BIOL-GA 1128 Systems Biology

Instructor:
Christine Vogel

Course Description:
The goal of this course is to provide students with an overview of current methods, applications, analysis approaches, and results in different fields of systems biology. Students will both acquire and apply the new knowledge through examination of relevant research publications.

Pre-requisite:
Bio Core I: Molecular Systems (BIO-GA 1001)

Textbook and Required Materials:
Systems Biology by Christine Vogel, e-book

Grading:
Exams 55%
Assignments/projects 20%
Class participation/attendance 20%
Bonus 5%

Topics:
Network II - inference
Network III - inference
Chromosomics
Genomics I - HMM
Genomics II - Metagenomics
Transcriptomics
RNA degradation
Translatomics
Proteomics
Integromics I - rates and application
Interactomics - protein-protein
Phenomics - Protein function
Metabolomics
Systems Genetics