MICR 5031
Pathogenic Microbiology

Fall 2016

CLASS DAYS and TIME: Mondays and Wednesdays 9 to 11:15 am

CLASSROOM: 5.064v

COURSE FACULTY: Peter Dube, Ph.D. (Course Director) David Kadosh, Ph.D. David Kolodrubetz, Ph.D. T.R. Kannan, Ph.D. Xiao-Dong Li, M.D. Ph.D. Guangming Zhong M.D. Ph.D. Brian Wickes, Ph.D. Yan Xiang, Ph.D.

OFFICE LOCATION and HOURS: To be arranged with individual faculty

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

COURSE DESCRIPTION AND OBJECTIVES

Descriptions of basic microbial structure, physiology, and genetics, and mechanisms by which bacterial, viral, fungal, and parasitic pathogens cause disease.

Pre-requisites – None

Semester credit hours – 4

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

- 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.

COURSE ORGANIZATION

The main teaching modalities used in this course include:

1) didactic lectures designed to covey information to the students in traditional lecture format

2) Classroom discussions and manuscript discussions designed to engage the student in active learning

Materials – There are no specific course materials required for this course.

Computer Access – Students will require access to a computer and the internet.

Reading Assignments – Reading assignments will be assigned by particular faculty prior to class.

ATTENDANCE

Attendance is mandatory. Students are expected to attend all classes and to be on time to class. If students miss class due to severe illness or other extreme cause, they are responsible for all materials presented on that day. There will be no make-up available for missed presentations or discussions. If you miss class and miss a presentation or discussion you will get no credit for that assignment.

TEXTBOOKS

Required: none

Recommended: TBD

GRADING POLICIES AND EXAMINATION PROCEDURES

The course will have three equally weighted take home exams. The exam content can take any form at the instructor's discretion. Since exams are take home in nature, and you will have a minimum of 2.5 days to complete the exam, no make up exams will be provided unless you are hospitalized. A doctor's note will be required attesting to the seriousness of your illness.

Grading System

Include a grading scale used to determine final grades, see example below

A = 90-100% B = 80-89% C = 70-79% F = < 69%

REQUESTS FOR ACCOMODATIONS FOR DISABILITIES

In accordance with 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 his/her appropriate Associate Dean of their 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/

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/

EMAIL POLICY

All course communication will be done by e-mail using the students Livemail account. Students are expected to check their e-mail accounts regularly and are responsible for materials, assignments, notifications, and tests distributed by e-mail.

USE OF RECORDING DEVICES

The use of a recording device is not allowed.

ELECTRONIC DEVICES

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.

TENTATIVE CLASS SCHEDULE

COURSE SUBJECT and COURSE NUMBER

COURSE TITLE

SEMESTER and YEAR

WEEK	DATE	TOPIC	Assignment	Instructor and Modality
Week 1	8/22/16	Introduction/ Business meeting		Dube
	8/24/16	Introduction/major pathogenic mechanisms		Dube
Week 2	8/29/16	Growth and cell division		Kadosh
	8/31/16	Cell wall components and structure in pathogenesis		Li
Week 3	9/5/16	No class, holiday		
	9/7/16	Overview: Regulation and The Central Dogma of Molecular Biology, Genome Structure and Genomics		Kolodrubetz
Week 4	9/12/16	Whole Genome Analysis and Cloning Basics, Bacterial Genetics, Transposons and DNA Rearrangements,		Kolodrubetz
	9/14/16	Prokaryotic Transcriptional Regulation, Interactive discussion of homework assignment covering methods in Kolodrubetz classes 1 – 4		Kolodrubetz
Week 5	9/19/16	Eukaryotic Transcription and Its Regulation, Measuring RNA Levels and Protein-DNA Interactions		Kolodrubetz
	9/21/16	Transcriptional Silencing and Epigenetics Prokaryotic and Eukaryotic DNA Replication		Kolodrubetz
Week 6	9/26/16	Assessing Protein-Protein Interactions and Altering Mammalian Cell Genomes *In Vitro* Interactive discussion of homework assignment covering methods in Kolodrubetz classes 6 – 9.		Kolodrubetz

	9/28/16	DNA Mutation and Repair and Making Mutations in Animal Models Enzyme Kinetics and *In Vitro* Assays		Kolodrubetz
Week 7	10/3/16	Interactive discussion of homework assignment covering methods in Kolodrubetz classes 10, 11, 13 and 14 TBD		Kolodrubetz Dube
	10/5/16	Food borne pathogens Zoonotic pathogens/select agents		Dube
Week 8	10/10/16	Atypical pathogens		Kannan
	10/12/16	Atypical pathogens		Kannan
	10/14/16	Take home exam 1 weeks 1-6 e-mailed to the class		Dube
Week 9	10/17/16	Bacterial Toxins Colonization and tissue damage		Kannan Zhong
	10/19/16	Intracellular pathogens and Chlamydia		Zhong
	10/21/16	EXAMS due 5pm		Dube
Week 10	10/24/16	Intracellular pathogens and Chlamydia		Zhong
	10/26/16	Intracellular pathogens and Chlamydia Topics in Gram + pathogenesis		Zhong Li
Week 11	10/31/16	Topics in Gram + pathogenesis		Li
	11/2/16	Topics in Gram + pathogenesis		Li
	11/4/16	Take home exam 2 weeks 7-11 e-mailed to the class		Dube
Week 12	11/10/16	No class, attend the vaccine conference		Dube
	11/11/16	No class, attend the vaccine conference Exams due 5pm		Dube
Week 13	11/14/16	Eukaryotic Pathogens-1		Kadosh Wickes
	11/16/16	Eukaryotic Pathogens-1		Kadosh Wickes
Week 14	11/21/16	Eukaryotic Pathogens-2		Kadosh Wickes
	11/23/16	Eukaryotic Pathogens-2		Kadosh Wickes
Week 15	11/28/16	Eukaryotic Pathogens-3		Kadosh Wickes
	11/30/16	Introduction to virology		Xiang

Week 16	**12/5/16**	**Introduction to virology**		**Xiang**
	12/7/16	**Exam-3 e-mailed to students weeks 12-16**		**Dube**
Week 17	**12/12/16**	**Exams due 5pm**		**Dube**