

FRONTIERS IN BIOMEDICAL RESEARCH BIOL 6321

Lecture Schedule: Tuesday and Thursday 1:30-2:50 PM
Location: TBA
Course Instructors: Drs. Wen-Yee Lee and Elizabeth J. Walsh
Office Hours: By appointment

Format:

This is a team-taught course with multiple faculty from the departments of Biology, Chemistry/Biochemistry. The lectures will be based upon experimental approaches and designed for students who are actively involved in laboratory research. G-RISE/U-RISE faculty mentors will present a biomedical research topic based on their expertise and assign current research papers on a topic relevant to the topic. Each faculty member will provide one lecture per week and will moderate a second session in which a student(s) will present an assigned primary research article(s) on a related topic chosen by the lecturer. Depending on enrollment, there could be one to three student presentations per week. All students will be expected to actively participate in discussion and preparation of lecture material.

Objectives:

1. Expose students to current biomedical topics.
2. Enhance communication (oral and written) and critical thinking.
3. Gain advanced awareness of the diversity of contemporary topics in biomedical research that are innovative and across disciplinary boundaries.
4. Learn sound research conduct and error analysis, according to the “3R” norms of good scientific practice—rigor, responsibility, and reproducibility (Casadevall A, Fang FC. 2016. Rigorous science: a how-to guide. *mBio*7:e01902-16. doi:10.1128/mBio.01902-16.).

Readings and Participation:

Reading from primary research articles or up-to-date review articles will be emphasized. Participation during faculty and student presentations will be taken into consideration for the final grade.

Presentation:

Each student will be expected to present a PowerPoint lecture on a primary research article on a topic related to the faculty lecture for which they are assigned. The presentation should include introduction, objectives, results, discussion, and conclusion. Ideally, the presentations should last at least 30 minutes. More information about preparing presentations will be provided during class.

Evaluation:

The points are assigned as follows:

Attendance/Participation in class:	500 points
Student presentation:	500 points
Total:	1000 points

Tentative Course Schedule

Week	Topics (activities including faculty seminar and student presentations)	Participating Faculty/Student Leader
1. (1/16-1/20)	Introduction and Overview	Lee/Walsh
2. (1/23-1/27)	1. Circadian Rhythms	Xiao/Lee/Sanchez-Michael (1)
3. (1/30-2/3)	2. Environmental Toxicology – Microplastics	Walsh/Walsh/Robbins (1)
4. (2/6-2/10)	3. How do animals really make antibodies?	Vines/Lee/Torres (1)
5. (2/13-2/17)	4. Tuberculosis still poses a treat	Tiwari/Walsh/Navarro (1)
6. (2/20-2/24)	5. Nitrogen fixation in Biological and Industrial Processes	Fortier/Lee/Villareal (1)
7. (2/27-3/3)	6. Ontogenetics	Moushak/Walsh/Dirmeyer (1)
8. (3/6-3/10)	7. Genetics of Development	Quintana/Lee/Pizana (1)
9. (3/13-3/17)	Spring Break (no classes)	
10. (3/20-3/24)	8. Structure-Function Relationship of Novel Phosphoregulatory Sites and Effect of Acute Lymphoblastic Leukemia SNPs on JAK Activity	Rodriguez/Walsh/Batson (1)
11. (3/27-3/31)	9. Striosomes Mediate Conflict Decision-Making and Valence-Based Learning, and are Vulnerable in Stress, Aging and Huntington's Disorder	Friedman/Lee/Salcido (1)
12. (4/3-4/7)	10. Endocrine Signaling in Normal Physiology and Disease	Cox/Walsh/Loera (1)
13. (4/10-4/14)	11. Low-cost disease diagnosis	Li/Lee/ Robbins+Navarro +Sanchez-Michael (2)
14. (4/17-4/21)	12. How bacteria repair DNA damage	Kim/Lee/Villareal+Dirmeyer+Batson (2)
15. (4/24-4/28)	13. Dementia neurobiology	Han/Walsh/Pizana+Salcido+Loera (2)
16. (5/1-5/5)	Wrap Up - Evaluation/Discussion	Lee/Walsh

- I. **Withdrawing from the course:** The last day for you to withdraw from any course with an automatic "W" is **set by the office of registrar. Visit their website for effective dates.** Please note that it is the student's responsibility to officially withdraw from a course before the drop deadline and to confirm that this is indeed the correct date. A grade of incomplete is issued by the instructor when a student has completed most of the course work, has a good reason for not completing the course work, has a good chance of passing, and the instructor agrees to the grade of I. A grade of "I" will never be given to "make-up" or repeat the entire course.
- II. **Academic Dishonesty:** Suspected cases or acts of alleged scholastic dishonesty (Cheating) will be automatically referred to the Dean of Students' Office. It is the policy of the University of Texas at El Paso that academic dishonesty is a completely unacceptable mode of conduct and will not be tolerated in any form. All persons involved in academic dishonesty will be disciplined in accordance with University regulations and procedures.
- III. **Accessibility/Disabilities:** If you have, or suspect you have, a disability and need accommodations you should contact The Center for Accommodations and Support Services at 747-5148 or at cass@utep.edu or go by Room 106 Union East Building. If you are a student with a disability (physical, learning, etc), please notify me at the beginning of the semester so that accommodations can be made for you as soon as possible. Please follow up after visiting CASS as there can be communication problems and it is the Student's responsibility to follow up with the instructor, per CASS regulations. Note, that no accommodations are retroactive, so take care of them as early as possible.
- IV. **MILITARY STATEMENT:** If you are a military student with the potential of being called to military service and/or training during the course of the semester, you are encouraged to contact the instructor by phone and/or email at the earliest convenience.