

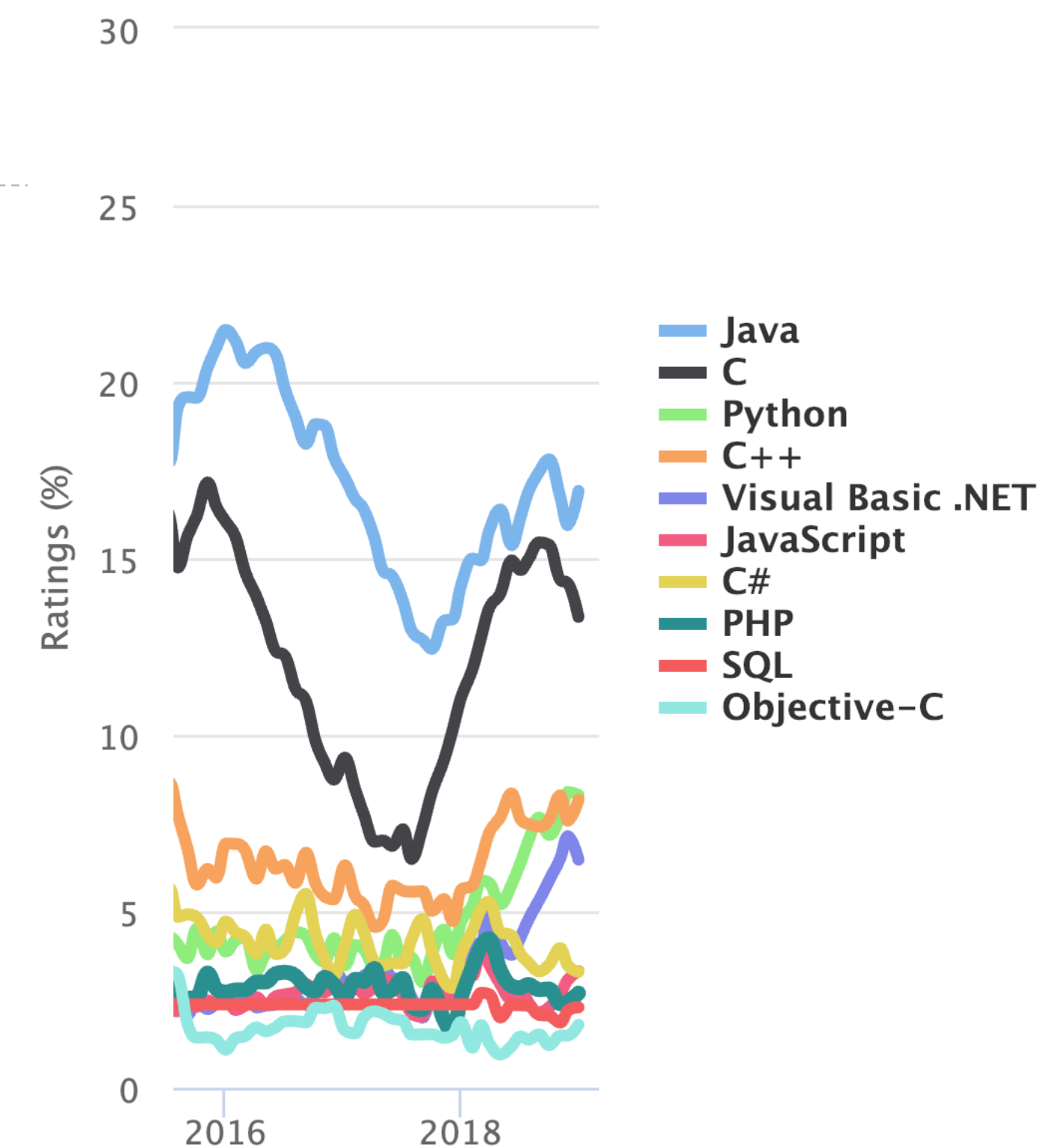
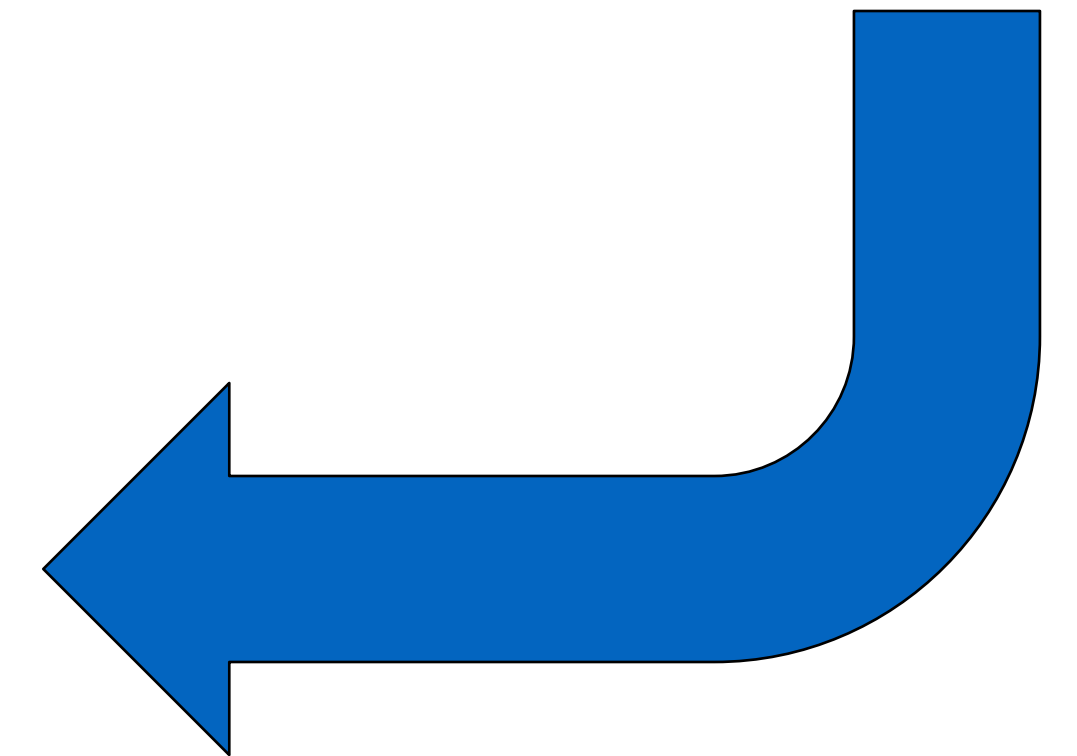
Emzini weCode – CS 7 Lecture 1 – Course Overview

Python is TIOBE's programming language of the year 2021!

www.tiobe.com/tiobe-index

“The Python programming language has won the title "programming language of the year"! Python has received this title because it has gained most ranking points in 2018 if compared to all other languages. The Python language has won 13.58%, followed by C, Java and C++. Python has now definitely become part of the big programming languages. For almost 20 years, C, C++ and Java are consistently in the top 3, far ahead of the rest of the pack. Python is joining these 3 languages now. **It is the most frequently taught first language at universities nowadays**, it is number one in the statistical domain, number one in AI programming, number one in scripting and number one in writing system tests. Besides this, Python is also leading in web programming and scientific computing (just to name some other domains).” **In summary, Python is everywhere.**

Computing in the news



Welcome to CS 7!

Eric Khumalo

emziniwecode@gmail.com

Office hours on Piazza:

Time to be announced
...or by appointment

Eric is a Data Scientist and Privacy Engineer at Good Research. He has previously worked at Twitter building tools to eradicate anti-spam on the platform. Before starting his undergraduate studies, Eric served as an intern at the American Embassy's American Corner in Bulawayo, Zimbabwe. He also taught at 4 high schools in Matebeleland, Zimbabwe including Tsholotsho and Nketa High School. He's currently the Founder and Head Instructor at Emzini weCode, an initiative focused on democratizing access to computer science education in Sub Saharan Africa. Eric holds a BA in Data Science from the University of California, Berkeley where he was a MasterCard Foundation Scholar.

Fastest way to get answers: Use Piazza



The CS 7 Community

25+ teaching assistants (TAs)

- Teach lab & discussion sections
- Hold drop-in office hours
- Lots of other stuff: grade exams, homework parties, mastery sections, etc.

170+ fellow students make CS 7 unique



Parts of the Course

Lecture: Each pre-recorded lecture for the week, except for the first week, will be produced and put online on Sunday – You can watch them on Monday, Wednesday and Friday respectively! Do not fall behind.

Lab and Discussion section: The most important part of this course (next week)

Staff office hours: The most important part of this course (*next week*)

Online textbook: <http://composingprograms.com>

six homework assignments, two exams, & three programming projects

Lots of optional special events to help you complete all this work

Everything is posted to emziniwecode.com/cs7



An Introduction to Computer Science

Acknowledgements: This course is an adaptation of the CS61A course offered at University of California, Berkeley. Credits to John Denero and the CS61A team.

Strategic Partners



CS7 TAs

DataCurious

piazza



What is Computer Science?

The study of
What problems can be solved using computation,
How to solve those problems, and
What techniques lead to effective solutions

Creativity!

Systems

Artificial Intelligence

Decision Making

Graphics

Robotics

Security

Natural Language Processing

Answering Questions

Networking

...

Translation

Programming Languages

Theory

...

Scientific Computing

...



What is This Course About?

A course about managing complexity

Mastering abstraction

Programming paradigms

An introduction to programming

Full understanding of Python fundamentals

Combining multiple ideas in large projects

How computers interpret programming languages

Different types of languages: Python, SQL and others

A challenging course that will demand a lot of you



Course Policies

Uncool

- You don't know that? Sheesh! (rolls eyes)
- Elitism
- "Me first" attitude
- Making students feel unwelcome

Learning

Community

Course Staff

Details...

emziniwecode.com/about.html

Cool

- You having trouble? Here, let me help!
- Supporting each other
- "We together" attitude
- Making students feel welcome. We are a CS 7 family!



Collaboration

Asking questions is highly encouraged

- Discuss everything with each other; learn from your fellow students!
- The projects can be completed with a partner
- Choose a partner from you are more comfortable working with.

The limits of collaboration

- One simple rule: Don't share your code, except with your project partner
- Copying project solutions causes people to fail the course
- We really do catch people who violate the rules, because...
 - We also know how to search the web for solutions
 - We use computers to check your work

Build good habits now



Innovations for this year's class

Computing in the News

- We'll bring relevant social implications of computing topics into the course!

Three slip days for projects (not for homework, which are graded on effort)

- You have three slip day “virtual tokens” used to give you more time for projects. Use them all at once to extend a deadline by 3 days, or meter them out per project

We will provide you with EPA = Effort, Participation, Altruism extra credit (confidential)

- Effort = {Office hours, doing every single lab, hw, reading Piazza pages, etc.}
- Participation = {Participating in class events, asking Piazza questions, etc.}
- Altruism = {Helping other students in lab, answering Piazza or Office Hours questions}
- This can help boost you over a grade boundary if you're close to one

You will be able to clobber your midterms with a better performance on your final

- If your % of points on your final is higher than your midterm, we map that % to your midterm and that's your new midterm! E.g., Final 25/40, Midterm 10/40. New midterm:25/40



Announcements

- Lab0 is out
- Lab next week
- Help each other
- Ask question on piazza, the earlier you master it the better