Analysis of Algorithms
CS566 C1, Spring 2016

- **Course Format**: On Campus
- **Time and Location**: Wednesday 6:00 – 9:00 PM, EPC 203

- **Instructor**: Jae Young Lee
- **Office**: Room 250, 808 Commonwealth Ave.
- **Phone**: 617-358-5165, **E-mail**: jaeylee@bu.edu
- **Office Hours**: 4:00 – 5:30 PM, Wednesday

- **Course Objectives**
  - To study basic methods for designing and analyzing algorithms
  - To study basic computer algorithms, including sorting, searching, dynamic programming, greedy algorithms, graph algorithms (shortest path, spanning trees, tree traversals), etc.

- **Prerequisites**: MET CS 248 and MET CS 341 or MET CS 342 (or instructor's consent).

- **Text**: T.H. Cormen, C.E. Leiserson, R.L. Rivest, and C. Stein, "Introduction to Algorithms," 3rd Ed., MIT Press, 2009, ISBN-13: 9780262033848.

- **Courseware**: Blackboard Learn, URL: https://learn.bu.edu

- **Grading**:
  - Midterm: 30%, Final: 40%
  - Assignment: 30%

- **Letter Grade**:
  - $90 \leq G < 94$: A- $94 \leq G$: A,
  - $80 \leq G < 83$: B- $83 \leq G < 87$: B $87 \leq G < 90$: B+
  - $70 \leq G < 73$: C- $73 \leq G < 77$: C $77 \leq G < 80$: C+
  - $60 \leq G < 70$: D
  - $G < 60$: F

- **Assignment**
  - About nine homework assignments will be assigned (the number of assignments may change according to the actual progress of the course). Some assignments will include programming.
  - Solutions will be discussed in the class when graded papers are returned.

- **Academic Integrity Policy**
  - Cheating and plagiarism will not be tolerated in any Metropolitan College course. They will result in no credit for the assignment or examination and may lead to disciplinary actions.

- Please take the time to review the Student Academic Conduct Code: http://www.bu.edu/met/metropolitan_college_people/student/resources/conduct/code.html.
- This should not be understood as a discouragement for discussing the material or your particular approach to a problem with other students in the class. On the contrary – you should share your thoughts, questions and solutions. Naturally, if you choose to work in a group, you will be expected to come up with more than one and highly original solutions rather than the same mistakes.

- **Attendance and Absence**: Attendance is not required but strongly encouraged. If a student misses a class it is his/her responsibility to catch up with the material discussed during the missed class.

- **Late Policy**
  - All assignments are due at the beginning of the class on the due date.
  - A late homework is subject to a penalty of 10% per day. An exception may be made if a student is in an unusual/urgent situation and obtains permission from the instructor before the due date.

- **Make-up Exam**
  - A make-up examination for the midterm can be arranged only when a student has an emergency (e.g., a medical emergency or an urgent family matter). Students may need to provide the instructor with an appropriate document (such as a letter from a physician).
  - There will be no make-up exam for the final exam. If a student cannot take the final exam on the designated day, she/he will receive an incomplete grade.

- **Tentative Schedule**
  - The schedule is subject to change according to the actual progress of the class. Some topics may be skipped and some topics may be added.
  - Students are strongly encouraged to read book chapters assigned for each lecture before coming to the class.

Week	Date	Lecture	Reading Assignment
1	1/20	Introduction to algorithms	Chapters 1 and 2
2	1/27	Growth of functions, Divide and conquer	Chapters 3 and 4
3	2/3	Divide and conquer, Heapsort	Chapters 4 and 6
4	2/10	Quicksort, Linear-time sorting	Chapters 7 and 8
5	2/17	Medians and order statistics, Hash tables	Chapters 9 and 11
6	2/24	Binary search trees	Chapter 12
7	3/2	**Midterm**	
8	3/9	**No class (spring break)**	
9	3/16	Dynamic programming	Chapter 15
10	3/23	Greedy algorithms	Chapter 16
11	3/30	Elementary graph algorithms	Chapter 22
12	4/6	Minimum spanning trees	Chapter 23
13	4/13	Shortest paths, Maximum flow	Chapters 24 and 26
14	4/20	**No class (substitute for Monday classes)**	
15	4/27	P and NP	Note
16		**Final Exam**	

- **Communication**
  - All official announcements will be made in the class.
  - All assignments will be posted on the class web page.
  - **Important:** The primary method of communication is through in-class announcements. So, if you miss a class you need to talk to a friend in the class or contact me to find out whether there was any important announcement.
  - **Email communication**: When it is necessary to communicate to you, I will send an email to your **BU email** account. So, you need to check your BU email regularly (e.g., once a day).