

Department: Mathematics and Computer Sciences

Division: Computer Sciences

Level and Major: Graduate

Course Title: Computational Geometry

Number of Credits: 3

Prerequisite:

Lecturer:

Course Description:

- Polygon Partitioning
- Linear Programming
- Convex Hulls
- Voronoi Diagrams
- Arrangements
- Intersection and Search
- Visibility

Course Goals and Objectives:

Course Topics:

- Introduction to CG
- Linear programming
- Orthogonal range searching
- Point location
- Arrangements and duality
- Interval trees, Priority search trees, Segment trees
- Binary space partitions
- Quadtrees
- Well separated pair decomposition
- Simplex range searching
- Kinetic Algorithms

Reading Resources:

Evaluation: