MCH 402/502
University at Buffalo          Spring Semester 2016
Lecturer     Location          Time          Days
Dr. Ekin Atilla  NSC 222      11:00-12:20 PM  T, R

645-4130
E-mail: ekinatil@buffalo.edu
Office Hours: 3:00-5:00 pm Wednesday or by appointment (NSC 877)

Online Journal References:
- Journal of the American Chemical Society
- Angewandte Chemie-International Edition
- Journal of Medicinal Chemistry
- Nature Reviews Drug Discovery

OUTLINE:
- Lead Optimization & Peptidomimetics
- Lead Optimization: Hansch Analysis
- Top selling drug classes: Anti-cancer drugs
- Protein kinase inhibitors: structure, function
- Understanding the molecular basis for drug-inhibitor interactions
  - Case studies on reversible and irreversible inhibitors
- Targeting protein kinases
- General considerations in hit discovery/target selection/assay design
- From biochemical assays to cell-based activity
- Next generation techniques in drug discovery

Each part will follow in-class paper discussions. These papers will include review papers to study important concepts and recent research articles.

ABOUT THE COURSE:

Lecture:
Attendance is mandatory for the lectures. Even though there are no points for attendance, you will be collecting participation and evaluation points throughout the course.

Grading:
- Midterm 1  25%
- Midterm 2  25%
- Presentation, participation  30%
- Evaluations and assignments  20%

Student presentations – Every student will present a current paper on medicinal chemistry. Each presentation will be roughly 40 minutes for graduate students and 20-25 minutes for undergraduates. The papers will be assigned at a later date and the dates will be provided separately.

In-class discussion that follow these presentations is a fundamental objective for our class. As such, everyone should read the paper to be presented in class and have a general
understanding of the key points of the paper. I will be discussing important methodological and fundamental aspects of the paper and asking questions BEFORE the presentations, the performance answering these will reflect on the presentation score that you receive.

**Evaluation and assignments:** Every student will evaluate the presenter following each presentation. There will also be short in-class assignment based on the paper and/or in class discussions. These will be graded as satisfactory or unsatisfactory and will make up 20% of final grade.

Every presenter will prepare three questions to start in-class discussion after the presentation. The presenter will be graded on the quality of these questions as well as the ability to address them. The peers will be graded based on the ability to answer the questions.

**Midterms:** One exam in mid-semester and one exam in the last day of class will be given. There will be a take-home section for the second exam that will be collecting the day of the in-class portion.

**Academic Integrity:**
Please see the sections below for the academic integrity policies at UB.
http://undergrad-catalog.buffalo.edu/policies/course/integrity.shtml
http://academicintegrity.buffalo.edu/integrity/violations.php
http://academicintegrity.buffalo.edu/faq/

The final course grade (A – F, including +/-) will be determined based on the total points accumulated. Students missing a midterm or a presentation, without a valid excuse, will receive a grade of "0" for the midterm or presentation. There will be no makeup at anytime for unexcused absences (see above for details). Students may receive an excused absence by providing a valid, written excuse within 48 h of the exam/presentation.