

# Analysis of Algorithms II

Fei Li\*

- LECTURE TIME

**Thursday 7:20pm-10:00pm**

- LOCATION

**Innovation Hall 132**

- COURSE WEBPAGE

<http://cs.gmu.edu/~lifei/teaching/cs630fall17/syllabus.pdf>

- CREDIT

**3**

- TEXTBOOK

**Introduction to Algorithms** by Thomas H. Cormen, Charles E. Leiserson, Ronald L. Rivest and Clifford Stein, 2009, 3rd edition

**Algorithm Design**, by Jon Kleinberg and Eva Tardos, 2006

- PREREQUISITES

**CS583 with grade B- or above, or instructor's permission**

- OFFICE HOURS

**Monday 2:00pm-4:00pm**

- TA: INDRANIL BANERJEE

– **email:** [ibanerje@masonlive.gmu.edu](mailto:ibanerje@masonlive.gmu.edu)

– **office:** ENGR 4456

– **office hours:** Wednesday 8:00pm-9:00pm

- GRADING POLICY:

– **assignments** ( $12 \times 5 = 60\%$ )

– **a final exam** (40%)

– [95, 100] : A+; [90, 94] : A; [85, 89] : A-; [80, 84] : B+; [75, 79] : B; [70, 74] : B-; [65, 69] : C; [0, 64] : F

- SYLLABUS (to be updated over time)

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Lectures	Topics	Dates	Chapters	Reading assignments	Notes
1	introduction	08/31		Appendix A-D	assignment 1: CLRS: 1. Problem A-1, 2. Problem C-1, 3. Exercise D.2-8, 4. Problem D-1, 5. Problem D-2.
2	matrix operation	09/07	CLRS 28		assignment 1 due. assignment 2: CLRS: Exercise 28.1-3, Exercise 28.3-6, Problem 28-1
3	linear programming	09/14	CLRS 29		assignment 2 due. assignment 3: assignment 3
4	FFT	09/21	CLRS 30		assignment 3 due
5	number algorithms	09/28	CLRS 31		assignment 4: assignment 4
6	string matching	10/05	CLRS 32		assignment 4 due
7	computational geometry	10/12	CLRS 33		assignment 5: assignment 5 lectured by the TA
8	NP	10/19	CLRS 34	slides I	assignment 6: assignment 6
9	NP	10/26	KT 8	slides II slides III	
10	PSPACE	11/02	KT 9		lectured by the TA
11	NP-extensions	11/09	KT 10		
12	approximation algorithms	11/16	CLRS 35		assignment 7: assignment 7
	Thanksgiving recess	11/23			
13	approximation algorithms	11/30	KT 11	approximation algorithms	
14	local search	12/07	KT 12	local search	assignment 7 due
	final exam	12/14			

- POLICIES

Please note that all coursework is to be done independently. Plagiarizing the homework will be penalized by maximum negative credit and cheating on the exam will earn you an  $F$  in the course. See the GMU Honor Code System and Policies at George Mason University Honor Code.

You are encouraged to discuss the material BEFORE you do the assignment. As a part of the interaction you can discuss a meaning of the question or possible ways of approaching the solution. The homework should be written strictly by yourself. In case your solution is based on the important idea of someone else please acknowledge that in your solution, to avoid any accusations.

- ACADEMIC HONESTY

The integrity of the University community is affected by the individual choices made by each of us. GMU has an Honor Code with clear guidelines regarding academic integrity. Three fundamental and rather simple principles to follow at all times are that: (1) all work submitted be your own; (2) when using the work or ideas of others, including fellow students, give full credit through accurate citations; and (3) if you are uncertain about the ground rules on a particular assignment, ask for clarification. No grade is important enough to justify academic misconduct.

Plagiarism means using the exact words, opinions, or factual information from another person without giving the person credit. Writers give credit through accepted documentation styles, such as parenthetical citation, footnotes, or endnotes. Paraphrased material must also be cited, using MLA or APA format. A simple listing of books or articles is not sufficient. Plagiarism is the equivalent of intellectual robbery and cannot be tolerated in the academic setting. If you have any doubts about what constitutes plagiarism, please see me.

- **DISABILITY STATEMENT**

If you have a learning or physical difference that may affect your academic work, you will need to furnish appropriate documentation to the Disability Resource Center. If you qualify for accommodation, the DRC staff will give you a form detailing appropriate accommodations for your instructor.

In addition to providing your professors with the appropriate form, please take the initiative to discuss accommodation with them at the beginning of the semester and as needed during the term. Because of the range of learning differences, faculty members need to learn from you the most effective ways to assist you. If you have contacted the Disability Resource Center and are waiting to hear from a counselor, please tell me.