

CBCH 4320 (CRN 22063)
Spring 2022
Advanced Topics in Molecular Biochemistry (3-0)

Meeting time: Mondays and Wednesdays, 10:30-11:50 am in Geology bldg 123.

COVID-19 Precaution Statement

Please stay home if you have been diagnosed with COVID-19 or are experiencing COVID-19 symptoms. If you are feeling unwell, please let me know as soon as possible, so that we can work on appropriate accommodations. If you have tested positive for COVID-19, you are encouraged to report your results to covidaction@utep.edu, so that the Dean of Students Office can provide you with support and help with communication with your professors. The Student Health Center is equipped to provide COVID-19 testing.

The Center for Disease Control and Prevention recommends that people in areas of substantial or high COVID-19 transmission wear face masks when indoors in groups of people. The best way that Miners can take care of Miners is to get the vaccine. If you still need the vaccine, it is widely available in the El Paso area, and will be available at no charge on campus during the first week of classes. For more information about the current rates, testing, and vaccinations, please visit epstrong.org.

Description: A team-taught course aimed at providing an overview of research areas in the Department of Biological Sciences, with a focus on research in molecular biochemistry fields.

Prerequisites: CBCH 4310, CBCH 3416 or instructor's approval.

Course Organizers: Dr. Siddhartha Das and Hugues Ouellet

Faculty Presenters: Drs. Das, Ouellet, Moschak, Spencer, Vines, Tiwari, Cox, Rodriguez, Robles, and Han.

Office Hours: Biosciences 5.128 (Das) and 5.152 (Ouellet). Immediately after the class or through prior appointments.

Course Objectives: At the completion of this course the students are expected to achieve the specific learning objectives described below.

1. To make CBCH students familiar with faculty research in infectious disease, neuroscience and cancer. To help students to learn how to conduct hypothesis-driven research, analyze results and interpret data using molecular tools and database.
2. Dissemination of acquired knowledge through writings, interactions and presentations.
3. To facilitate in understanding the molecular mechanisms of disease processes.

Assessment of Course Objectives: A learning outcomes evaluation (self-assessment) will be handed out for you to complete at the same time that the course evaluation forms are completed.

Textbook and Exam Procedures: None. Topic-specific papers and the instructor's presentation slides will be assigned to help with the writing of the two 3-4 page essays. **Requirements/expectations for the essays will be specified by the faculty presenters.**

General guidelines

- Title page (not included in page count)
- Introduction (0.5 page)
- Discussion of the research data, including a figure, scheme, or a table (2-3 pages)
- Conclusion and Future directions (0.5 page)
- References (not including in the page count), at least 5 references.
- Times New Roman, size 12
- Single-spaced
- 1" margin

Attendance (10%, 0.5% per lecture): Attendance is mandatory and will be monitored through an attendance sheet or else. If you have a serious illness or a legitimate excuse (includes military personnel called to active duty or training) for being out-of-town, make sure to inform us before.

Quizzes (30%, 3% each): At the end of each week, a quiz will be uploaded on BlackBoard and students will have a week to complete it. Typically, each quiz will consist of 5 multiple choice questions. For quizzes on BlackBoard, the students will have two attempts of 10 min and the highest score will be counted. Alternatively, the short assignment could be at the discretion of the instructor.

Written Essays (60%, 30% each): After the fifth and the last presentations, the students will be assigned one of the topics and write a 3-4 page essay. The students will have until **Friday, March 11, 5h00 pm** to turn in the first essay to the assigned faculty. The second essay will be due by no later than **Friday, May 6, 5h00 pm**. A deduction of 10%/day will be applied for late submission.

Note: There will be no Final Exam.

Grading scale: A=90-100%; B=80-89%; C=70-79%; D=60-69%; F is <60%.

Tentative drop date: April 1, 2022

Academic Integrity Policy: UTEP's policies regarding academic integrity apply in this course. Information on this policy can be found at <http://academics.utep.edu/Default.aspx?tabid=23785>

Civility Statement: Please be respectful of all students' right to learn without disruptions. In line with this statement please make an active effort to keep the talking to a minimum during lectures and presentations. Also make an active effort to either turn cell phones off or turn them to vibrate mode prior to the start of class.

Tentative presentation schedule

Meeting date	Instructor	Topic
01/19/2022	Drs. Sid Das and Hugues Ouellet	Presentation of syllabus
01/24/2022	Dr. Siddhartha Das	Sphingolipid and parasitic differentiation
01/26/2022	Dr. Siddhartha Das	Sphingolipid and parasitic differentiation
01/31/2022	Dr. Travis Moschak	Optogenetics
02/02/2022	Dr. Travis Moschak	Optogenetics
02/07/2022	Dr. Charles Spencer (Cameron Torres)	Activation of NKT cells by <i>Francisella tularensis</i>
02/09/2022	Dr. Charles Spencer (Cameron Torres)	Activation of NKT cells by <i>Francisella tularensis</i>

02/14/2022	Dr. Hugues Ouellet	Metabolism of <i>Mycobacterium tuberculosis</i>
02/16/2022	Dr. Hugues Ouellet	Metabolism of <i>Mycobacterium tuberculosis</i>
02/21/2022	Dr. Charlotte Vines	Finding a Niche during an immune Response
02/23/2022	Dr. Charlotte Vines	Finding a Niche during an immune Response
02/28/2022	No class meeting	Work on Essay #1
03/02/2022	No class meeting	Work on Essay #1
03/07/2022	No class meeting	Work on Essay #1
03/9/2022	No class meeting	Work on Essay #1
03/14/2022	-	Spring Break
03/16/2022	-	Spring Break
03/21/2022	Dr. Marc Cox	Characterization and Therapeutic Targeting of Steroid Hormone Receptor Modulators for the Treatment of Hormone-Dependent Cancer
03/23/2022	Dr. Marc Cox	Characterization and Therapeutic Targeting of Steroid Hormone Receptor Modulators for the Treatment of Hormone-Dependent Cancer
03/28/2022	Dr. Georgialina Rodriguez/Dr. Elisa Robles	TBA
03/30/2022	Dr. Georgialina Rodriguez/Dr. Elisa Robles	TBA
04/04/2022	Dr. Sangeeta Tiwari	Chemotherapy and Vaccine development against Mycobacteria
04/06/2022	Dr. Sangeeta Tiwari	Chemotherapy and Vaccine development against Mycobacteria
04/11/2022	Dr. Kyung-An Han	Neurobiology of addiction and dementia
04/13/2022	Dr. Kyung-An Han	Neurobiology of addiction and dementia
04/19/2022	Dr. Hugues Ouellet	Studies on SARS-CoV-2 infection
04/21/2022	Dr. Hugues Ouellet	Studies on SARS-CoV-2 infection
04/26/2022	No class meeting	Work on Essay #2
04/28/2022	No class meeting	Work on Essay #2
05/02/2022	No class meeting	Work on Essay #2
05/04/2022	No class meeting	Work on Essay #2