

162B. Drug Design

(3) Reich, Kahn

Prerequisites: Chemistry 142A-B-C or MCDB 108A-B-C. Recommended preparation: Chemistry 162A, Chemistry 127 or Chemistry 129.

Class meets twice a week for a lecture.

Medicinal chemistry for lead optimization, combinatorial synthesis, quantitative structure-activity relationships, pharmacokinetics, drug metabolism and toxicity, pharmacogenomics. Drugs that interact with DNA and protein drugs. Clinical trials, intellectual property in drug design. Students will develop their own drug design project.

You are welcome to browse old course lecture notes by Dr. Kahn available online at http://www.chem.ucsb.edu/~kalju/chem162/index_2004.html to see if this course is interesting to you. However, Dr. Reich will expand many topics significantly (QSAR, medicinal chemistry of drug modifications) and may present the material in a different way. Another unique aspect of the Chem 162B is that students will have a significant lecture-free time toward the end of the quarter to work on their projects. This may involve, among other things, a computer based in-depth analysis (docking, binding energy calculations, QSAR ...) of your drugs that Dr. Kahn will help out with. We anticipate that you will have a chance to share your research ideas with fellow students first as a oral presentation, and finally as a poster presentation. The latter even has been popular in the Department and includes invited industry representatives: it is a good opportunity for you to find a job in pharmaceutical industry!

For Winter 2005, undergraduates taking wishing to take this course should enroll under the course name Chem 259 (Dr. Reich) and fill out a petition to count this course toward your undergraduate major in area C or area D. The forms can be obtained from Dr. Kahn or from Mai Nazif in the Chemistry office.