

Course Design & Wrap-up

Why Did You Get What You Got?

There are many topics we could have covered in CIS 1100, and we change some of the topics out over time.

There are a lot of types of students

- People starting a CIS major/minor before they start more advanced courses
- People who are in related fields (Cognitive Science, ESE, etc.)
- Students who are curious and want to know more about data science/AI/etc.
- Students who just need a requirement satisfied
- etc.

Overarching Course Goal: Better Problem Solvers

A large part of this course is learning to solve problems using computers.

You have:

- broken down problems into smaller steps
- seen how we can abstract data/problems into various representations
- Learned how to write programs!

Overarching Course Goal: Better Problem Solvers

These skills are useful in all contexts, not just "computer science" or "software engineering"

- Abstract away details for communication or problem solving.
- Parsing data in excel or other spreadsheets
- Writing/interacting with simulations for research
- Automating simple tasks (e.g. regular email reminders, organizing files on your computer)

Overarching Course Goal: Better Digital Citizens

Computers are in most aspects of daily life. Even if you never program again, you will work with computers in some shape or form.

We want to make you all better informed about how computers work, to be better informed digital citizens.

- How do big software companies shape the media you consume?
- How are solutions to planning and logistics problems created?
- How can you verify claims that are made to you by authority figures?

Why Java?

One of the most popular intro languages!

- In spite of the fact that it's probably not what you'd use for your own first independent projects
- Static type system forces you to think about problems in a structured way
- Introduces Object Oriented Programming, which is one of the programming paradigms of all time
- 1200 and 1210 use it.

Core Topics

There are some core topics that show up in almost every programming language:

- Variables, Types, Strings
- Conditionals
- Loops
- Functions
- Objects & References
- Data Structures
 - Nodes & Sequences thereof, Lists

If you do any programming outside of this course, you will use some (if not all) of these.

"My Friend Took This Class in Python. Are They Cooked for 1200?"

No. You'll be a bit better off for the Java portion of CIS 1200, but they will be a bit better off for the OCaml portion.

- More List Practice
- Functional Programming & Higher Order Functions
- Comprehensions

Other Topics: Good For Software Engineering

- Testing
 - Useful for debugging & practice with problem solving
- Understanding file formats & information representation

Other Topics: Good For Algorithmic Thinking

- Searching & Sorting
 - Introduction to thinking about algorithms & code efficiency
 - "If there are multiple solutions, can I think about which one is better?"

What's Next?

This is likely not the end of your computing journey. Even if you don't take another computer course, you will still interact with computers.

There are a lot of ways to be involved with "computing", we aren't all the same and there is a lot of variety to computing

- Web Development
- Computer Systems & Hardware Engineering
- Artificial Intelligence
- Algorithms & Theory of Computation
- Networks
- Security

And...

- Human Computer Interaction
- Information Scientists
- Bio-informatics
- Cognitive Science
- Network Administrators
- Social Dynamics/Systems
- Digital Media Artists
- CS Education
- Researchers generally
- ...

Other projects...

Web Scraping

Writing a program to automatically visit & obtain information from websites.

- NETS 1500 has you do this (in Java!)

Modding



Other Stuff?

Working with data: visualizations, analysis, building models

- ...probably just learn Python

Building a website or web app

- ...probably just learn Javascript

BUT! It's so much easier to learn those now.

Other Courses You Can Take

- CIS 1200 (Prog. Lang. and Techniques)
- CIS 1600 (Math. Foundations of CS)
- NETS 1500 (Market and Social Systems on the Internet)
- [Digital Humanities Courses](#)
- CIS 3990 Introduction to Artificial Intelligence
 - 3990 is the course number as it is the first offering of the course
 - only pre-req is CIS 1100

Possible Majors / Minors

- CIS Major or Minor
- Artificial Intelligence Major
- CMPE (Computer Engineering) Major
- Digital Media & Design Major or Minor
- Cognitive Science Major
- Digital Humanities Minor
- Data Science and Analytics Minor
- Communications Major with a Data & Network Science concentration

Ask Us Anything!!!

Office Hours in a minute, please feel free to ask us about anything!