

## BMB 627 – Spring 2016

**Mon/Wed 10:30-12:00**  
**1001 Stellar-Chance Building**

### **Instructors**

Greg Van Duyne, [vanduyne@mail.med.upenn.edu](mailto:vanduyne@mail.med.upenn.edu)

Kim Sharp, [sharpk@mail.med.upenn.edu](mailto:sharpk@mail.med.upenn.edu)

### **Teaching Assistant**

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### **Recommended beginning texts (many others as well):**

“Python for Beginners”, Alex Bowers, Learn to Program Inc., 2013, (\$17 amazon.com);

“Learning Python 5th Ed.”, M. Lutz, O’Reilly, 2013 (\$39 amazon.com)

"Think Python" by Allen Dewney (free pdf on Penn Box)

**Required equipment:** Laptop computer [Windows, Mac, Linux systems ok].

*Bring your laptop to every class.*

### **Software that you will need to install on your laptop (all of which is free):**

- python (version 3.5.x) – this is the python system, along with its associated packages
- SciPy – for numerical computing with python
- pymol – a molecular graphics program with a python interface

**Course-related materials:** [upenn.app.box.com](http://upenn.app.box.com)

You should download class notes and example programs prior to the start of each class. Store the example programs in a BMB627 folder that you can easily access.

### **Python web site:**

Home: [www.python.org](http://www.python.org)

Documentation: [docs.python.org/3](http://docs.python.org/3)

Beginner guides: [www.python.org/about/gettingstarted](http://www.python.org/about/gettingstarted)

SciPy: [www.scipy.org](http://www.scipy.org)

### **Goals of this course:**

- Learn basic concepts in writing computer programs using python
- Learn how to make use of existing packages and libraries to solve complex problems
- Examples and problems will be based largely in biochemistry and biophysics; examples will include manipulating the molecular graphics program pymol

*This course is primarily for people who have little or no programming experience !*

**Grading:** based on programming assignments (~1 per week) and a final project.