

## Biophysical Chemistry – CH 4403 H01 and CH 6403 01 Honors/Graduate Course Syllabus Supplement

Honors students taking the H01 section (and graduate students taking CH 6403) will be expected to perform a literature review of current research in one of several topics covered in the course. This review should cover no less than three journal articles from the peer-reviewed literature. At the end of the semester, these students will present their review as a 20 to 30-minute presentation to members of the Fitzkee Lab.

Students are welcome to investigate current research in any of the following topics:

- **Protein Folding Thermodynamics**  
Questions in this topic include: “What are the physical forces involved in protein folding?” “What determines the structure of proteins?” “How did proteins evolve to be stable while retaining function?”
- **Binding and Allostery**  
Questions in this topic include: “How do protein interactions affect protein function?” “How is protein binding controlled during a cell’s life cycle?” “What forces are responsible for allosteric control of enzymes?”
- **Protein Folding Kinetics**  
Questions in this topic include: “Why do proteins fold so quickly?” “What are the fastest folding proteins?” “What is a folding transition state, and how can we study it?”

For the purposes of our class, “current” is defined as academic research papers (not review articles) published in the last 5 years. The primary papers presented should fall somewhere in this timeframe, although it’s okay to include introductory papers published earlier. Of course, any paper published on the topics above is fair game, but the following journals tend to have more relevant papers for this project.

- *Protein Science*
- *Proteins: Structure, Function, and Bioinformatics*
- *Proceedings of the National Academy of Sciences* (look for articles classified under Biophysics)
- *Biophysical Journal*
- *Journal of Molecular Biology*
- *Journal of Biological Chemistry*
- *Biochemistry*

Additionally, students will meet with me twice a month to ensure their progress toward the final presentation. The meetings will be approximately 15 minutes long, and can be scheduled at the student’s convenience. At first, we will discuss what papers will be presented. Later on, the meetings will be used to talk about the material discussed in the papers. The presentation can then be scheduled by the student any time during the final two weeks of class.

### *Grade Distribution*

Students taking the honors/graduate version of this class (CH 4403 section H01, or CH 6403) will be graded using a modified distribution to account for the additional meetings and presentation requirement. This distribution is given below:

<u>Course Component</u>	<u>Percentage</u>
One-on-one Participation	5%
In-Class Exams (3)	40%
Homework (10)	25%
Final Presentation	10%
Final Exam	20%

### *Switching to Honors Credit*

Students who are initially enrolled in the standard course are welcome to switch to the honors section at any time before the add/drop deadline. This deadline is after the first full week of classes, so you will need to decide quickly if you want to do this. Please talk to Dr. Fitzkee if you need more information.