

INTD 6008
ADVANCED CELL AND MOLECULAR BIOLOGY: Mitochondria and Apoptosis
Fall 2019

CLASS DAYS and TIME: 8:30 - 10:30 AM Wednesdays & Fridays (Aug 21 - Dec 13, 2019)

CLASSROOM: ALT-C 2.219

COURSE FACULTY: Yidong Bai, Ph.D.

OFFICE LOCATION and HOURS: MED 2.221D, please contact by email for availability

EMAIL: baiy@uthscsa.edu

TELEPHONE: 210-567-0561

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

COURSE DESCRIPTION AND OBJECTIVES

1. To provide an in-depth view of selected topics of mitochondrial biology. This includes mitochondrial replication, maintaining and regulation of mitochondrial genome, transcription, mitochondrial RNA processing, translation, post-translational modification, respiratory machinery dynamics, mitochondrial quality control, retro-grade signaling, cross-talk between nuclear and mitochondrial genomes, the implications of mitochondrial dysfunction in neurodegenerative diseases, metabolic syndromes, cancer and aging.
2. To prepare students for future research using proper approaches to investigate research topics involved mitochondrial and bioenergetics.

Pre-requisites – None

Semester credit hours – 1 credit hour

COURSE ORGANIZATION

The main teaching modalities used in this course include:

- 1) Lectures
- 2) Students will read and discuss scientific publications

Materials – No specific course materials are required.

Computer Access – N/A

Reading Assignments – As instructed by course director.

ATTENDANCE

Students are required to attend class. Please contact course director if you want to request a leave.

TEXTBOOKS

Required: None

Recommended: None

GRADING POLICIES AND EXAMINATION PROCEDURES

The students will be asked to write a one-aim short grant proposal with each topic. Each student will also give presentations with recent significant publication related to the selected topics. The grade will depend on the performance of the presentations, the quality of the proposals, and the participation of the discussions.

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 San Antonio’s Commitment:

University of Texas Health San Antonio (UTHSA) is committed to maintaining a learning environment that is free from discriminatory conduct based on gender. As required by Title IX, UTHSA 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

Students will be contacted by LiveMail accounts.

USE OF RECORDING DEVICES

Any recording devices will require prior approval from the course director.

ELECTRONIC DEVICES

Cell phones must be on turned off during class time.

TENTATIVE CLASS SCHEDULE

INTD 6008

Mitochondria & Apoptosis

Fall 2017

212C

Date		Presenter	Instructor
Aug 22	Introduction		Yidong Bai, Ph.D.
Aug 24	Identify at least 3 papers for each topic: one review; one published in top journals (Cell, Nature or Science, for examples), and one in solid journals (JBC, MCB or HMG for examples)		
Aug 29	Elaborate and discuss why these paper are chosen for presentation/discussion		Yidong Bai, Ph.D.
Aug 31	The mitochondrial implications in Cancer (HCC)		Yidong Bai, Ph.D.
Sept. 5	The mitochondrial implications in Cancer (HCC)	Proposal discussions	Yidong Bai, Ph.D.
Sept 7	Respiratory Supercomplex		Yidong Bai, Ph.D.
Sept 12	Respiratory Supercomplex	Proposal discussions	Yidong Bai, Ph.D.
Sept 14	Discussion on mitochondrial papers published in Cell in 2018		Yidong Bai, Ph.D.
Sept 28	Mitochondrial implications in Lipid metabolism		Yidong Bai, Ph.D.
Oct. 2	Visit and lecture of Dr. Eric Huang		Yidong Bai, Ph.D.
Oct. 3	Mitochondrial implications in Lipid metabolism	Proposal discussions	Yidong Bai, Ph.D.
Oct. 5	Discussion on mitochondrial papers published in Nature in 2018		Yidong Bai, Ph.D.
Oct. 17	Discussion on mitochondrial papers published in Science in 2018		Yidong Bai, Ph.D.
Oct. 24	Visit and lecture of Dr. Eugenia Trushina.		Yidong Bai, Ph.D.
Oct. 26	Model system and treatment of mitochondrial disease		Yidong Bai, Ph.D.
Oct. 31	Model system and treatment mitochondrial disease	Proposal discussions	Yidong Bai, Ph.D.