

CSCI-4965/6963: Robot Motion Planning  
Lecture 11: October 4, 2001  
**Collision Detection**

## Announcements

- Assignment 3 is due on Thursday, October 11. The assignment will be available on the course web page later today.
- Our next class is on Tuesday, October 9. Usual place, usual time.

## Today's Class

Today we look at *collision detection* and *distance computation*. Collision detection algorithms are particularly useful for motion planning in high dimensional configuration spaces, where computing an explicit representation of the c-obstacle regions is difficult.

1. Collision detection
2. Two phase approach
3. Bounding volumes and hierarchical methods
4. Incremental methods

## Reading

Chapter 3.4, *Motion Strategy: Algorithms and Applications* by Steven M. LaValle. Available on the course web page.

## Next Class

Probabilistic roadmaps.