

DEPARTMENT OF CHEMISTRY

Princeton University

SPRING 2019

Industrial Associates Program - Course Offerings



01/28/2019

CHM 536: Topics in Organic Chemistry - Methods for Complex Organic Synthesis

Todd Hyster

David MacMillan

This course provides an overview of contemporary methods in synthetic organic chemistry for first year graduate students and advanced undergraduates. Special emphasis will be placed on understanding the mechanisms, scope, limitations, and selectivities of some of the most important synthetic methodologies developed in the 21st century. Selected topics will include advances in cross coupling, olefin metathesis, pi acid catalysis, organocatalysis, photocatalysis, pi allyl chemistry, hydrogenation, C-H activation and hydrogen-bonding catalysis.

Reading List

John Hartwig, University (Science Books 2010)

Organotransition Metal Chemistry: From Bonding to Catalysis

Schedule/Classroom assignment:

Section	Time	Days	Room
L01	7:00 pm - 10:00 pm	M	Lewis Library 138

Contact for Registration: Regina Perry

Phone: 609-258-3900

e-mail: regina.perry@Princeton.EDU

CHM 516: Biophysical Chemistry II

Jannette Carey

V. Vandavasi

Introduction to contemporary methods used to study structures, functions, and interactions of biological macromolecules. The principles and practice of ligand-binding analysis will be presented and used as a lens for treating specific techniques. Focus is on applications rather than theory to convey the utility of each method for solving molecular problems, the strengths and limitations of individual methods, and the complementarities among them. Topics will include UV, fluorescence, and circular dichroism spectroscopies; isothermal titration calorimetry; microscale thermophoresis; bilayer interferometry; surface plasmon resonance; and an overview of other methods available in the new Biophysics Core Facility. Students are encouraged to bring their own relevant research problems to the course to serve as case studies.

Reading List:

Cantor & Schimmel, *Biophysical Chemistry - Parts I, II, & III*

Freifelder, *Physical Biochemistry*

Klotz, I.M., *Ligand-receptor energetics: A guide for the perplexed* (1997)

J.M. Berg & J.L. Tymoczko, *Biochemistry*

Schedule/Classroom assignment:

Section	Time	Days	Room
L01	7:00 pm - 10:00 pm	T	Frick Lab A57

CHM 521: Organometallic Chemistry

Bradley P. Carrow

To familiarize the student with basic principles of structure and reactivity of transition metal organometallic chemistry.

Reading List:

John Hartwig, University (Science Books 2010)

Organotransition Metal Chemistry: From Bonding to Catalysis

Schedule/Classroom assignment:

Section	Time	Days	Room
L01	7:00 pm - 10:00 pm	W	Jadwin Hall A06

CHM 541/QCB 541: Chemical Biology II

Ralph E. Kleiner

Mohammad R. Seyedsayamdost

The course provides an in-depth treatment of protein chemistry, natural products biosynthesis, and biophysical chemistry.

Reading List: No textbooks required

Schedule/Classroom assignment:

Section	Time	Days	Room
L01	7:00 pm - 10:00 pm	W	Jadwin Hall A07

ADDITIONAL INFORMATION:

Visitor Parking: Lot 21

(At the intersection/ Faculty Road and Fitzrandolph Road)

Campus Map:

<http://www.princeton.edu/transportation/RulesandRegs.pdf>

Important Dates:

First Day of Classes: February 4

Spring Recess: March 16-24

Reading Period/Make-up Lectures: May 6-14

Final Exam Period: May 15-25