

Membrane Biochemistry and Biophysics

Chem 674

Instructor: Kriya Dunlap, 474-2766, kldunlap@alaska.edu

Office Hours: Department of Chemistry and Biochemistry
West Ridge Research Building (WRRB), 230
Tuesday 10:30-11:30 or by appointment

Lecture: Tuesdays, Thursdays, 11:30 am – 1:00 pm, WRRB 009

Text: Mary Luckey
Membrane Structural Biology: With Biochemical and Biophysical Foundations 2 Membrane Snc S03063

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Course:

This 3 credit course focuses on biophysical and biochemical processes involved in membrane mediated events. These include the chemical characteristics of membrane lipids and proteins, families of membrane proteins, ion channels, excitability and membrane fusion. We will address aspects of membrane lipid rafts and lipid-dependent regulation of protein function. All course topics will be discussed in biomedical context if appropriate, while using historic, current and review literature to supplement the primary text. The use of topics pertaining to student research will be discussed in the perspective of membrane biochemistry and signaling and this incorporation will be integrated throughout the class.

Course Goals:

Develop an understanding of the basic biochemical processes that are involved in membrane-mediated events.

Develop an understanding of the different families of proteins classified as membrane proteins.

Learn different research techniques and methods for studying the membrane.

Use novel and innovative approaches to interpret

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involved. This project is designed to help you create an animation that you can incorporate into your thesis presentations. I encourage students to share resources with each other in class, whether it is applications such as drawing, model building, video and picture editing etc. and/or online resources like prezi, slide rocket and jux.

Exams: There will be two take home exams; one midterm and one final exam. Late exams will only be allowed with pre-approval of the instructor or with an acceptable, documented reason such as unexpected illness, family emergencies or other unavoidable events.

Late Work: All assignments are due on the due date. No late work will be accepted except in the case of