Department of Computer Science

Course Catalog - Fall 2025

Department Overview:

The Department of Computer Science emphasizes foundational theory, software engineering, and applied machine learning. Students gain hands-on experience in programming, data structures, algorithms, systems, and AI through project-based courses and lab work.

Course Listings

Course Code: CS 101

Course Title: Introduction to Programming

Credits: 3

Description: Introductory programming using Python. Variables, control flow, functions, and basic
data structures. Emphasis on problem solving and debugging.

Prerequisites: None

Instructor: Dr. Ada Lovelace

Schedule: Mon/Wed/Fri 10:00 AM - 10:50 AM

Course Code: CS 140

Course Title: Computer Systems Fundamentals

Credits: 3

Description: Overview of computer organization, binary, assembly basics, memory, processes, and I/O.
Labs include simple assembly and systems experiments.

Prerequisites: None

Instructor: Prof. John von Neumann

Schedule: Tue/Thu 9:30 AM - 10:45 AM

Course Code: CS 240

Course Title: Data Structures and Algorithms

Credits: 3

Description: Design and analysis of data structures (lists, trees, graphs) and algorithms (sorting,
searching). Emphasis on complexity analysis and implementations in Java.

Prerequisites: CS 101

Instructor: Prof. Alan Turing

Schedule: Tue/Thu 1:00 PM - 2:15 PM

Course Code: CS 260

Course Title: Object-Oriented Programming

Credits: 3

Description: OOP principles, design patterns, and Java programming. Projects cover modular design,
testing, and API usage.

Prerequisites: CS 101

Instructor: Dr. Grace Hopper

Schedule: Mon/Wed 11:00 AM - 12:15 PM

Course Code: CS 310

Course Title: Operating Systems

Credits: 3

Description: Processes, threads, scheduling, synchronization, memory management, and file systems.
Includes kernel labs and simulation assignments.

Prerequisites: CS 140

Instructor: Prof. Barbara Liskov

Schedule: Tue/Thu 2:30 PM - 3:45 PM

Course Code: CS 330

Course Title: Database Systems

Credits: 3

Description: Relational models, SQL, transactions, indexing, and basic NoSQL concepts. Lab involves
building a small DB-backed web app.

Prerequisites: CS 240

Instructor: Dr. Edgar Codd

Schedule: Wed/Fri 1:00 PM - 1:50 PM

Course Code: CS 350

Course Title: Software Engineering

Credits: 3

Description: Software development lifecycle, version control, agile methodologies, testing, and team
projects delivering a full-stack application.

Prerequisites: CS 260

Instructor: Prof. Margaret Hamilton

Schedule: Mon 2:00 PM - 4:50 PM (Lab)

Course Code: CS 410

Course Title: Machine Learning

Credits: 3

Description: Supervised and unsupervised learning, model evaluation, feature engineering, and deep
learning basics. Projects use Python and popular ML libraries.

Prerequisites: CS 240

Instructor: Dr. Geoffrey Hinton

Schedule: Tue/Thu 4:00 PM - 5:15 PM

Course Code: CS 420

Course Title: Artificial Intelligence

Credits: 3

Description: Search, knowledge representation, planning, and introductory neural methods. Emphasis
on problem-solving agents and ethics in AI.

Prerequisites: CS 310

Instructor: Prof. Stuart Russell

Schedule: Wed 3:00 PM - 5:45 PM (Seminar)

Course Code: CS 480

Course Title: Capstone Project in Computer Science

Credits: 3

Description: Team-based capstone integrating knowledge across the curriculum. Students propose,
design, and implement a software system under faculty supervision.

Prerequisites: CS 350

Instructor: Capstone Faculty Team

Schedule: Fri 10:00 AM - 12:50 PM (Project Studio)