CS 860: Computational Geometry

UVa, Fall 1997

Gabriel Robins

Purpose: to study computational geometry, with a focus on problem-solving.

the Mock Turtle said, "No wise fish would go anywhere without a porpoise."

Outline

- Foundations
- Basic geometric algorithms
- Geometric searching
- Proximity algorithms
- Intersection algorithms
- Approximation algorithms
- Selected advanced topics

"I didn't know it," the Knight said, a shade of vexation passing over his face.

Schedule: MW 5:00-6:15 p.m., Mec 214

Prerequisites: Discrete math or algorithms background would be useful.

Textbook: Preparata and Shamos, Computational Geometry, an Introduction, Springer-Verlag, 1985.

Suggested reading: Polya, How to Solve it, Princeton University Press, 1971.

Cormen, Leiserson, and Rivest, Introduction to Algorithms, McGraw-Hill.

Grading scheme:

Midterm:	40%
Final:	40%
Presentation:	20%
Extra credit:	10%

- Each student will be expected to present twice during the semester on a selected topic related to the material of this course.

- There will be some homework assignments, which will be turned in, but not necessarily graded. Solutions will be reviewed in class.

- There will often be in-class extra-credit problems: participation in these would help your grade (although non-participation would not hurt your grade).

- Extra credit will also be given to the first finder of each mistake in handouts and slides.

"It seems a shame," the Walrus said, "To play them such a trick."

- Office hours will be decided by vote.

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