Daily preparation guide
Study the material listed in the preparation section prior to attending class that day. Try to formulate precise questions concerning the parts you don’t understand or the importance of the material.

Thursday, August 18
Introduction:
• Classes begin
• Review of syllabus
• Review of order notation
• Review of logarithmic identities
• Review of sorting algorithms

Tuesday, August 23
Preparation:
• Chapter 3, Growth of Functions
• Example prerequisite material questions: http://beastie.cs.ua.edu/concepts/cs/ds/

Thursday, August 25
Prerequisite material

Tuesday, August 30
Prerequisite exam

Thursday, September 1
Preparation:
• Chapter 4, Divide-and-Conquer (skip section 4.6)
• Example questions: http://beastie.cs.ua.edu/concepts/cs/al/recurrences.html

Monday, September 5
Preliminary assessment of programming assignment #1 due

Tuesday, September 6
Preparation:
• Chapter 6, Heapsort
• Chapter 7, Quicksort
• Example questions: http://beastie.cs.ua.edu/concepts/cs/ds/sorting.html

Thursday, September 8
Preparation:
• Section 8.1, Lower bounds for sorting
• Example questions: http://beastie.cs.ua.edu/concepts/cs/al/lsort.html (question 11 - 16)
Friday, September 9
Programming assignment #1 due

Tuesday, September 13
Preparation:
- Chapter 9, Medians and Order Statistics
- Example questions: http://beastie.cs.ua.edu/concepts/cs/al/lsort.html (questions 1 - 10)

Thursday, September 15
Preparation:
- Chapter 12, Binary Search Trees

Tuesday, September 20
Preparation:
- Chapter 13, Red-Black Trees
- Example questions: http://beastie.cs.ua.edu/concepts/cs/al/sbtrees.html

Thursday, September 22
Preparation:
- Problem 13-3, AVL trees
- Example questions: http://beastie.cs.ua.edu/concepts/cs/al/sbtrees.html

Tuesday, September 27
First concept exam:
- Prerequisite material
- Solving Recurrences
- Selection in linear time
- Self-balancing search trees

Thursday, September 29
Web search: memoization

Tuesday, October 4
Preparation:
- Chapter 15, Dynamic Programming
- Example questions: http://beastie.cs.ua.edu/concepts/cs/al/dynamic.html

Thursday, October 6
Preparation:
- Section 8.2, Counting Sort
- Example questions: http://beastie.cs.ua.edu/concepts/cs/al/lsort.html

Tuesday, October 11
Preparation:
- Section 8.3, Radix Sort
- Section 8.4, Bucket Sort
- Example questions: http://beastie.cs.ua.edu/concepts/cs/al/lsort.html
Thursday, October 13
Preparation:
- Chapter 17, Amortized Analysis
- Example questions: http://beastie.cs.ua.edu/concepts/cs/al/amortized.html

Tuesday, October 18
Preparation:
- Problem 19-2, Binomial Heaps
- Example questions: http://beastie.cs.ua.edu/concepts/cs/al/heaps.html

Thursday, October 20
Second content exam:
- Dynamic programming
- Linear sorting
- Binomial heaps

Tuesday, October 25
Preparation:
- Sections 19.1 — 19.3, Fibonacci Heaps
- Example questions: http://beastie.cs.ua.edu/concepts/cs/al/heaps.html

Wednesday, October 26
Preliminary assessment of programming assignment #2 due
Last day to drop a class

Thursday, October 27
Preparation:
- Sections 19.4 — 19.3, Fibonacci Heaps
- Example questions: http://beastie.cs.ua.edu/concepts/cs/al/heaps.html

Sunday, October 30
Programming assignment #2 due

Tuesday, November 1
Preparation:
- Chapter 21, Disjoint Sets

Thursday, November 3
Preparation:
- Chapter 22, Elementary Graph Algorithms
- Example questions: http://beastie.cs.ua.edu/concepts/cs/al/graphs.html

Tuesday, November 8
Preparation:
- Chapter 23, Minimum Spanning Trees
- Example questions: http://beastie.cs.ua.edu/concepts/cs/al/graphs.html
Thursday, November 10

Preparation:
- Section 24.3, *Dijkstra’s Algorithm*
- Example questions: http://beastie.cs.ua.edu/concepts/cs/al/graphs.html

Tuesday, November 15

Preparation:
- Section 34.1 — 34.3, *P and NP*
- Example questions: http://beastie.cs.ua.edu/concepts/cs/al/pnp.html

Thursday, November 17

Preparation:
- Section 34.4 — 34.5, *NPC proofs and problems*
- Example questions: http://beastie.cs.ua.edu/concepts/cs/al/pnp.html

Monday, November 21

Preliminary assessment of programming assignment #3 due

Friday, November 25

Programming assignment #3 due

Tuesday, November 29

Dead week

Thursday, December 1

Dead week, last day of class

Thursday, December 8

Final exam (cumulative), 11:30am to 2:00pm