

Introduction to Computer Science II

Spring 2014
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Computer Science Coordinate Major

Required courses:

- CMPS 1500 Introduction to Computer Science I
- CMPS 1600 Introduction to Computer Science II
- CMPS/MATH 2170 Discrete Mathematics
- CMPS 2300 Introduction to Computer Systems
- CMPS 2200 Introduction to Algorithms

- Three CMPS electives at 3000-level or above.
Choice of electives needs to be approved by CS faculty.
Meet with CS faculty in spring of sophomore year to plan electives.
- CMPS 4010, CMPS 4020: Capstone project (2 semesters)

More information at:

<http://tulane.edu/sse/cs/academics/undergraduate/coordinate-major.cfm>

What You Should Know Already

What is a Computer System and how is it organized?

von Neumann architecture; transistors, gates and logic; modern CPUs; embedded systems; networked systems

How are computational tasks performed on modern computer systems?

machine instructions and operating systems; Python programming; elementary data structures

What is the best way (if any) to use computation to solve a given problem?

iterative and recursive algorithms, worst-case running time; profiling and timing in Python; limits of computability

This Course

- Imperative languages: (Python), Java, C, C++, etc.
- Functional languages: Scheme
- Compilers and interpreters
- Abstract data types and data structures; object-oriented programming
- Program correctness: invariants and induction
- Big-Oh notation, algorithm analysis

Lab Lectures Tomorrow: Java

- There will be lectures in the lab periods tomorrow
 - Bring your laptops to the lab tomorrow
 - Before the lab (tonight?), install the following software:
 - Eclipse Standard 4.3:
<http://www.eclipse.org/downloads/index.php>
Download "Eclipse Standard 4.3" for your operating system (You may need to install java to run Eclipse. Any recent java version will do.)
- ⇒ This should be all you need to run and compile java code.