

## Information Sheet

Thursday, September 14

Sean Hallgren

**Course Summary:** Formal models of computation: Finite Automata and Turing Machines. Universality Theorem and the Church-Turing Thesis. Computability Theory (“What can or cannot be computed?”) and Complexity Theory (“How efficient can a certain computation be?”). NP-completeness and PSPACE-completeness.

**Lectures:** TTh 3:00-4:20, 302 CS Building

**Precepts:** Weekly, Tue 7:00-8:00 pm, 102 CS Building

**Instructor:** Prof. Sean Hallgren, 307 CS Building, hallgren at cs

**Undergraduate Coordinator:** Donna O’Leary, 410 CS Building, 258-1746, doleary at cs

**Teaching Assistant:** Siddhartha Brahma, 001C CS Building, 258-7418, sbragma at cs,  
Office hrs: Wed 4:30-5:30 pm or by appointment.

**Prerequisites:** COS341 or equivalent course.

**Textbook:** *Introduction to the Theory of Computation*, by Michael Sipser, 2nd Edition, PWS Publishing Co., 2005.

**Assignments:** There will be weekly assignments due in class on Thursdays.

**Exams:** There will be a take-home midterm and a take-home final exam.

**Grading:** 50% assignments, 15% midterm, 35% final.

**Honor Code for this class:** Discussions and collaborations with your **classmates** on homework assignments are OK, but you must write up your solutions on your own, and you must list your collaborators for each problem; no points will be deducted for collaboration. No collaborations are allowed on examinations.

The homework questions are selected for their pedagogical value and may be similar to questions on problem sets from past offerings of this course at Princeton (or some other universities). Using any pre-existing solutions from these sources, or using solution material from the Web is **not allowed**.