Econ 425a. Economics and Computation

**Time:** 2:30pm  
**Day / time:** M/W 2:30 - 3:45 pm  
**Course Type:** Undergraduate  
**Course term:** Fall  
**Instructor(s):** Yang Cai

A mathematically rigorous investigation of the interplay of economic theory and computer science, with an emphasis on the relationship of incentive-compatibility and algorithmic efficiency. Our main focus is on algorithmic tools in mechanism design, algorithms and complexity theory for learning and computing Nash and market equilibria, and the price of anarchy. Case studies in Web search auctions, wireless spectrum auctions, matching markets, and network routing, and social networks.

Prerequisite: CPSC 365 or permission of the instructor. Familiarity with basic microeconomic theory is helpful but not required.

[Also CPSC455]

**Semester offered:** Fall  
**Undergrad Course Category:** Macroeconomics  
Methodology  
**Course Description:** Course Description

**Source URL:** [https://economics.yale.edu/undergraduate/courses/econ-425a-economics-and-computation](https://economics.yale.edu/undergraduate/courses/econ-425a-economics-and-computation)