BINF 734 - Advanced Programming for Bioinformatics

Time: Thursday 4:30
Place: Prince William Campus – probably room 252 Bull Run Hall.

Students in this course will be introduced to the Python scripting language and will build scripts to perform tasks common in bioinformatics. Some of the tasks will be to replicate recently published papers. By the end of the course the students will feel comfortable with converting a written document into a workable program that will test the written hypotheses.

Prerequisites. This course does not require previous programming experience (although it will help).

Topics:

1. Python for Beginners.
2. Numerical and Image Processing
3. Reading Genbank files
4. Sequence Alignment
5. Genetic Algorithms
6. Hidden Markov Models
7. Self-Organizing Maps
8. Text Mining
9. Connecting to Databases
10. Topics of interest to the students.