

**INTD 6007 (Module 2 of INTD 5007)  
Advanced Cell Biology (2 credits)**

**Spring 2018**

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**CLASS DAYS and TIME:** Tuesdays & Thursdays, 9:00-10:50 am, between March 8, 2018 and May 10, 2018

**CLASSROOM:** MED 2.212C

**COURSE FACULTY:** LuZhe Sun, Ph.D., Course Director

**OFFICE LOCATION and HOURS:** MED 2.058V, by appointment

**EMAIL:** [SunL@UTHSCSA.EDU](mailto:SunL@UTHSCSA.EDU)

**TELEPHONE:** 210-567-5746

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

**COURSE DESCRIPTION AND OBJECTIVES**

This is an eight and half-week course that represents one-half of INTD 5007, Advanced Cell and Molecular Biology. It may be taken separately as an individual course. The course provides an in-depth learning experience that instructs students on the fundamentals of cell biology as well as prepares the students to evaluate and design new research in the cutting-edge areas of modern cell biology. The course combines a didactic program of lectures along with a small-group discussion format in which students interact closely with a group of faculty who have active research programs. The course focuses on active areas of research in cell biology: Protein Processing, Cell Membrane and Ion Movement, Cell Signaling, Adhesion, and Communication, Cell Growth, and Cell Death. Each instructor will provide students with didactic lectures on a current research area. Students and faculty then jointly discuss key publications that serve to bridge the gap between the fundamental underpinnings of the field and the state of the art in that area. The students will then present his/her own “next step” research proposal containing hypothesis, specific aims, rationale, and approaches.

**Pre-requisites – None**

**Semester credit hours – 2 SCH**

By the end of this course, each student should:

- Have a comprehensive understanding of how a cell functions as a living unit.
- Be able to apply gained knowledge to the dissection of cellular mechanisms contributing to various physiological and pathological states.
- Be able to propose research projects relevant to the covered topics and assigned reading materials.

**COURSE ORGANIZATION**

**The main teaching modalities used in this course include:**

- 1) Didactic lectures by instructors
- 2) Journal article discussion by instructors and students. Students are expected to read all the assigned reading materials independently and to be prepared to participate in discussion at the first class for each instructor.
- 3) Powerpoint presentation of “next step” research proposal by students and group discussion. **If the class**

size is over 10 students, students will be divided into 2 groups (Group 1 and 2), which will alternate to either present a Powerpoint of the “next step” research or write a “One-Page” proposal of their “next step” for submission to their instructor for each class topic. The Powerpoint presentation or one-page proposal should include background information, your hypothesis, a clear rationale for your hypothesis, specific aims, experimental procedures, and expected results. Each needs to be sufficiently detailed to understand your ideas, but concise enough to be presented in a ~7-min presentation or to fit within a one-page document. Students must submit either a Powerpoint file or a one-page proposal on the day of the presentation by emailing them to the instructor.

**Materials** – They will be emailed to the students from Course Director or Instructors approximately one week prior to the scheduled class.

**Computer Access** – Please bring a laptop computer for PowerPoint presentation

**Reading Assignments** – They will be emailed to the students from Course Director or Instructor approximately one week prior to the scheduled class.

### ATTENDANCE

Because one large component of the grading is class participation, attendance for every class session is mandatory. If a student misses a class, the student needs to inform the instructors and course director as soon as possible since this may result in an incomplete for the student. Any scheduled absences must be approved by the course director prior to the absence.

### TEXTBOOKS

**Required:** None

**Recommended:** None

### GRADING POLICIES AND EXAMINATION PROCEDURES

Grades will be based on student’s participation, powerpoint presentations and quality of slides, or one-page research proposal from each instructor. There are no exams in this course. Instructors will provide a number grade (%) for each student along with any comments for improvement. A final grade will be assigned by the course director based on the grades given to the students by each instructor.

#### Grading System

General participation in discussions (40%)	Quality and Clarity of Powerpoint presentation or One-page proposal and ability to address questions (60%)
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#### Approximate Grading Scale:

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/eoo/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**

Emails will be the main communication venue between instructors/course director and students.

## **USE OF RECORDING DEVICES**

Use of audio recording devices is allowed with the permission of each instructor.

## **ELECTRONIC DEVICES**

Electronic devices such as cell phones, computers, tablets, etc. are permitted in class, but we ask that you silence your cell phones during class.

## Course schedule

Week	Day	Date	Location	Lecture Topic	Instructors
9	Thur	3/08/18	MED 2.212C	Protein processing, trafficking & degradation	Hai Rao
10	Tues	3/13/18		Spring Break	
	Thur	3/15/18			
11	Tues	3/20/18	MED 2.212C	Protein processing, trafficking & degradation <b>Group 1: presentations</b> <b>Group 2: one page</b>	Hai Rao
	Thur	3/22/18	MED 2.212C	G-protein coupled receptors; Nuclear receptors <b>Group 1: one page</b> <b>Group 2: presentations</b>	Bandana Chatterjee
12	Tues	3/27/18	MED 2.212C		
	Thur	3/29/18	MED 2.212C	Cell junctions and gap junctions <b>Group 1: presentations</b> <b>Group 2: one page</b>	Jean Jiang
13	Tues	4/03/18	MED 2.212C		
	Thur	4/05/18	MED 2.212C	Membrane structure, potential, and ion movement <b>Group 1: one page</b> <b>Group 2: presentations</b>	Jim Lechleiter
14	Tues	4/10/18	MED 2.212C		
	Thur	4/12/18	MED 2.212C	Growth factor signal transduction <b>Group 1: presentations</b> <b>Group 2: one page</b>	Lily Dong
15	Tues	4/17/18	MED 2.212C		
	Thur	4/19/18	MED 2.212C	Extracellular matrix/integrin signaling, and cytoskeleton <b>Group 1: one page</b> <b>Group 2: presentations</b>	LuZhe Sun
16	Tues	4/24/18	MED 2.212C		
	Thur	4/26/18	MED 2.212C	Apoptosis, autophagy <b>Group 1: presentations</b> <b>Group 2: one page</b>	Guangming Zhong
17	Tues	5/1/18	MED 2.212C		
	Thur	5/3/18	MED 2.212C	Cell cycle, checkpoints, cell senescence <b>Group 1: one page</b> <b>Group 2: presentations</b>	P. Renee Yew
18	Tues	5/08/18	MED 2.212C		
	Thur	5/10/18	MED 2.212C		

**Group 1:** Christina Adame, Kristin Altwegg, Kun Fang, Nicole Hensch, Elias Karam, Matthew King,

**Group 2:** Amanda Marek, Larry Broome, Kristi Guerrero, Abdulhafiz Imam Aliagan, Ross Shamby, Samantha Yee