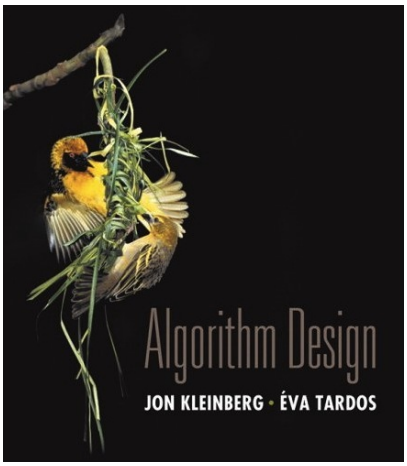

- Universal Hashing
- Chernoff Bounds
- Load Balancing
- Randomized Quicksort

# Lecture Slides for Algorithm Design

These are the offical lecture slides that accompany the textbook *Algorithm Design* [ Amazon · Pearson] by Jon Kleinberg and Éva Tardos. The slides were created by Kevin Wayne and are distributed by Pearson.

| TOPIC | SLIDES | READINGS |
|---|---|---|
| Stable Matching | 1up · 4up | 1 |
| Algorithm Analysis | 1up · 4up | 2 |
| Graphs | 1up · 4up | 3 |
| Greedy Algorithms | 1up · 4up | 4.1–4.4 |
| Minimum Spanning Trees | 1up · 4up | 4.5–4.7 |
| Huffman Codes † | 1up · 4up | 4.8 |
| Divide and Conquer | 1up · 4up | 5.1–5.4 |
| Multiplication | 1up · 4up | 5.5–5.6 |
| Dynamic Programming | 1up · 4up | 6.1–6.7 |
| Bellman-Ford | 1up · 4up | 6.8–6.10 |
| Maximum Flow and Minimum Cut | 1up · 4up | 7.1–7.3 |
| Maximum Flow Applications | 1up · 4up | 7.5–7.12 |
| Assignment Problem | 1up · 4up | 7.13 |
| Intractability | 1up · 4up | 8.1–8.2 |
| Polynomial-Time Reductions | 1up · 4up | 8.5–8.8, 8.10 |
| NP-Completeness | 1up · 4up | 8.3–8.4, 8.9 |
| PSPACE | 1up · 4up | 9 |
| Extending Limits of Tractability | 1up · 4up | 10 |
| Approximation Algorithms | 1up · 4up | 11 |
| Local Search | 1up · 4up | 12 |
| Randomized Algorithms | 1up · 4up | 13 |

† Lecture slides provided by Mathijs de Weerd.