Protein Trafficking - Spring 2018

Course number: GMS 6062
Course format: 5-week module
Course director: John P. Aris PhD, johnaris@ufl.edu
Minimum number of graduate students: 3

Schedule
Tuesdays and Thursdays, time TBA
Tuesday 27 March - Tuesday 24 April (9 classes; module 3)

Overview
The Protein Trafficking course focuses on the current state of knowledge regarding movement of proteins in cells. Topics covered will include: (1) movement of proteins in the secretory and endocytic pathways, (2) targeting of proteins to organelles, and (3) directed localization of proteins within the cytoplasm or nucleoplasm. The course will emphasize molecular mechanisms that underlie and regulate protein targeting, as well as disease processes related to protein targeting.

Format
Lecture, small group discussion, and/or student presentations. Usually, a faculty member gives a 30 to 45 minute presentation that reviews the topic area, and the remainder of the class time is used for either a group discussion or a student presentation of assigned reading.

Reading Assignments
Reviews and papers from the original literature will be assigned.

Topic Area Examples
Translocation of proteins across membranes
Membrane protein topogenesis
Secretory and endocytic pathways
Vesicular transport pathway mechanisms and regulation
Protein trafficking to organelles (e.g., mitochondria and peroxisomes)
Nuclear transport (overlaps Nucleus module, depends on student and faculty interest)
Protein trafficking and human disease

Student Input
Students are encouraged to suggest topic areas and/or papers for class discussion.

Student Evaluation
Grades will be based on participation in group discussions and/or presentations.

Grading
Final grade scale: A, A-, B+, B, B-, C+, C, C-
A grading sheet is emailed to faculty after each class. Faculty submit a grade (4, 3.66, 3.33, 3.0, 2.66, 2.33, 2.0, 1.66) for each student based on the quantity / quality of participation. Examples of participation include answering questions, providing coherent explanations, making constructive comments, asking good questions, and so forth. At the end of the module, grades from faculty are averaged to arrive at a final grade. Excused absences are omitted from calculation of the average.