FORDHAM UNIVERSITY / GRADUATE SCHOOL OF ARTS AND SCIENCES
DEPARTMENT OF COMPUTER AND INFORMATION SCIENCES
SYLLABUS

Semester: Fall Semester, 2019
Course Number: CISC 5825
Course Title: Computer Algorithms
Faculty: Dr. A. G. Werschulz
Office: Rm 815D. Phone: (212) 636-6325
E-mail: agw@dsm.fordham.edu
WWW: http://www.dsm.fordham.edu/~agw/algs-grad
Office Hours: Wednesday: 4:00 p.m.–5:25 p.m.
Thursdays: 4:00 p.m.–5:25 p.m.
(or by appointment)
Teaching Assistant: Ming Chen
Office: Rm LL612.
E-mail: mchen177@fordham.edu
Office Hours: Monday: 3:00 p.m.–5:00 p.m.

Class Meetings: Wednesdays, 5:30 p.m.–7:45 p.m., Room LL307.
Note that we will not be having class on Wednesday, September 4, which is a “virtual Monday”.


Class Email List: algs-grad@dsm.fordham.edu

Course Outline (Topical): We hope to cover (at least portions of) the following topics. If time grows short, we will omit one or more of the topics marked with asterisks.

Prologue
Algorithms with numbers
Divide-and-conquer algorithms
Decomposition of graphs
Paths in graphs
Greedy algorithms
Dynamic programming
Linear programming (*)
NP-complete problems
Coping with NP-completeness
Quantum algorithms (*)
Information-based complexity (*)

Protocol: Examinations: The midterm exam will be given on Wednesday, October 16, at the beginning of the usual class period. The final exam will be on Wednesday, December 18, taking up the entire class period.

Homeworks: Homework will be assigned every week, and will be due at the beginning of the next class session; they will be posted on the class website. Homework assignments may involve theoretical work (such as determining the worst-case run-time of some algorithm) or programming, perhaps both. Late homework will not be accepted, barring serious illness or unavailability of the Departmental computing facilities.

Electronica: You may not use laptop computers, tablets, or mobile phones, neither during the lecture nor during the lab.
Grading:

- homework assignments 50%
- one midterm exam 25%
- one final exam 25%

Other Requirements: None.

Readings: At the minimum, we hope to cover Chapters 0–6, 8, and 9. Time permitting, we may cover other material as well.

Academic Integrity: To begin with, you should familiarize yourself with the University’s policy on Academic Integrity, which may be found at

http://www.fordham.edu/info/25380/undergraduate_academic_integrity_policy

Pay special attention to the Standards of Academic Integrity. As a corollary to same, you are not to pass off someone else’s solution to any homework exercise (including programming problems) as your own, regardless of whether you obtained it from a fellow student, an acquaintance, or from the Web. Analogously, you should take all reasonable necessary steps to prevent other people from stealing your work; in particular, when you write a program on the Departmental Linux systems at Lincoln Center, it should be located in (an appropriate subdirectory of) your private directory.

As likely as not, you will find yourself stumped by some phase of a homework problem. When this happens, you should check with me during office hours (or you should make an appointment if office hours are inconvenient). Anything that you turn in is to be your own work. If you are in doubt as to the legitimacy of your actions, ask me beforehand.

Additional Remarks:

There will be no make-up exams given after the exam date. If you know in advance that you will have to miss an exam, you must check with me (in advance) to avoid getting a zero for that exam. In case of illness on an exam date, please contact me as soon as possible, so that appropriate arrangements can be made.

As noted above, this course has a website, which you should visit for announcements, assignments, and links to useful resources.

If you believe that you have a disabling condition that may interfere with your ability to participate in the activities, coursework, or assessment of the object of this course, you may be entitled to accommodations. If so, please schedule an appointment to speak with me immediately or you may go to the Office of Disability Services (x6282). Under the Americans with Disabilities Act and Section 504 of the Vocational Rehabilitation Act of 1973, all students, with or without disabilities, are entitled to equal access to the programs and activities of Fordham University.