BIOL480/CAMB480 -- ADVANCED CELL BIOLOGY (SPRING 2020)

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Class meets Tuesdays and Thursdays, 10:30-12pm in 100 Goddard Laboratory

Course description

This course is designed for graduate students and advanced undergraduates with a particular enthusiasm for cell biology. This class does not attempt to cover all aspects of cell biology, and is therefore not appropriate for students seeking a lecture course that provides a comprehensive survey of the field. Rather, the primary objective of this course is to teach those students considering a career in the biomedical sciences how to read, discuss, and question research papers effectively. There is no assigned textbook; students learn to critically evaluate current and classic literature by reading original papers on selected topics in modern cell biology. Intensive classroom discussions focus on the experimental methods used, results obtained, interpretation of these results in the context of cell structure and function, and implications for further studies. Guest lecturers are sometimes invited to discuss their research. Students will have the opportunity to lead discussions.

Exams and grading

The two in-class exams will each contribute 35% of your final grade. Classroom discussion will contribute 30% of the final grade.

Topics and schedule

Please note that this schedule is subject to changes, depending on the progression of classroom discussions, student interests, etc.

Jan 16	Cells structure: an overview
21	Study proteins in living cells
23	Membrane fractionation & reconstitution
28	Membrane fusion
30	Rab GTPase
Feb 4	Genetic study of membrane trafficking
6	Exocyst
11	Mitotic regulation of Golgi
13	Membrane curvature
18	Actin (I)
20	Actin (II)
25	Actin (III)
27	Microtubules
Mar 3	Cell migration
5	**Exam I**
10	Spring break
12	Spring break
17	Cell migration and tumor invasion (I)
19	Exosomes (I)
24	Exosomes (II)
26	Exosomes (III)
31	Exosomes (IV)
April 2	Cancer
7	Cancer
9	Cancer
14	Cancer
16	Cancer
21	Cancer
23	Cancer
28	**Exam II**