**CME 2001 Data Structures and Algorithms**

**Instructor:**

Asst. Prof. Dr. Zerrin Işık (zerrin@cs.deu.edu.tr)

**Assistants:**

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**Textbooks:**

* Introduction to Algorithms, Third Edition, Thomas Cormen, Charles E. Leiserson, Ronald L. Rivest and Clifford Stein, The MIT Press, 2009.
* Data Structures & Algorithms in Java, Sixth Edition, Michael Goodrich, Roberto Tamassia, Michael Goldwasser, Wiley, 2015.

**Location & Hours:**

Lecture: Wednesday, 08:45 - 10:15 (D4)  / 10:30 - 12:00 (D4)

Lab:  Friday, 13:00 - 14:40 (Lab 10-11) / 14:50 - 16:30 (Lab 10-11)

**Office Hours:**Tuesday **-** Wednesday, 13:00 - 15:00

**Attendance:**  Tentative

**Grading Policy:**

25% Homeworks (Plagiarism will get directly zero points!)

25% Midterm

50% Final

**Weekly Schedule:**

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| **Week** | **Topic** |
| 1. | Introduction, Insertion Sort |
| 2. | Merge Sort, Growth Functions (Asymptotic Notation, Recurrence Solving) |
| 3. | Elementary Data Structures (Stack, Queue, Hash Table) |
| 4. | Open Address Hashing, Resolving Hashing Problems |
| 5. | Heap Sort, Quick Sort |
| 6. | Linear Sorting Algorithms |
| 7. | Binary Search Trees |
| 8. | Midterm 1 |
| 9. | Balanced (AVL) Trees |
| 10. | B-Trees |
| 11. | Graph Traversal Algorithms |
| 12. | Minimum Spanning Trees |
| 13. | Midterm 2 – No Lecture |
| 14. | Single Source Shortest Paths |