**G Protein-coupled Receptor Biology (9:00-10:20 T/Th)**
**LART122**
**BIOL 4319 CRN:16735**
**BIOL 5319 CRN:16734**

G protein-coupled receptor biology is an opportunity to read and discuss scientific literature in the field of GPCR biology. As 40-50% of all drugs in the market today are targeted toward GPCRs, it is important for students to have a clear understanding of the function and relevance of these proteins to signaling, health and biology.

**TEXT FOR THE COURSE**

"Writing in the Biological Sciences" Hofmann ISBN9780190852191

**UNDERGRADUATES**

- 3 Midterms 66%
- Attendance and quizzes (12% of grade)
- Final due December 5th (22% of grade) by 5PM.

**GRADUATE STUDENTS**

3-Midterms 60%
Paper presentations/quizzes (10% of grade) Start on 12th of October
Final due December 1st - R21 (10% of grade)
Written final due December 5th (20% of grade) by 5PM.
**All writing assignments are due on time. Late submissions will not be accepted.**

| DATE (SUBJECT TO CHANGE) | READING ASSIGNMENT |
|---|---|
| August 27, 2019 | Introduction to GPCR |
| August 30, 2019- September 3 | **Structure of a Signaling Cannabinoid Receptor 1-GProtein Complex Cell 2019 pg 448-458 e.12** |
| September 5-10, 2019 | **Adrenergic receptors-*β2-Adrenoreceptor signaling bias in asthma and COPD and the potential impact on the comorbitities associated with these diseases* 2018 Current Opinions in Pharmacology** |
| September 10-12, 2019 | **Ligand Binding Mechanisms in Human Cone Visual Pigments**<br>*Srinivasan, 2019 Trends in Biochemical Sciences* |
| September 17-24, 2019 | **Beyond the Flavour: The Potential Druggability of Chemosensory G Protein-Coupled Receptors International Journal of Molecular Science 2019** |
| **September 26, 2019** | **No class (Midterm #1 Due at 11:59pm)** |
| October 1-3, 2019 | ***-Hormone and Neuropeptide Receptors- Hormones and Neuropeptide Receptor Heteromers in the Ventral Tegmental Area. Targets for the Treatment of Loss of Control of Food Intake and Substance Use Disorders*** Sergi Ferre´, MD, PhD |
| October 8, 2019 | **Muscarinic Receptors-** ***A new outlook on cholinergic interneurons in Parkinson's disease and L-DOPA-induced dyskinesia, Conti et. Al 2018*** |

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| October 10 , 2019 | Chemokine Receptors- Compartmentalization of dendritic cell and T-<br>cell interactions<br>in the lymph node: Anatomy of T-<br>cell fate decisions<br>Lund 2019 Immunological Reviews |
| October 15, 2019 | **Taste/olfactory Receptors** - ***Olfactory Receptor Family 7 Subfamily C Member 1Is a Novel Marker of Colon Cancer–Initiating Cells***<br>***and Is a Potent Target of Immunotherapy-*** Example Paper Presentation |
| October 17, 2019 | Student Paper #1 |
| October 22, 2019 | Student Paper #2 |
| October 24, 2019 | Student Paper #3 |
| October 29, 2019 | Student Paper #4 |
| **October 31, 2019** | **No class (Midterm #2 Due at 11:59pm)** |
| November 1 | **The drop date is November 1. The College of Science aligns with UTEP's posted drop date of November 1 for the Fall 2018 semester. We will not approve any student- or faculty-initiated drop requests for a course after that date, except under circumstances of complete withdrawal of ALL COURSES.** |
| November 5 | Student Paper #5 |
| November 7 | Student Paper #6 |
| November 12 | Student Paper #7 |
| November 14 | Student Paper #8 |
| November 19 | Student Paper #9 |
| November 26 | Student Paper #10 |
| **November 28** | **No class (Midterm #3 Due at 11:59pm)** |
| December 3 | Student Paper #11 |
| December 5 | **No Class (Final Exam and R21 DUE AT 5PM)** |

**Grading Policy:** Letter grades for this course will be assigned as follows:

90-100% A
80-89% B
70-79% C
60-69% D
0-59% F

Student paper presentations will be evaluated based on: 1) Presentation (no typos!) (**10 pts)** Introduction- do you understand and explain why this paper was written? (**10 pts**)2) ***Why*** was each set of experiments completed? (**20 pts**)How was each set of experiments completed?- please do not read off of graphs, but instead explain what was the experiment and then what did the authors see (**30 pts**). 3) Did the authors demonstrate what they said they demonstrated? (**10 pts**) 4) How does this fit in with what you know- how did the authors make it all fit in? (**10 pts**) 5) what might you change or add to the paper? (**10 pts**).

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| Make-up Policy: | There will be **NO MAKEUP EXAMS**. If you miss an exam the =exam will receive the score of **ZERO. UNDER** |
| Grade Disputes: | **EXTENUATING CIRCUMSTANCES, STUDENTS WILL BE ALLOWED TO MAKE UP A SECOND MISSED EXAM. THIS EXAM MUST BE MADE UP, DURING OFFICE HOURS, WITHIN ONE WEEK OF THE MISSED EXAM. Students who fail to take an exam without prior approval from Dr. Vines will earn a score of zero for the exam.** |
| Attendance Policy: | If you miss an assignment there are **NO MAKEUPS UNLESS YOU HAVE WRITTEN PERMISSION FROM THE INSTRUCTOR**. |
| Academic Integrity Policy: | The UTEP academic integrity policy will be strictly enforced during exams. Any student failing to adhere to the policy will be disciplined. |
| Civility Statement: | Students with disruptive behavior will be asked to leave the class. |
| Disability Statement: | If a student has or suspects she/he has a disability and needs an accommodation, he/she should contact the Disabled Student Services Office (DSSO) at 747-5148, dss@utep.edu, cass@utep.edu or go to Room 106 Union East Building. For additional information please visit the CASS website at www.sa.utep.edu/cass. The student is responsible for presenting to the instructor any DSS accommodation letters and instructions. |
| Military Statement: | If you are in the military, with the potential of being called up for military service and/or training during the course of the semester, you are encouraged to contact Dr. Vines as soon as possible |