

# Chemistry 474: Neurochemistry

CRN: 39000

Instructor: Dr. Kelly Drew  
Office/office hrs: Murie 223F, MWF 10-12:00  
Telephone: 474 7190  
e-mail: kdrew@alaska.edu  
Lecture: TR, 9:45-11:15, Reichardt Room 318  
Homework: Assignments posted on Canvas (reviews of selected articles). Up to 3 HW assignments can be substituted

Course Description: Course will cover basic and applied aspects of inter-neuronal signaling. Lectures will be based on chapters from assigned texts as well as recent and historical literature relevant to these topics. Basic concepts introduced in lectures will be applied through guided discussion of original research papers. Student V Z L O O O H D U Q W R S U H S D U H <sup>3</sup> S H H U U H Y L H Z V ' R I V H C

Course objectives Prerequisite: BIOL F115 and CHEM F322; and PSY F335, or BIOL B417 or CHEM F470  
Lectures, exams and quizzes will focus on the following objectives for each neurotransmitter/neuromodulator discussed.

- ‡ Know functions and diseases associated with neurotransmitter/neuromodulator
- ‡ Recognize structure activity relationships and structural similarities between endogenous neurotransmitter, agonists and antagonists.
- ‡ Be able to address detailed mechanisms of neurochemical transmission
  - ‡ Synthesis
  - ‡ Storage
  - ‡ Regulated release
  - ‡ Receptor subtypes and effectors
  - ‡ Termination of effect
- ‡ Know basic neurochemical anatomy of transmitter system

(Homework) Students will be guided by the instructor through critical evaluation of peer-reviewed papers to achieve the following objectives:

- ‡ Know how to decipher a scientific paper
- ‡

Grading: for when homework is due. Permission to hand in HW via email may be arranged in advance and will not be accepted without prior arrangement. Late homework will not be accepted unless arrangements are made before the homework is late. There will be no make-up exams or quizzes except under extreme circumstances. If such circumstances arise, notify Prof. Drew (4747190) before the scheduled time of the exam. If a make-up exam is approved, it must be completed within 1 week of the original exam. Any student suspected by the instructor of cheating on a quiz or exam may be assigned a grade of F; course drop forms will not be signed in these cases. Letter grades assigned will be based on the overall performance of the class but will usually be in the range: 91-100=A, 80-90=B, 70-79=C, 60-69=D, and below 60 is failing.

Add seminars and drop a quiz option: You may choose to journal your impressions of 3 online seminars (<http://neuroseries.info.nih.gov/>) and drop one quiz grade. You will be asked to turn in your journal kept while watching the seminars.

Disabilities: Students with a physical or learning disability are required to identify themselves to Mary Matthews (x7043) in the Disability Services office, located in the Center for Health and Counseling. The student must provide documentation of the disability. Disability Services will then notify Prof. Drew of special arrangements for taking tests, working homework assignments, and doing lab work.

#### Assignments for Chemistry 474

2 Exams (100 pts ea.)	200 pts
3 Quizzes or 2 quizzes optional (25 pts ea.)	75 pts
Presentations of original research papers	