A = 90-100%
B = 80-89%
C = 71-79%

F = at or below 70%

USE OF ELECTRONIC DEVICES:

The use of any recording device is not allowed without the express consent of each individual instructor. Cell phones may not be used in class and must be shut off during class. Computers or tablets can be used in class for class-related purposes and note taking. They may not be used for e-mail, web surfing, or any activity not related to class.

COMMUNICATION POLICY:

All course communication will be done by e-mail using the student's Livemail account. Thus, it is each student's responsibility to check their e-mail accounts daily as they are responsible for materials, assignments, notifications, and tests distributed by e-mail. In turn, Dr. Dube, the Course Director, will check his uthscsa e-mail several times a day in case any pressing questions or concerns arise. Although e-mail is often the easiest way to communicate, it should be emphasized that Dr. Dube's office door is always "open" if you would prefer to stop by to discuss something in person.

REQUESTS FOR ACCOMODATIONS FOR DISABILITIES:

In accordance with HOP policy 4.2.3, **Request for Accommodation Under the ADA and the ADA Amendments Act of 2008 (ADAAA)**, any student requesting accommodation must submit the appropriate request for accommodation under the American with Disabilities Act (ADA, form 100). to the appropriate Associate Dean of the Graduate School and a copy to the ADA Coordinator. Additional information may be obtained at http://uthscsa.edu/eeo/request.asp.

ACADEMIC INTEGRITY AND PROFESSIONALISM:

Any student who commits an act of academic dishonesty is subject to discipline as prescribed by the UT System Rules and Regulations of the Board of Regents. Academic dishonesty includes, but is not limited to, cheating, plagiarism, collusion, the submission for credit of any work or materials that are attributable in whole or in part to another person, taking an exam for another person, signing attendance sheets for another student, and any act designed to give unfair advantage to a student or the attempt to commit such an act. Additional information may be obtained at
http://catalog.uthscsa.edu/generalinformation/generalacademicpolicies/academicdishonestypolicy/
Failure to abide by any of these rules of Academic Integrity will result in a grade of zero for the exam in question and a student in breach of these Professional Standards may not receive an overall course grade higher than a "C".

TITLE IX AT UTHSCSA:

Title IX Defined:
Title of the Education Amendments of 1972 is a federal law that prohibits sex discrimination in education. It reads "no person in the United States shall, on the basis of sex, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any education program or activity receiving Federal financial assistance."
University of Texas Health Science Center San Antonio's Commitment:
University of Texas Health Science Center San Antonio (UTHSCSA) is committed to maintaining a learning environment that is free from discriminatory conduct based on gender. As required by Title IX, UTHSCSA does not discriminate on the basis of sex in its education programs and activities, and it encourages any student, faculty, or staff member who thinks that he or she has been subjected to sex discrimination, sexual harassment (including sexual violence) or sexual misconduct to immediately report the incident to the Title IX Director.
In an emergency, victims of sexual abuse should call 911. For non-emergencies, they may contact UPD at 210-567-2800. Additional information may be obtained at http://students.uthscsa.edu/titleix/

COVID-19 Policies and Procedures: All students should be fully vaccinated prior to the beginning of classes. We will follow current CDC guidelines to maximize the safety of students and instructors. Based on guiadance documents relased on 29 July 2021; this will include spacing between students, masking, and frequent hand washing. **Please bring a mask to class and wear it.** The CDC recommendations are for both vaccinated and unvaccinated individuals. If you feel unwell, and suspect you might have COVID, please do not come to class and get tested/evaluated at student health ASAP. All COVID-19 policies are subject to change based on available data and recommendations from the CDC.

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CLASS SCHEDULE
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Week	Date	Time	Topic	Special Comments	Instructor
Week 1	Mon 8/23	9:00 10:15	Introduction/ Business meeting Class #1 - Overview: Regulation and The Central Dogma of Molecular Biology		Dube Segovia
	Wed 8/25	9:00	Class #2 - Genome structure and genomics		Griffith
Week 2	Mon 8/30	9:00 10:15	Class #3 – Bacterial genetics, transposons and DNA rearrangements Class #4 - Prokaryotic transcriptional regulation		Segovia Segovia
	Wed 9/1	9:00	Class #5 - Whole genome analysis and cloning basics		Bunnik
Week 3	Mon 9/6	9:00	No Class Labor Day Holiday		
	Wed 9/8	9:00	Class #6 - Measuring RNA levels and protein-DNA interactions		Tumanov
Week 4	Mon 9/13	9:00 10:15	Class #7 - Eukaryotic transcription and its regulation Class #8 - Interactive discussion of homework assignment covering methods in classes 2 – 6	Room/format to be determined	Kadosh TBD
	Wed 9/15	9:00	Class #9 - Transcriptional silencing and epigenetics		Xu
Week 5	Mon 9/20	9:00 10:15	Class #10 - Assessing protein-protein interactions and altering mammalian cell genomes *in vitro* Class #11 - DNA mutation and repair and making mutations in animal models		Tumanov Tumanov
	Wed 9/22	9:00	Class # 12 – Enzymes, *in vitro* assays, microscopy		Tumanov
Week 6	Mon 9/27	9:00 10:15	Class # 13 - Interactive discussion of homework assignment covering methods in classes 7, 9 – 12 Bacteria: Identification and Structures		TBD Kannan
	Wed 9/29	9:00	Overview of Bacterial Physiology		Kannan
Week 7	Mon 10/4	9:00 – 11:00	**Take home exam 1 e-mailed to the class, In class exam-1**		Dube
	Wed 10/6	9:00	Overview of Bacterial Pathogenic Mechanisms		Kannan or Dube

Week 8	Mon 10/11		**Take Home Exam 1 due by 9:00 am**		Dube
	Mon 10/11	9:00 10:15	TLR signaling and inflammation (plus choosing paper discussion groups) Atypical pathogens I		Dube Kannan
	Wed 10/13	9:00	Atypical pathogens II		Kannan
Week 9	Mon 10/18	9:00 10:15	Bacterial Toxins I Bacterial Toxins II		Kannan Kannan
	Wed 10/20	9:00	Topics in pathogenesis I	Group Paper Presentations and Discussion	Dube
Week 10	Mon 10/25	9:00 10:15	Topics in pathogenesis II Topics in pathogenesis III	Group Paper Presentations and Discussion	Dube Dube
	Wed 10/27	9:00 10:15	Colonization and tissue damage Intracellular pathogens and *Chlamydia* I	Two Wednesday Classes	Zhong Zhong
Week 11	Mon 11/01	10:30 12:30	Intracellular pathogens and *Chlamydia* II Intracellular pathogens and *Chlamydia* III	**Note late class start** (room to be determined) Group Paper Presentations and Discussion	Zhong Zhong
	Wed 11/03	9:00	Intracellular pathogens and *Chlamydia* IV	Group Paper Presentations and Discussion	Zhong
Week 12	Mon 11/08	9:00 – 11:00	**Take home exam 2 e-mailed to the class, In class exam-2**		Dube
	Wed 11/10	9:00 10:15	Eukaryotic growth and cell division Mycology I	Two Wednesday Classes Room and format to be determined	Kadosh Wickes
Week 13	Mon 11/15		**Take Home Exam 2 due by 9:00 am**		Dube
	Mon 11/15	9:00 10:15	Mycology II Mycology III	Room and format to be determined	Kadosh Wickes
	Wed 11/17	9:00	Mycology IV	Room and format to be determined	Kadosh
Week 14	Mon 11/22	9:00 10:15	Parasitology I Parasitology II		Bunnik Bunnik
	Wed 11/24	9:00	No Class		
Week 15	Mon 11/30	9:00 10:15	Mycology V Introduction to virology I		Kadosh Xiang
	Wed 12/2	9:00	Introduction to virology II		Xiang
Week 16	Mon 12/6	9:00 – 11:00	Introduction to virology III **Take home exam 3 e-mailed to the class**		Xiang Dube

	Wed 12/8	9:00	**In class exam 3**	1 hour exam	Dube
	Fri 12/10		**Take Home Exam 3 due by 9:00 am**		Dube