# Day Date Topic Reading
1 Tu 1/15 Protein Structure – background pp. 108-110
2 Th 1/17 Introduction to Proteomics 1
3 Tu 1/22 Protein Separations 2
4 Th 1/24 Protein Separations 2
5 Tu 1/29 Protein Identification 3
6 Th 1/31 Protein Identification 3
7 Tu 2/5 Protein Quantitation 4
8 Th 2/7 X-Ray Crystallography of Proteins pp. 111-114
9 Tu 2/12 X-Ray Crystallography of Proteins pp. 111-114
10 Th 2/14 Molecular graphics – PDB viewer web refs
11 Tu 2/19 Homology Modeling 5
12 Th 2/21 Model Verification 5
13 Tu 2/26 Structural Proteomics 6
14 Th 2/28 Structural Proteomics 6
  Tu 3/5 Mid-term break – no class
  Th 3/7 Mid-term break – no class
15 Tu 3/12 Mid-Term Examination
16 Th 3/14 Interaction Proteomics 7
17 Tu 3/19 Interaction Proteomics 7
18 Th 3/21 Protein Modifications 8
19 Tu 3/26 Protein Modifications 8
  Th 3/28 Easter – no class
20 Tu 4/2 Protein Chips 9
21 Th 4/4 Proteomics Applications 10
22 Tu 4/9 Molecular Mechanics Handout
23 Th 4/11 Energy Minimization Handout
24 Tu 4/16 Molecular Dynamics Handout
25 Th 4/18 Student Presentations
26 Tu 4/23 Student Presentations
27 Th 4/25 Student Presentations
  Tu 4/30 Final Exam at 4:15 pm
Grading: 25% Mid-Term, 10% Homology modeling project, 10% on MD project, 10% homework, 20% Student Presentation, 25% Final

For the homology modeling project, you must include analyses of your model using Verify 3D. It also most include at least two diagrams showing the model structure by itself and the structure compared to the template(s). You need to demonstrate where the model differs from the template structure.

For the student presentation, you need to select a recent (2010-2013) research paper involving proteomics of oxidative damage. You need to submit a list of 5 potential papers to me no later than Tuesday, 3/26, in order of your preference to present them. I will make sure that there are no duplications. You need to send me a pdf of your paper and copy of your powerpoint presentation a week before you are to present. The presentation schedule will be arranged in early October. The presentations must be 15 – 17 minutes long.

The molecular dynamics assignment will include setting up the files to run an MD simulation and analyzing the data. The data will probably come from simulations already run in my laboratory because we will not have enough time to run them ourselves.

The final exam will include everything cover since the mid-term, including the student presentations.

It should be obvious that all answers on examinations must arise from independent, honest efforts. Nothing less is acceptable at Loyola. Thus, any student found cheating on any quiz will receive an automatic “0” for that examination and his (her) name will be brought to the attention of the Chair of the Department and the Dean of the College, who will decide if further disciplinary action is necessary.


You should read the appropriate chapter before class. Please realize that I will not have time to lecture on every topic but will emphasize what I consider to be the most important topics. Obviously, these more important topics will be emphasized on examinations but you are responsible for all of the text and lecture material.

Contact: Dr. Ken Olsen  
Flanner 409  
(50)8-3121  
kolsen@luc.edu (e-mail is the best way to get in touch with me)

Office Hours: After class on TuTh evenings or by arrangement.

Blackboard: I plan to use the Blackboard website (blackboard.luc.edu) for all class notes and announcements. Please see the attached handout for instructions on how to use this site. It is essential that you access the site regularly to do well in this class.