BIOL480/CAMB480 -- ADVANCED CELL BIOLOGY (SPRING 2022)

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Class meets Tuesdays and Thursdays, 10:15-11:45am in Leidy Lab 109

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 13  Cellular structure: an overview
       18  Study proteins in living cells
       20  Membrane fractionation & reconstitution
       25  Membrane fusion
       27  Genetic study of membrane trafficking

Feb 1   Rab GTPase
       3    Exocyst
       8    Membrane curvature
       10   Spring break
       15   Cell migration
       17   EMT
       22   ECM

Mar 1   Cytoskeleton (III)
       3    Exam I

Apr 5   Extracellular vesicles (IV)

March 7  Cancer (I)
       12  Cancer (II)
       14  Cancer (III)
       19  Cancer (IV)
       21  Cancer (V)
       26  Exam II