CS 1301 - Intro to Computing

Course Syllabus

- **Unit 1: Computing**
  In this unit, we'll cover the basics of computing: what it means to write computer code, how to read computer code, and what it means to run and debug code.

- **Unit 2: Procedural Programming**
  In this unit, we'll cover the basic paradigm of programming, procedural programming. In procedural programming, series of commands are executed in order. Here, we'll discuss variables, logical operators, and mathematical operators.

- **Unit 3: Control Structures**
  In this unit, we'll cover control structures, which are lines of code that control when other lines of code run. We'll cover conditionals, loops, functions, and error handling.

- **Unit 4: Data Structures**
  In this unit, we'll cover how data is structure to be operated upon by a computer. Specifically, we'll focus on structures that bring together multiple different pieces of data, like strings, lists, dictionaries, and file input and output.

- **Unit 5: Advanced Topics**
  In this unit, we'll preview the next topics in computing: object-oriented programming and computer algorithms.

About this course

In this computer science course, you will learn about foundational computing principles, such as how to write and read computer code and how to run and debug code.

You will learn about programming concepts in Python and how they demonstrate computing principles and domain applications that use programming concepts and computing principles in real applications.

The course will also cover:

- Procedural programming
- Control structures
- Data structures
- Advanced topics in algorithms and object-oriented programming

This course builds on a custom textbook written for the class and online course delivery and provides ample interaction and formative evaluation. The course teaches both the theory and implementation of core computing concepts in a highly interactive, multi-modal manner.

What you'll learn

- General principles of programming: procedural programming, control structures, and data structures
- Programming in Python, including variables, operators, loops, conditionals, functions, error handling, and advanced data structures
- Applications of programming to computer graphics and human-computer interaction

Meet the instructor

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David is an adjunct lecturer at the College of Computing at Georgia Institute of Technology. He received his BS in CS, his MS in Human-Computer Interaction, and his PhD in Human Centered Computing all from Georgia Tech.