CS1803 – Where it Fits

College of Computing
Georgia Institute of Technology has six Colleges

- College of Architecture
- College of Computing
- College of Engineering
- Ivan Alan College of Liberal Arts
- College of Management
- College of Sciences
College of Computing – That's us!

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  - College of Architecture
  - **College of Computing**
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GaTech Computer Science Requirement

• All students at Georgia Tech must complete courses in math, science, humanities, social science, computing, and health & performance science.
• CS 1371 is one of three classes that fulfills the computing requirement.
• The three classes that fulfill the computing requirement are:
  • CS 1301 — Introduction to Computing (robots)
  • CS 1315 — Media Computation
  • CS 1371 — Introduction to Computing (matlab)
Georgia Tech CS 1 Options:

- **CS 1301 – Introduction to Computing**
  - Taught in Python with robots.
- **CS 1315 – Media Computation**
  - Taught in Python, students manipulate media (images/sounds).
- **CS 1371 – Introduction to Computing**
  - Taught in MATLAB.
  - Taken by all School of Engineering students.
What comes after CS 1301 / 1315 / 1371?

• After completing CS 1, computer science majors typically complete:
  • CS 1331 – Introduction to Object Oriented Programming
  • CS 1332 – Data Structures
CS 1803 – Practical Programming Skills

• 1803 teaches Python programming and data manipulation for industrial and scientific programming.
• It focuses on data manipulation more than 1331.
• 1803 gives more programming practice, and less theory.
• Will be officially re-numbered to 2316 in Fall 2011.
CS 1331

- CS 1331-Introduction to OOP
  - Taught in Java
  - Introduces Object Oriented Programming
  - Reinforces skills learned in CS1301
- CS 1331 is required by all 8 possible threads in the CS major
- Also a prerequisite for the CS minor.
CS1332

- CS 1332 – Data Structures
  - Taught in Java
  - Teaches data representation and manipulation (advanced data structures).
- CS1332 is required by all but the People thread.
Minor in Computer Science

- CS 1331 (Prerequisite)
- 18 semester hours of computer science coursework, 12 of which must be 3000 level or higher.
  - Usually includes 1332, can include 1803.
- At least 2 courses must be in the same thread to develop a depth in that thread.
The College of Computing is currently divided into three schools:

- School of Computer Science
- School of Interactive Computing
- School of Computational Science and Engineering
Undergraduate degrees such as the Bachelors of Science (BS) are “owned” by the College of Computing in general, and are not controlled by a School.

Undergraduate classes are taught by professors from all three schools.

To receive a bachelors degree in Computer Science, students must complete two “Threads”.
A thread is a coordinated path through multiple courses so that the end result for the student is expertise in the area of the thread.

Threads contain both CS courses as well as courses from outside Computer Science.

A BS in Computer Science at Georgia Tech is defined as completing any two threads.
• **Modeling & Simulation**: Computing for representing the world, as in computational sciences. Examples include weather simulations, protein folding, crash simulations, epidemic modeling, etc.

• **Devices**: Computing meets the physical world, in such areas as robotics and real-time embedded systems such as cell phones.
List of Threads (2/4)

- **Theory**: Fundamentals of computing, such as computer science theory. Examples include Algorithmic complexity, Automata Theory, Computability.

- **Information Internetworking**: Computing for storing, recalling, and communicating information. Includes aspects of databases, searching, and networking.
List of Threads (3/4)

- **Intelligence**: Computing as cognition, its representation and processes. Artificial Intelligence, Machine Learning are examples.

- **Media**: Computing for processing, creating, and presenting multimedia. Video compression, special effects, and image enhancement are examples.
List of Threads (4/4)

• **People:** Computing meets people, including the design of human-centered systems. Examples include user interface design, recommender systems, social networks.

• **Platforms:** Computing across different kinds of hardware, with different characteristics and infrastructures. Computer architecture, operating systems, and programming languages.
Threads related to CS 1803

- CS 1803 is most like the **Information Internetworking** thread.
- This class is a small sample of that thread.