

## **Biophysical Chemistry – CH 6404 01 Graduate Course Syllabus Supplement**

Graduate students (and undergraduate Honors students; see below) in the class 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, honors students will present their review as a 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 papers published in the last 10 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 graduate version of this class (CH 6404) 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%

### *Honors Credit*

Students wishing to pursue Honors credit for CH 4404 will be required to meet the same requirements as students taking CH 6404. If you are interested in this possibility, please speak with Dr. Fitzkee before the end of the second week of class. You will need to obtain a form from the Honors College Office, and this form must be signed by Dr. Fitzkee.