Chemical Systems III

CLASS MEETINGS

MWF 11:00–11:50 p.m., Zoom
Term papers: 2, TBD

INSTRUCTOR

Sunil Kumar
Sunil.kumar97@du.edu

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: **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 biomolecular interactions using various biophysics techniques. Required reading will be the primary literature discussed in class.

COURSE REQUIREMENTS

1. In-class participation (10% of grade)
2. Term papers, 2 (45% each)
3. Late assignments will be penalized 5% for each day past the deadline.

Date	**Subject**
30-March	What is biophysics?
1-Apr	Protein/nucleic acid refresher
3-Apr	Protein/nucleic acid refresher
6-Apr	ITC
8-Apr	ITC
10-Apr	ITC and Paper discussion
13-Apr	DSC
15-Apr	NMR
17-Apr	NMR
20-Apr	NMR and Paper discussion
22-Apr	NMR and Paper discussion
24-Apr	EPR
27-Apr	Crystallography
29-Apr	Crystallography
1-May	Crystallography and Paper discussion
4-May	EM and Cryo-EM
6-May	EM and Cryo-EM and paper discussion
8-May	FRET and SM FRET
11-May	EM and Cryo-EM
13-May	Fluorescence
15-May	FRET and SM FRET
18-May	FRET and Paper discussion
20-May	CD
22-May	Computer Simulation to study biomolecular interactions
27-May	Computer Simulation to study biomolecular interactions
29-May	Confocal Fluorescence in vivo imaging
1-Jun	Confocal Fluorescence in vivo imaging
3-Jun	Paper discussion about multiple techniques in tandem to study various biomolecular interactions
6-Jun	
8-Jun	