CS 353 Theory of Computation
FALL 2021

Time: TTh 11:00 – 12:30. **Unique Number:** 52890

Lectures will start virtually. Please see canvas for more details.

Professor: Anna Gál
e-mail: panni(at)cs.utexas.edu
Office hours: TBD

Teaching Assistant: TBD
TA Office hours: TBD

Prerequisites: The following coursework with a grade of at least C-: Computer Science 331 or 331H. You also need the prerequisites for CS 331, including Discrete Math (CS 311 or 311H), Probability (SDS 321 or M 362K), and Linear Algebra (SDS 329C, Math 340L, or Math 341).

Course description: This course provides a general, undergraduate level introduction to the theory of computation.

Theory of computation includes topics related to understanding what can and cannot be computed, how quickly, with how much memory. Topics covered include understanding the time and space complexity of natural computational tasks. We will cover the most important complexity classes, like P and NP, NP completeness, and the famous P vs. NP problem. There will be several other famous open problems mentioned during the course.

This course is excellent preparation for students interested in continuing to graduate school.

Textbook: We will use the book "Introduction to the theory of computation" by Michael Sipser. (Third edition)

Homework: There will be regular homework. The assignments will be paper/pencil exercises.

Exams: There will be three written tests during the course.

Grading: Homework: 35%, Test 1: 20% Test 2: 20% Test 3: 20%, Class participation 5%.