Class Days and Time: Tuesday and Thursday: 9.15AM-10.45AM

Classroom: AL&TC 2.212

Course Faculty: Dr. Manjeet Rao

Office Location and Hours: GCCRI 4.100

Email: raom@uthscsa.edu;

Telephone: Rao:562-9119;

Read This Document Carefully - You are Responsible for ItsContents.

Course Description and Objectives

The purpose of this course is to develop an understanding of the molecular aspects of epigenetics. This Advanced Course will provide a unique learning experience that prepares the student to evaluate and design new research in the areas of epigenetic processes including imprinting, gene silencing, X chromosome inactivation, position effect, reprogramming and the progress of tumorigenesis. This module concerns epigenetic mechanisms. Topic will include: DNA methylation, Histone modifications, epigenetics and stem cells, Cancer epigenetics, RNA interference and epigenetics, Bioinformatics of epigenetics and Translational epigenetics. This course will be covered by didactic program as well as student discussion. For the student discussion module, faculty and students will jointly discuss key publications that serve to bridge the gap between the student’s prior understanding of the field and the state of the art in that area.

Pre-requisites – No prerequisite

Semester credit hours – 2 credit hours

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

• Know the importance of epigenetics in human pathological conditions including Cancer, Alzheimer, Autism, and Schizophrenia.
• Know the importance of epigenetics during developmental processes.
• Understand the molecular aspects of epigenetics

Course Organization

The main teaching modalities used in this course include:

1) Didactic

Materials – Research papers, Notes, Slides

Computer Access – Personal computers.

Reading Assignments – Research papers
ATTENDANCE
It is expected that students will attend all classes.

TEXTBOOKS

Required: Not applicable
Recommended: Not applicable

GRADING POLICIES AND EXAMINATION PROCEDURES
Students will be graded based on their participation, initiative and their ability to perform research techniques.

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 ACCOMMODATIONS 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

Students can directly email instructors for any questions about the class.

USE OF RECORDING DEVICES

N/A

ELECTRONIC DEVICES

Students are allowed to use computers for taking notes and going over class materials.

At the end of the syllabus include a detailed class schedule (see example below), which includes class dates, topic or title of lessons, reading or assignment due dates, test dates, and other important events such as holidays, etc. It is a good idea to clearly identify the class schedule as TENTATIVE, depending upon the progress of the class.
<table>
<thead>
<tr>
<th>WEEK</th>
<th>DATE</th>
<th>TOPIC</th>
<th>Assignment</th>
<th>Instructor and Modality</th>
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</thead>
<tbody>
<tr>
<td>Week 1</td>
<td>Sep 7, 2017</td>
<td>Basics of epigenetics: General transcription/Nucleosome/chromatin packaging/nuclear dynamics and long range control</td>
<td>AL&amp;TC 2.212</td>
<td>Dr. Manjeet Rao <a href="mailto:room@uthscsa.edu">room@uthscsa.edu</a></td>
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<td>Week 2</td>
<td>Sep 12, 2017</td>
<td>DNA methylation, histone modification, RNAi and epigenetics</td>
<td>AL&amp;TC 2.212</td>
<td>Dr. Manjeet Rao <a href="mailto:room@uthscsa.edu">room@uthscsa.edu</a></td>
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<td>Sep 14, 2017</td>
<td>Students presentation/Discussion</td>
<td>AL&amp;TC 2.212</td>
<td>Dr. Manjeet Rao <a href="mailto:room@uthscsa.edu">room@uthscsa.edu</a></td>
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<td>Week 3</td>
<td>Sep 19, 2017</td>
<td>Development &amp; Epigenetics: Epigenetic heritability (changes during embryonic development)</td>
<td>AL&amp;TC 2.212</td>
<td>Dr. Manjeet Rao <a href="mailto:room@uthscsa.edu">room@uthscsa.edu</a></td>
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<tr>
<td></td>
<td>Sep 21, 2017</td>
<td>X chromosome inactivation and genomic imprinting</td>
<td>AL&amp;TC 2.212</td>
<td>Dr. Manjeet Rao <a href="mailto:room@uthscsa.edu">room@uthscsa.edu</a></td>
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<td>Week 4</td>
<td>Sep 26, 2017</td>
<td>Epigenetics and environment</td>
<td>AL&amp;TC 2.212</td>
<td>Dr. Manjeet Rao <a href="mailto:room@uthscsa.edu">room@uthscsa.edu</a></td>
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<tr>
<td></td>
<td>Sep 28, 2017</td>
<td>Student Presentation/Discussion</td>
<td>AL&amp;TC 2.212</td>
<td>Dr. Manjeet Rao <a href="mailto:room@uthscsa.edu">room@uthscsa.edu</a></td>
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<td>Week 5</td>
<td>Oct 10, 2017</td>
<td>Stem Cell Epigenetics</td>
<td>AL&amp;TC 2.212</td>
<td>Dr. Manjeet Rao <a href="mailto:room@uthscsa.edu">room@uthscsa.edu</a></td>
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<td>Oct 12, 2017</td>
<td>Epigenetics: Human disease and disorders; (Cancer)</td>
<td>AL&amp;TC 2.212</td>
<td>Dr. Manjeet Rao <a href="mailto:room@uthscsa.edu">room@uthscsa.edu</a></td>
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<td>Week 6</td>
<td>Oct 17, 2017</td>
<td>Epigenetics: Human disease and disorders; (Aging, cognitive dysfunction, neurobehaviour, cardiovascular diseases and reproduction)</td>
<td>AL&amp;TC 2.212</td>
<td>Dr. Manjeet Rao <a href="mailto:room@uthscsa.edu">room@uthscsa.edu</a></td>
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<td></td>
<td>Oct 19, 2017</td>
<td>Epigenetics: Human diseases</td>
<td>AL&amp;TC 2.212</td>
<td>Dr. Manjeet Rao <a href="mailto:room@uthscsa.edu">room@uthscsa.edu</a></td>
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<td>Week 7</td>
<td>Oct 24, 2017</td>
<td>Student Presentation/Discussion</td>
<td>AL&amp;TC 2.212</td>
<td>Dr. Manjeet Rao <a href="mailto:room@uthscsa.edu">room@uthscsa.edu</a></td>
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<td>Week 8</td>
<td>Oct 31, 2017</td>
<td>Student Presentation/Discussion</td>
<td>AL&amp;TC 2.212</td>
<td>Dr. Manjeet Rao <a href="mailto:room@uthscsa.edu">room@uthscsa.edu</a></td>
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<td>Week 9</td>
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<td>Dr. Manjeet Rao <a href="mailto:room@uthscsa.edu">room@uthscsa.edu</a></td>
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