Analysis of Algorithms
91.404 (Section 201)

Topic	Reading
Foundations	**Chapters 1-5**
Introduction/Overview	Chapter 1
Analyzing & Designing Algorithms	Chapter 2
Math Quiz	*Appendices A-D*
Growth of Functions	Chapter 3
Recurrences	Chapter 4
Probability & Randomized Algorithms	Chapter 5
Sorting	**Chapters 6-8**
Heapsort/ Priority Queues	Chapter 6
Quicksort	Chapter 7
Sorting in Linear Time	Chapter 8
Review	*Chapters 1-7*
Midterm Exam	*Chapters 1-7*
Data Structures	**Chapters 10-13**
Stacks, Queues, Linked Lists, Trees	Chapter 10
Hash Tables	Chapter 11
Binary Search Trees	Chapter 12
Balancing Trees: Red-Black Trees	Chapter 13
Graph Algorithms	**Chapters 22**
Elementary Graph Algorithms	Chapter 22
Review	*1-8, 10-13, 22*
Final Exam	*1-8, 10-13, 22*

This schedule may be revised during the semester if needed.

Textbook: *Introduction to Algorithms* by T.H. Cormen, C.E. Leiserson, R.L. Rivest, MIT Press, 3rd edition, 2009. ISBN 978-0-262-03384-8.

- This course meets the Essential Learning Outcome of Critical Thinking and Problem Solving as defined under the Core Curriculum requirements. As such, it will reinforce the students' ability to identify, analyze, interpret, and evaluate arguments, data, evidence, problems, and conclusions as part of formulating an opinion or conclusion. Then use that information to design, evaluate and implement a strategy to achieve a desired outcome.
- This course meets the Essential Learning Outcome of Quantitative Literacy as defined under the Core Curriculum requirements. As such, the course will strengthen the students' competency and comfort in working with numerical data.