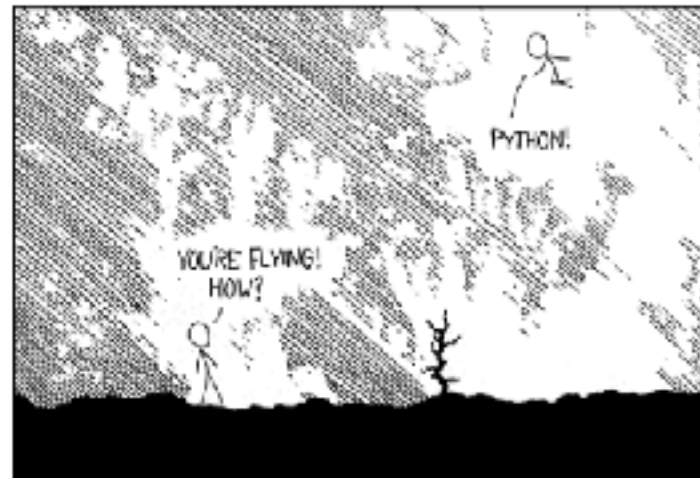


Practical computing for ecologists and evolutionary biologists

EEB 177 and EEB 234

Preliminaries



EEB 234

Practical Computing for Biologists

Tuesday Thursday, 9:30-10:45 AM,

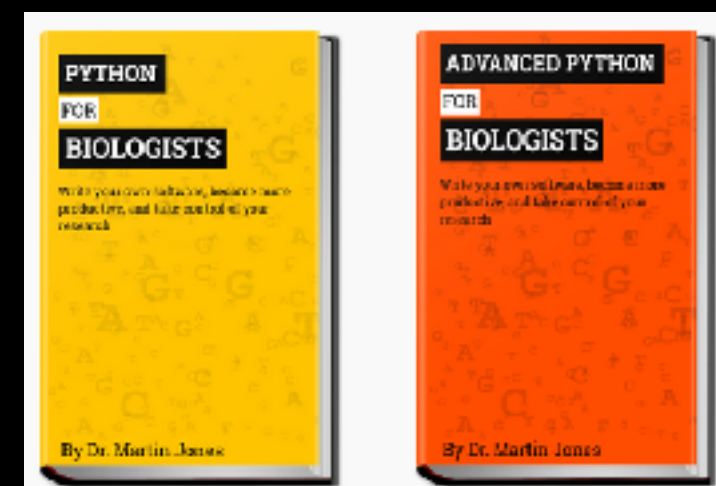
Botany 325

Computer Lab Wednesdays 1-3 and 3-5; WGYoung 4067



2 texts

- Introduction to Scientific Computing for Biologists (course notes)
- Python for Biologists



Grades

Grades

1. Participation 10%
2. Homework 10%
3. Lab assignments 30%
4. Final Project 50%

Final Projects

- Project idea submitted to CCLE by Friday Week 4: Feb 3rd (1%).
- Git repository link with ReadMe and pseudocode for project due Friday Week 5: Feb 10th (4%).
- Commit with 1 working function due Friday, Week 6: Feb 17 (5%).
- Commit with data I/O and 2+ functions due Friday, Week 7: Feb 24 (5%).
- Latex or Markdown draft with outline of project, documented code, due Friday, Week 8: March 10th (5%).
- Latex or Markdown draft with expanded outline of project, expanded code, 1 or more integrated figures, and minimum 3 references due Friday, Week 9: March 10th (5%).
- Grad Student Lightning Presentation (details to follow) will be given the week of March 3rd (Week 9) 25%
- Completed Projects (reports, working code, everything) will be accepted the week of March 20th and must be received by Friday March 27th, 5PM (50%)

Tentative Outline

Week	Content
Week 1	<ul style="list-style-type: none">• Preliminaries, introduction to version control, Unix• Reading assignment: scb Chapters 0, 2.
Week 2	<ul style="list-style-type: none">• The Shell, Unix, Text Editors, Regular Expressions• Reading assignment: scb Chapters 1, 5.
Week 3	<ul style="list-style-type: none">• Python Programming I• Reading assignment: scb Chapters 3;
Week 4	<ul style="list-style-type: none">• Python Programming II• Reading assignment: scb Chapter 4;
Week 5	<ul style="list-style-type: none">• Scientific Typesetting (Latex and Markdown)• Reading assignment: scb Chapter 7
Week 6	<ul style="list-style-type: none">• Python Programming III:• Reading assignment: scb Chapter 6
Week 7	<ul style="list-style-type: none">• Web Scraping and Scripting:• Reading assignment: TBA
Week 8	<ul style="list-style-type: none">• Statistical computing in R;• Reading assignment: scb Chapter 8
Week 9	<ul style="list-style-type: none">• Data visualization in R• Reading assignment: scb Chapter 9.
Week 10	<ul style="list-style-type: none">• Project Presentations• Reading assignment: TBA

Participation Exercise #1

- find someone you don't know and introduce yourself
- ask them why led them to take this class, what their previous programming experience is, and what topic or skill they would be most interested in covering
- write your name and these answers on a notecard or piece of paper

Working environment

- We will teach the course using a virtual environment
- You may choose to use another linux environment if you are comfortable troubleshooting

setting up your virtual box

- download link: <https://ucla.box.com/s/p3y2xqqzujyciplvm23h6mkpup4zwjaz>.
- setup instructions <http://gauravsk.github.io/eeb177-W17/2017/01/02/setup-virtual-box.html>.

Step 8: get scb materials

go here: <https://github.com/StefanoAllesina/CSB>

Clone the repository. If you have installed git, you can clone the repository by opening a terminal (in Linux Ubuntu press CTRL+ALT+T; in OSX find the Terminal Application in Spotlight; if you are using Windows, first install Git (instructions are here), then open the Git Bash application), then change directory to your home, and clone the repository:

```
cd ~
```

```
git clone https://github.com/StefanoAllesina/CSB.git
```

Step 8: Installing other packages

- use `sudo apt-get install package-name`
- `sudo apt-get install xserver-xorg-core`

Homework

- Read scb Chapter 0, 2;
- Read this git overview: <https://www.sbf5.com/~cduan/technical/git/>