Stanford University
Computer Science Department
Undergrad Program

Data gleaned from http://www.cs.stanford.edu

Faculty

50 tenured/tenure-track faculty total.

10 junior faculty.

7 non-tenure-track lecturers.

3 Turing award winners:

- McCarthy (1971)
- Knuth (1974)
- Feigenbaum (1994)

Research Areas

Algorithms
Artificial Intelligence
BioComputation
Database & Information Systems
Distributed Systems/Ubiquitous Computing
Geometric Computation
Graphics
Hardware/Architecture
Human Computer Interaction
Internet Systems & Infrastructure
Knowledge Representation & Reasoning
Machine Learning
Math Theory of Computation
Natural Language & Speech
Networks
Probabilistic Methods & Game Theoretic Methods
Programming Languages & Compilers
Robotics, Vision & Physical Modeling
Scientific Computing
Security and Privacy
Software/Operating Systems
Systems Reliability/Dependability

Students

164 PhD students.

203 Master's students.

93 undergraduate majors (??).

Undergraduate Curriculum

Math (4 to 7 courses)

Science (3 courses)

Technology in Society (1 course)

Engineering Fundamentals (3 courses)

Programming (2 courses)

Theory (2 courses)

Systems (3 courses)

Applications (2 courses)

Senior project, 2 to 3 more electives.

Math, Science, Engineering

Calculus (2 courses or AP credit)
Probability
Discrete Math (CS 103A and 103B, or 103X)
2 math electives

Mechanics
Electricity and Magnetism
1 science elective

Introductory electronics
1 engineering elective

Discrete math taught by lecturers (not tenure-track).

Programming

CS 106A and 106B, or 106X:

basic OO programming in Java, C++.

basic data structures.

CS 107: C, C++, Concurrency, LISP.

CS 108:

advanced OO, GUI, team programming, in Java.

All taught by lecturers.

Theory

CS 154: standard formal language theory.

(CS 154N covers NP-completeness.)

CS 161: Algorithms:

- basics of analysis
- sorting, search structures
- dynamic programming
- amortized analysis
- graph algorithms, network flow

Systems, Applications

EE108b: computer architecture
2 courses from OS, Compilers, PL, Networks

CS121 or 221: Artificial Intelligence
1 from Graphics, Robotics, Vision, HCI, or Databases

Highlight: Video Game Competition

Part of CS248, Introduction to Graphics.

Judged by industry experts.

1st prize is trip to Siggraph.

Last year's winners:

Lego Blaster: Champions of Plastic

Revenge of the Bunnies

Required Courses

Math
  * Calculus (2 courses)
  * Theory of probability
  * Discrete Structures
  * Two electives

Science
  * Mechanics
  * Electricity and Magnetism
  * One elective

Technology in Society

Engineering Fundamentals
  * Introductory Electronics
  * Programming Abstractions
  * One elective

Programming
  * Programming Paradigms
  * Object-Oriented Systems Design

Theory
  * Automata and Complexity Theory
  * Design and Analysis of Algorithms

Systems
  * Computer Organization
  * Two of OS, Compilers, PL, Networks

Applications
  * Introduction to AI
  * One of Databases, HCI, Graphics, Robotics, Vision

Senior project

2 or 3 electives