

Advanced Topics in Molecular Biochemistry (CBCH 4320) Spring 2016

Course Director: Dr. Manuel Llano; BRB 3.144; mllano@utep.edu

Participating Faculty Members: Dr. Renato Aguilera, Dr. Igor Almeida, Dr. Marc Cox, Dr. Sid Das, Dr. Kristine Garza, Dr. Kyle Johnson, Dr. Manuel Llano, Dr. Hugues Ouellet, Dr. German Rosas-Acosta, Dr. Charles Spencer, Dr. Jianjun Sun, and Dr. Charlotte Vines.

Office Hours (Dr. Llano): By appointment.

Lecture: Monday 11:30 am to 12:50 pm

Workshop: Monday 11:30 am to 12:50 pm

Location: Liberal Arts 106

Course Objectives: This is a team-taught course aimed at providing an overview of research methods and techniques in modern molecular biology and molecular biochemistry laboratories at our Department.

At the completion of this course, the students are expected to have achieved these specific learning objectives:

1. Understand the basic approaches used in molecular biochemistry.
2. Understand the principles underlying the approaches indicated above.
3. Be able to apply their knowledge of these techniques in the design of experimental procedures aimed at testing specific hypotheses.

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: None. Topic-specific papers will be assigned by the instructor in charge of that specific topic as deemed necessary by each instructor.

Course Activities/Assignments:

Paper discussion: The instructor in charge will assign a research paper for discussion. The paper will be discussed at the end of each specific topic covered in class. The instructor in charge will provide an evaluation for the assigned paper. All the paper presentation evaluations will be assigned the same value toward the final grade of the course. It is your responsibility to have assigned a paper presentation. If you have not been assigned to present a paper, contact me ASAP. It is also your responsibility to coordinate with the corresponding instructor the paper presentation.

Exams: The course will have two non-comprehensive exams, mid term and a final. These evaluations will be scheduled during the class schedule. Each exam will favor the most recent set of material; however ALL MATERIAL COVERED TO DATE could be included in any evaluation. **Exam 1** will evaluate mainly the material covered from January 25 to March 2. **Exam 2** will evaluate the material covered from March 21 to April 27. Exam's dates are indicated in the calendar below.

Grading: Each of the exams will count for 25% of your final grade (50% in total). The paper presentation will count for 50% of your final grade. Grading scale: A=90-100%; B=80-89%; C=70-79%; D=60-69%; F is <60%.

All grades of **Incomplete** must be accompanied by an Incomplete Contract that has been signed by the instructor of record, student, departmental chair, and the dean. Although UTEP will allow a maximum of one year to complete this contract, the College of Science requests it be limited to one month based upon completion data. A grade of Incomplete is only used in extraordinary circumstances confined to a limited event such as a missed exam, project, or lab. If the student has missed a significant amount of work (e.g. multiple assignments or tasks), a grade of Incomplete is **not** appropriate or warranted.

Make-up Policy:

Exams: If you know in advance that you will not be able to take an exam on the scheduled date, notify Dr. Llano as soon as possible and he will allow you to take the exam earlier with no penalty. If you miss an exam and you can provide PROOF for your reasonable absence, the exam will be rescheduled at Dr. Llano's convenience. If you miss the exam, and you cannot provide proof for your reasonable absence, you will NOT be allowed to make it up.

Papers: If you miss the paper presentation and you can provide PROOF for your reasonable absence, the professor supervising your presentation will evaluate the paper with a quiz that will cover the topics addressed in the paper. If you miss the paper presentation, and you cannot provide proof for your reasonable absence, you will NOT be allowed to make it up.

Absence and Drop Policy: It is your responsibility to attend class regularly. 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 arrangements with me before you leave. The specific dates that the University has established for drop policy will be followed.

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 keeping 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.

Disability Statement: If a student has or suspects he/she has a disability and needs an accommodation, he/she should contact the Disabled Student Services Office (DSSO) at 747-

5148 or at dss@utep.edu or go to Room 106 Union East Building. The student is responsible for presenting to the instructor any DSS accommodation letters and instructions.

Class Schedule:

Date	Speaker	Topic
Jan 20	Dr. Llano	Introduction
Jan 25	Dr. Llano	The role of cellular factors in retroviral replication.
Jan 27	Dr. Llano	Paper discussion.
Feb 1	Dr. Cox	Alternative steroid hormone receptor targeting strategies for the treatment of prostate cancer.
Feb 3	Dr. Cox	Paper discussion.
Feb 8	Dr. Johnson	Mechanisms of Viral RNA Replication.
Feb 10	Dr. Johnson	Paper discussion.
Feb 15	Dr. Aguilera	The role of RAG1 and RAG2 proteins in oncogenic translocations.
Feb 17	Dr. Aguilera	Paper discussion.
Feb 22	Dr. Rosas-Acosta	Interactions between viruses and the cellular SUMOylation system
Feb 24	Dr. Rosas-Acosta	Paper discussion.
Feb 29	Dr. Almeida	Omics approaches for development of a vaccine for Chagas Disease.
Mar 2	Dr. Almeida	Paper discussion.
Mar 14	Exam preparation	No classes
Mar 16	Exam 1	Topics from January 25 until March 2
Mar 21	Dr. Garza	TBA
Mar 23	Dr. Garza	Paper discussion.
Mar 28	Dr. Sun	Pore formation and membrane translocation of bacterial A-B toxins.
Mar 30	Dr. Sun	Paper discussion.
Apr 4	Dr. Ouellet	Role of cholesterol metabolism for infection and persistence of Mycobacterium tuberculosis.
Apr 6	Dr. Ouellet	Paper discussion.
Apr 11	Dr. Das	Leukotriene, inflammation and metastatic migration of invasive breast cancer cells.
Apr 13	Dr. Das	Paper discussion.
Apr 18	Dr. Spencer	Methods of study the innate immune response
Apr 20	Dr. Spencer	Paper discussion.
Apr 25	Dr. Vines	Methods of study tumor metastasis

Apr 27	Dr. Vines	Paper Discussion
May 2	Exam preparation	No classes
May 4	Exam 2	Topics from March 21 until April 27