CS566 A1 Analysis of Algorithms – Spring 2019

- **Course Format**: On Campus
- **Time and Location**: Monday 6:00 – 9:00 PM, CGS 515

- **Instructor**: Scott Dyer
- **E-mail**: sldyer@bu.edu
- **Office Hours**: Arranged before or after class

- **Course Objectives**
- To study basic computer algorithms, including sorting, searching, dynamic programming, greedy algorithms, graph algorithms, algorithm design and analysis.

- **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: 30%
- Homework: 30%
- Class participation: 10%

- **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**

  Eight homework assignments will be assigned (the number of assignments may change according to the actual progress of the course). Some assignments will include programming.

- **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 required. If you have to miss a class, you need to notify the instructor in advance and it is your responsibility to catch up with all missed class material.

- **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 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.

- **Tentative Schedule**
- The schedule is subject to change according to the actual progress of the class.
- Students are strongly encouraged to read book chapters assigned for each lecture before coming to the class.

Week	Date	Lecture	Reading Assignment
1	1/28	Introduction to algorithms	Chapters 1 and 2
2	2/4	Growth of functions, divide and conquer	Chapters 3 and 4
3	2/11	Divide and conquer	Chapter 4
4	**2/19 Tuesday**	Heapsort, Quicksort	Chapters 6 and 7
5	3/4	Linear-time sorting, Medians and order statistics	Chapters 8 and 9
6	**3/11**	**Spring Recess**	
7	3/19	Hash tables	Chapter 11
8	3/26	**Midterm Exam**	
9	4/1	Binary search trees	Chapter 12
10	4/8	Dynamic programming	Chapter 15
12	4/15	Greedy algorithms	Chapter 16
13	4/22	Elementary graph algorithms	Chapter 22
14	4/29	Minimum spanning trees	Chapter 23
15	5/7	Shortest paths	Chapters 24
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. The class web page is only supplementary.
- **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).