

# COMP 260

## ADVANCED ALGORITHMS

by

GREG & ANDREW

# COMP 260

~~ADVANCED~~ ALGORITHMS

SELECTED TOPICS IN

by

GREG & ANDREW

[www.cs.tufts.edu/comp/260](http://www.cs.tufts.edu/comp/260)



contact info

syllabus

NEWS

etc

# TOPICS

GRAPHS : • coloring edges & vertices

# TOPICS

- GRAPHS :
- coloring edges & vertices
  - planarity, crossing number

# TOPICS

- GRAPHS :
- coloring edges & vertices
  - planarity, crossing number
  - path approximation, spanners & detours (TBD)

# TOPICS

- GRAPHS :
- coloring edges & vertices
  - planarity, crossing number
  - path approximation, spanners & detours (TBD)
  - matching, stable marriage...

# TOPICS

- GRAPHS :
- coloring edges & vertices
  - planarity, crossing number
  - path approximation, spanners & detours (TBD)
  - matching, stable marriage...
  - network flow, all-pairs shortest paths

# TOPICS

- GRAPHS :
- coloring edges & vertices
  - planarity, crossing number
  - path approximation, spanners & detours (TBD)
  - matching, stable marriage...
  - network flow, all-pairs shortest paths

## DATA STRUCTURES

- Fibonacci heaps, splay trees, AVL

# TOPICS

- GRAPHS :
- coloring edges & vertices
  - planarity, crossing number
  - path approximation, spanners & detours (TBD)
  - matching, stable marriage...
  - network flow, all-pairs shortest paths

## DATA STRUCTURES

- Fibonacci heaps, splay trees, AVL
- Suffix trees (and/or other string searching/matching)  
KMP?

# TOPICS

## FUNDAMENTALS

- computation models

# TOPICS

## FUNDAMENTALS

- computation models
- lower bounds, completeness, reductions

# TOPICS

## FUNDAMENTALS

- computation models
- lower bounds, completeness, reductions
- approximation algorithms

# TOPICS

## FUNDAMENTALS

- computation models
- lower bounds, completeness, reductions
- approximation algorithms

## "OTHER"

- comp. geom (prune & search + ?)
- LP ?
- biocomputing ?
- ?

# TOPICS

## FUNDAMENTALS

- computation models
- lower bounds, completeness, reductions
- approximation algorithms

## "OTHER"

- comp. geom (prune & search + ?)
- LP ?
- biocomputing ?
- ?
- read papers ?

# GRADING

- 2 tests : March 6 & end of term 5% + 5%

# GRADING

- 2 tests : March 6 & end of term 5% + 5%
- homework : once in a while 10%

# GRADING

- 2 tests : March 6 & end of term 5% + 5%
- homework : once in a while 10%
- participation/discussion : either chat in class, or with us later 20%

# GRADING

- 2 tests : March 6 & end of term 5% + 5%
- homework : once in a while 10%
- participation/discussion : either chat in class, or with us later 20%
- project : web demo, implementation, research report, etc 30%

# GRADING

- 2 tests : March 6 & end of term 5% + 5%
- homework : once in a while 10%
- participation/discussion : either chat in class, or with us later 20%
- project : web demo, implementation, research report, etc 30%
- presentation : teach us something, ~20-30min 30%  
(can be substituted w/ more project)

ADMIN

No class March 27

Monday schedule on Feb. 20

