This course is an introduction to “real research” in various fields related to GBCB. These will include structural bioinformatics, evolution, systems biology, modeling and simulations, rational drug design, protein folding, and other. Using concrete examples, we will discuss common strategies such as “divide and conquer”, the reductionist approach, selection of the minimal model, etc. Each of you will have an opportunity to test what you have learned in a small, but realistic research project that you will choose from a fairly large set of options to suit everyone’s taste.

Through lectures, faculty and student presentations, and work on the projects you will acquire the basic skills needed for computer-aided research in life sciences – an area which has recently been enjoying expanding job market in both academia and industry.

The course is inherently interdisciplinary, and so students of all backgrounds are welcome. Undergraduates (seniors) are also welcome (upon instructors’ approval). The class will be divided into groups of 2 to 4 students, each assigned one project. Team work is key, and you can always choose to work on a part where your skills will be put to good use. No formal prerequisites are set, but a desire to get exposure to basic computational methods and web-based tools is helpful. Feel free to e-mail us if you have any questions.