

| MONTH     | Sunday | Monday         | Tuesday                                                             | Wednesday          | Thursday                                                   | Friday                                        | Saturday | Week |
|-----------|--------|----------------|---------------------------------------------------------------------|--------------------|------------------------------------------------------------|-----------------------------------------------|----------|------|
| AUGUST    |        | 25             | Lecture: Introduction, algorithm analysis and the selection problem |                    | Lecture: Concrete models and lower bounds                  | Recitation: Lower bounds                      |          | 1    |
|           |        |                |                                                                     |                    | Homework 1 out                                             |                                               |          |      |
| SEPTEMBER |        | 1<br>LABOR DAY | Lecture: Integer sorting                                            |                    | Lecture: Hashing, universal and perfect hashing            | Recitation: Integer sorting and hashing       |          | 2    |
|           |        |                |                                                                     | Homework 1 due     | Homework 2 out                                             |                                               |          |      |
|           |        | 8              | Lecture: Fingerprinting                                             |                    | Lecture: Range query data structures                       | Recitation: Fingerprinting and SegTrees       |          | 3    |
|           |        |                | Programming Problem 1 out                                           | Homework 2 due     | Homework 3 out                                             |                                               |          |      |
|           |        | 15             | Lecture: Amortized analysis                                         |                    | Lecture: Union-Find                                        | Recitation: Amortized Analysis and Union Find |          | 4    |
|           |        |                |                                                                     |                    | Homework 3 orals                                           |                                               |          |      |
| OCTOBER   |        | 22             | MIDTERM ONE (7:00PM)                                                |                    | Lecture: Dynamic Programming                               | Recitation: Dynamic programming               |          | 5    |
|           |        |                |                                                                     |                    | Homework 4 out                                             |                                               |          |      |
|           |        | 29             | Lecture: Dynamic Programming II                                     |                    | Lecture: Network Flows I: Flows, Cuts, and Matchings       | Recitation: Graph DP & Network flow           |          | 6    |
|           |        |                | Programming Problem 2 out                                           | Homework 4 due     | Homework 5 out                                             |                                               |          |      |
|           |        | 6              | Lecture: Network Flows II: Advanced Flow Algorithms                 |                    | Lecture: Network Flows III: Minimum-cost Flows             | Recitation: Advanced flow                     |          | 7    |
|           |        |                |                                                                     | Homework 5 due     |                                                            | Programming Problem 2 Due                     |          |      |
| NOVEMBER  |        | 13             | FALL BREAK                                                          |                    |                                                            |                                               |          |      |
|           |        | 20             | Lecture: Game Theory                                                |                    | Lecture: Linear Programming I: Fundamentals and Modeling   | Recitation: Game theory & Linear programming  |          | 8    |
|           |        |                | Programming Problem 3 out                                           |                    | Homework 6 out                                             |                                               |          |      |
|           |        | 27             | Lecture: Linear Programming II: Duality                             |                    | Lecture: Linear Programming III: Polytopes and Integrality | Recitation: More linear programming           |          | 9    |
|           |        |                |                                                                     |                    |                                                            | Programming Problem 3 Due                     |          |      |
|           |        |                |                                                                     |                    | Homework 6 orals                                           |                                               |          |      |
| DECEMBER  |        | 3              | MIDTERM TWO (7:00PM)                                                |                    | Lecture: Approximation Algorithms                          | Recitation: Approximation algorithms          |          | 10   |
|           |        |                |                                                                     |                    | Homework 7 out                                             |                                               |          |      |
|           |        | 10             | Lecture: Online Algorithms                                          |                    | Lecture: Streaming Algorithms                              | Recitation: Online and streaming algorithms   |          | 11   |
|           |        |                | Programming Problem 4 out                                           | Homework 7 due     | Homework 8 out                                             |                                               |          |      |
|           |        | 17             | Lecture: Computational Geometry I                                   |                    | Lecture: Computational Geometry II: Randomized Incremental | Recitation: Computational geometry            |          | 12   |
|           |        |                |                                                                     | Homework 8 due     | Homework 9 out                                             | Programming Problem 4 Due                     |          |      |
| DECEMBER  |        | 24             | Lecture: Splay Trees                                                | THANKSGIVING BREAK |                                                            |                                               |          | 13   |
|           |        | 1              | Lecture: Polynomials                                                |                    | Lecture: The Fast Fourier Transform & Convolutions         | Recitation: Polynomials, FFT                  |          | 14   |
|           |        |                |                                                                     |                    | Homework 9 orals                                           |                                               |          |      |
|           |        | 8              | FINAL EXAM WEEK                                                     |                    |                                                            |                                               |          | 15   |