

COURSE ANNOUNCEMENT

Chemistry 845

Bioorganic Chemistry: Non-Covalent Interactions in Chemistry and Biochemistry

Fall 2005

Chemistry 845 will examine the role of non-covalent interactions in associations involving molecules of interest to organic chemists and biochemists. The first portion of the course will review fundamental types of non-covalent interactions, including electrostatic interactions, dipolar interactions, dispersion, hydrogen bonding, and the "hydrophobic effect." The main segment of the course will then focus on complex phenomena controlled by sets of non-covalent interactions. Topics tentatively slated for this segment include: (i) use of non-covalent interactions in the design of catalysts for organic synthesis; (ii) the origins of protein secondary and tertiary structural stability/protein design; (iii) protein-ligand binding, including protein-protein interactions and strategies for disrupting them; (iv) nucleic acid structure; (v) template-directed dynamic covalent chemistry; (iv) cooperativity in noncovalent interactions. There is no text for the course; all material covered will come from the research literature. Grading will be based on a research proposal due at the end of the semester.

INSTRUCTOR: Samuel H. Gellman
OFFICE: 7132 Chemistry
TELEPHONE: 262-3303
E-MAIL: gellman@chem.wisc.edu
CREDITS: 2
CALL NUMBER: 40982
TIME: 1:20 PM, WF
LOCATION: 6353 Chemistry

PREREQUISITES: Chemistry 641, or consent of instructor. A rudimentary knowledge of biochemistry (e.g., an undergraduate course) is important, but, contrary to the information printed in the timetable, **Biochemistry 602 is not a prerequisite for this course.**