

Proteomics, Fall 2016

<Outline>

Techniques for protein analysis. Proteome and proteomics. Functional proteomics.

<Objectives>

Understanding of techniques used in proteomics. Acquisition of skills to analyze Protein structures based on patterns.

<Prerequisite Class>

Prerequisites: Biochemistry

<Textbook>

Principles of Proteomics, R. M. Twyman, BIOS Scientific Publications

<References>

- 1) Introduction to Proteomics: Tools for the new biology, D. C. Liebler, Humana Press
- 2) Proteomics for Biological Discovery, T. D. Veenstra, J. R. Yates, Wiley-Liss

<Assignments>

3 homework sets throughout the semester. A class project due at the end of each month.

<Course Schedule>

Week	Topic	Text	cf	Activity
1	From genomics to proteomics -1	1-22		
2	From genomics to proteomics -2	1-22		
3	Strategies for protein separation -1	23-47		

4	Strategies for protein separation -2	23-47		
5	Strategies for protein identification -1	49-67		
6	Strategies for protein identification -2	49-67		
7	Strategies for protein quantitation -1	69-83		
8				Mid-term Exam
9	Strategies for protein quantitation -2	69-83		
10	Proteomics and the analysis of protein sequences -1	85-102		
11	Proteomics and the analysis of protein sequences -2	85-102		
12	Structural proteomics -1	103-130		
13	Structural proteomics -2	103-130		
14	Interaction proteomics -1	131-162		
15	Interaction proteomics -2	131-162		
16				Final Exam

<Miscellaneous>

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