

CS268 Class Schedule, Fall Quarter '16-'17

Below are the key dates for the class (subject to revision).

Monday	Wednesday
September 26	September 28
Class Introduction and Mechanics; Geometric Duality; Line Arrangements in the Plane Reading: Basic Algorithms ... notes	Combinatorics of Arrangements; Zone Theorem; Incremental Arrangement Computation Reading: Basic Algorithms ... notes
October 03	October 05
Straight and Topological Line Sweeps Reading: Basic Algorithms ... notes	Davenport-Schinzle Sequences and Lower Envelopes; Arrangements in Higher Dimensions Reading: Basic Algorithms ... notes, Lower Envelopes notes
October 10	October 12
Voronoi and Delaunay Diagrams and their Properties Reading: Basic Algorithms ... notes Homework 1 out	The CCW and InCircle Geometric Primitives; Alpha Shapes Reading: Basic Algorithms ... notes, Ruler, Compass and Computer report
October 17	October 19
Divide & Conquer Delaunay Algorithm Reading: Basic Algorithms ... notes, Lecture Slides	Randomized Incremental Delaunay Algorithm Reading: Basic Algorithms ... notes Lecture Slides
October 24	October 26
Point Location in Planar Subdivisions; The Monotone Chains Method Reading: Point Location ... notes, Optimal Point ... paper Homework 1 due; Homework 2 out	Hierarchical Point Location; Simple Polygons and their Properties; Shortest Paths Reading: Optimal Search ... paper, Simple Polygon notes, Shortest Path notes
October 31	November 02
Randomized Incremental Vertical Decompositions; Seidel's Simple Polygon Triangulation Algorithm	Randomized Incremental Linear Programming; Minimum Spanning Circles

<p>Reading: Mount lecture notes, Lectures 9 and 10 (pp. 45-53); Seidel algorithm notes</p>	<p>Reading: de Berg et al book, Chapter 4</p>
November 07	November 09
<p>Geometric Divide and Conquer; Cuttings; Randomized and Deterministic Algorithms</p> <p>Reading: notes1, notes2</p> <p>Homework 2 due; Homework 3 out</p>	<p>Ham-Sandwich Theorems; Decimation</p> <p>Reading: Megiddo paper, Kirkpatrick-Seidel paper</p>
November 14	November 16
<p>Approximation algorithms and core sets</p> <p>Reading: DukeNotes</p>	In-class Midterm
November 21	November 23
No class: Thanksgiving Holiday	No class: Thanksgiving Holiday
November 28	November 30
<p>Geometric Range Searching I; Partition Trees</p> <p>Reading: RSnotes1, Matousek paper</p>	<p>Geometric Range Searching II; Simplicial Partitions</p> <p>Reading: RSnotes2, RSnotes3</p>
December 05	December 07
<p>Introduction to Computational Topology I</p> <p>Reading: Slides I, Topology and Data</p> <p>Homework 3 due</p>	<p>Introduction to Computational Topology II</p> <p>Reading: Slides II, Barcodes, Persistent Homology.</p>