

G Protein-coupled Receptor Biology (12:00-1:20 T/Th)
Physical Sciences 314
BIOL 4319 CRN:17586
BIOL 5319 CRN:17585

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 6th (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 6th (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 28, 2018	Introduction to GPCR
August 30, 2018	How are GPCRs activated? Carpenter B, Tate CG <i>Active state structures of G protein-coupled receptors highlight the similarities and differences in the G protein and arrestin coupling interfaces.</i> Curr Opin Struct Biol. 2017 May 5;45:124-132
September 4-13, 2018	Signaling through GPCRs-second messengers- <i>RGS proteins destroy spare receptors: Effects of GPCR-interacting proteins and signal deamplification on measurements of GPCR agonist potency -2015</i>
September 18-20, 2018	Rhodopsin- <i>Chemistry and Biology of the Initial Steps in Vision: The Friendewald Lecture</i> Krzysztof Palczewski - 2014
September 25, 2018	Taste/olfactory Receptors- <i>System-Wide Expression and Function of Olfactory</i>

	Receptors in Mammals. SJ Oh. 2018 Genomics informatics
September 27, 2018	No class (Midterm #1 Due at 11:59pm)
October 2-4, 2018	Hormone and Neuropeptide Receptors- <i>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</i> Sergi Ferre', MD, PhD
October 9, 11, 2018	Muscarinic Receptors- <i>A new outlook on cholinergic interneurons in Parkinson's disease and L-DOPA-induced dyskinesia, Conti et. Al 2018</i>
October 16 – 18, 2018	Chemokine Receptors- <i>Decoding the Chemotactic Signal and Chemokine Receptors and Exercise to Tackle the Inadequacy of T Cell Homing to the Tumor Site</i>
October 23, 2018	Adrenergic receptors- <i>β2-Adrenoreceptor signaling bias in asthma and COPD and the potential impact on the comorbidities associated with these diseases</i> 2018 Current Opinions in Pharmacology
October 25, 2018	Taste/olfactory Receptors - <i>Olfactory Receptor Family 7 Subfamily C Member 1Is a Novel Marker of Colon Cancer–Initiating Cells and Is a Potent Target of Immunotherapy-</i> Example Paper Presentation
October 30	No class (Midterm #2 Due at 11:59pm)
November 1	Rosabril Acuna Grad Student Paper #1
November 6	Khodeza Begum Grad Student Paper #2
November 8	Chelsea George Grad Student Paper #3
November 13	Cecil Guardado Grad Student Paper #4
November 15	Amy Nava Grad Student Paper #5
November 20	David Paz Grad Student Paper #6

November 27	Elsa Rodriguez Grad Student Paper #7
November 29	No class (Midterm #3 Due at 11:59pm)
December 4	Carlos Valenzuela Grad Student Paper #8
December 6	No Class (Final Exam and R21 DUE AT 5PM)
<p>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</p> <p>Make-up Policy: There will be NO MAKEUP EXAMS. If you miss an exam the exam will receive the score of ZERO. UNDER 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.</p> <p>Grade Disputes:</p> <p>Attendance Policy: If you miss an assignment there are NO MAKEUPS UNLESS YOU HAVE WRITTEN PERMISSION FROM THE INSTRUCTOR.</p> <p>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.</p> <p>Civility Statement: Students with disruptive behavior will be asked to leave the class.</p> <p>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.</p> <p>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</p>	