Chemical Systems III

CLASS MEETINGS

MWF 11:00–11:50 p.m. in person
STURM HALL 234

INSTRUCTION

Sunil Kumar (Sunil)
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Instructor Office Hours
Via appointment (email and zoom)

BOOKS

Slides from the lectures and the literature journals will be enough to learn about the course material.
Extra Books
Introduction to Experimental Biophysics: Biological Methods for Physical Scientists.
Extra Books: Biophysical Techniques by Iain D. Campbell.
Essentials of Chemical Biology by Andrew Miller and Julian Tanner.

COURSE DESCRIPTION

This course is meant to be an introduction to the investigation of various interactions/systems (biomolecular/organic/inorganic) using a battery of biophysics techniques. Required reading will be the primary literature discussed in class.

COURSE REQUIREMENTS

1. In-class participation (10% of grade)
2. Midterm and Final exams (35% each)
3. A PowerPoint presentation related to class topics
4. Late assignments will be penalized 5% for each day past the deadline.

Date	**Subject**
31-March	What is biophysics?
2-Apr	Protein/nucleic acid refresher
5-Apr	Protein/nucleic acid refresher
7-Apr	ITC
9-Apr	ITC
12-Apr	ITC and Paper discussion
14-Apr	DSC
16-Apr	NMR
19-Apr	NMR
21-Apr	NMR and Paper discussion
23-Apr	NMR and Paper discussion
26-Apr	EPR
28-Apr	Crystallography
30-Apr	Crystallography
3-May	Crystallography and Paper discussion
5-May	EM and Cryo-EM
7-May	MIDTERM
10-May	FRET and SM FRET
12-May	EM and Cryo-EM
14-May	Fluorescence
17-May	FRET and SM FRET
19-May	FRET and Paper discussion
21-May	CD
24-May	Computer Simulation to study biomolecular interactions
26-May	Confocal Fluorescence in vivo imaging
28-May	Presentations about multiple techniques in tandem to study various biomolecular interactions
2-Jun	
4-Jun	
7-Jun	**FINAL EXAM**