BIOL 4590 A: Research Project Lab
Course Syllabus

Instructor: Prof. Jeffrey Skolnick   *TA: Yusuf Uddin*
250 14th Street, NW, room 138   *yusuf.uddin@gatech.edu*
skolnick@gatech.edu

Course summary: Presentation of the drug discovery process with emphasis on emerging systems biology and personalized medicine.

BIOL 4590B is a 3-credit course that meets on Tuesdays and Thursdays with lectures/discussions from 12:05 -12:55 PM followed Lab from 1:05 - 3:55 PM on Tuesdays and a Lab from 12:05 - 2:55 PM on Thursday. Both Lecture and Lab will be held in GCATT room 120.

Required text: Supplied reading list – 24 peer reviewed journal articles.

Office hours: By appointment. Please email or consult with the instructor during class to set up a meeting.

Evaluation:

Mini oral presentation of selected drug target	**25%**
Major oral presentation of Results	**30%**
Research Paper	**45%**

Mini Oral Presentation: Will consist of 25% of your grade. The presentation will consist of a PowerPoint presentation of what disease you are targeting and which molecular target you have selected. You are expected to prepare a 10 minute presentation with 5-minutes for questions. The presentation will be timed and you will be held to the 10-minute time limit. The order of presentation will be assigned at random. Both the instructor and the TA will evaluate your performance using the Oral Presentation Rubric. Your grade will be the average of the two evaluations.

Major Oral Presentation of the Results: Will consist of 30% of your grade. In this presentation, you will present the results from your computational analysis of the predicted structure of your target protein, results from your representative small molecule library ligand screening and a justification of the top 5 molecules you have selected to move to animal screening. You are expected to prepare a 20-minute presentation with 10-minutes for questions. The presentation will be timed and you will be held to the 20-minute time limit. The order of presentation will be assigned at random. Both the instructor and the TA will evaluate your performance using the Oral Presentation Rubric. Your grade will be the average of the two evaluations.

Research Paper: Will consist of 45% of your grade. You are expected to write up your results in a 5-page paper using the format of the Journal of Chemical Information and Modeling: http://pubs.acs.org/page/jcisd8/submission/authors.html You should describe the protein target selected, the relationship of this target to the disease you wish to treat, describe your modeling procedure, virtual screening results and results from a literature analysis that justisfies which 5 ligand you believe would be most likely to bind experimentally. Your conclusion should describe what you have done, what are the limitations and what you would do next.

Please see www.honor.gatech.edu for Georgia Tech's Academic Honor Code, which you are required to uphold.