

# MATH 420/520-002 SYLLABUS SUPPLEMENT

Course Title: Linear Optimization Theory

Fall 2024

Instructor: Dr. Min Sun

## =Further Notes About Exams and Assignments

- a. Homework assignments. ----- 100 points max total  
10% of HW credits will be from two computer programming projects. One of them involves the two-phase simplex procedure, and the other is about the simplex algorithms for solving network problems.
- b. Midterm exam #1 covers chapters 2 and 3 (up to Sec. 3.6). ---- 100 points max total  
Oct. 2 (Wed.) & Oct. 4 (Fri.), 2:00-2:50pm.
- c. Midterm exam #2 covers Secs. 3.7-3.8 and chapter 4. ----- 100 points max total  
Nov. 18 (Mon.) & Nov. 20 (Wed.), 2:00-2:50pm.
- d. Final Exam (comprehensive) ----- 150 points max total  
Listed in UA Academic Callendar as "Mon., Dec 9, 1:30PM-3:30PM".  
No course work would be accepted after the final exam.
- Total ----- 450 points max total
- Note: The new date of each tentatively scheduled test will be announced in class at least one week in advance if a change is needed.

The tests are mainly based on lectures, textbook, and homework assignments. A limited amount of proofs would be expected for the theoretical aspect of the course. Every test may include a small portion containing multiple choice questions. All the exam scores and homework credits will be reported to you after grading. Request for review or correction of any graded course work should be made within one week after the grade is reported AND at least 48 hours before the final course grades are due. However, if there is a legitimate reason that is documented and that prevents you from reviewing your test within the time limit, the limit would be extended accordingly. Correct step-by-step work must be provided in an easily readable layout line by line in order to get full credits for homework questions and questions on tests that are not in the multiple choice format.

Casio-fx-260 school edition calculator is the only personal electronic device allowed to be visible and used during exams and quizzes. ALL other electronic devices (including ALL types of watches, cellphones, tablets, laptops) must be totally out of sight and silenced. Partial or full appearance of any other electronic device would effectively end your exam. No calculators can be shared.

Notes, books, and personal papers are not allowed during exams. However, one double-sided 3"x5" notecard is allowed.

Computer programming homework assignments. If you do not use Python, Matlab, C, or C++, an additional executable file must be submitted in order for me to possibly test your program. More specific instructions will be posted in BBL. For the other written homework assignments, everyone may be given an opportunity to redo some of graded problems for partial bonus points.

HW assignments would be divided into two major categories in terms of scores.

Basic written HW assignments: 80%

Basic computer HW assignments: 10%

Optional HW assignments: You have an option to choose more written HW assignments (more proof related problems) OR more computer HW assignments for the remaining 10%.

Make sure you completely understand the grading policy within the first two weeks of classes and know how to calculate your own grade w/o any assistance. Thus no questions about grading will be expected after the first two weeks.

### = Further Notes About Missed Exams & Coursework

Legitimate circumstances excused for missing an exam or other **coursework** include:

Any of UA approved "university business, military duty, and religious observance" (documentation from appropriate UA office is required).

Severe illness (documentation from medical provider is required).

Family emergency (documentation from appropriate source is required).

Usually no make-up exams or online exams will be provided. All grade replacements described below are in terms of percentage. If only a part of an exam is replaced, the final exam replaces the missing part. A grade resulting from an academic misconduct finding will not be replaced under any circumstances. If a required exam or coursework is missed without any legitimate excuse and a timely notification, it will be assigned a score of zero. **If a legitimate circumstance is officially documented and notified in a timely manner**, the missing score would usually be determined as follows.

A. For midterm exams:

(A1). The lowest midterm exam grade (may be the first missing score due to any reason) can be **replaced** by the **final exam** score. However, if you take this replacement benefit for at least half of an exam without providing any legitimate excuse, you would NOT be able to take any of the REMAINING benefits listed below.

(A2). 2nd missed exam --- If ALL the midterm exams are COMPLETELY missed all due to legitimate circumstances that are properly documented **and notified**, please contact me as soon as possible and we can discuss how to deal with such an extreme case. In this case, you should reconsider whether you should stay in this course since it is usually very difficult to keep up with the rest of class. However if the midterm exams are only partially missed all due to legitimate circumstances that are also properly documented, the 2nd missed score will be **replaced** by the total score of all the exams (including the final exam) you took.

B. For final exam:

(B1). Any student who has to miss the final exam due to any legitimate reasons will have your course grade **determined** by the average of midterm exams if ALL of the following conditions are met. 1). You took all the midterm exams. 2). You turned in all the homework sets including computer based HW. 3). You received **at least 70%** of total available HW points.

(B2). Any student who has to miss the final exam due to any legitimate reasons but fails to meet the three conditions in (B1) will temporarily be given an "incomplete" course grade. This temporary grade will be changed after a make-up final exam is taken (usually) by the beginning of next semester. The exact makeup date should be agreed by the student and instructor in the incomplete agreement made during the final exam week.

C. For homework assignments:

(C1). You will be allowed to submit the missed homework set by the day after the documented final sick date if it is within one week of the official due date. For any longer sickness durations, the missing homework score will be determined by all the remaining homework scores.

(C2). If all the regular homework sets are missed all due to legitimate circumstances, the actual total exam score (before any replacements) is used to determine the total

homework score.

### **=Further Notes About Attendance Policy**

Last Day to Drop without a grade of W: Aug. 30, 2024. If you are not serious enough to take this course in this semester, dropping this course by this date is expected. After this date, active engagements in course activities and timely responses to my instructions would be fully expected. They would make it easier for you to perform to your potential. I intend to work with everyone to go through the entire semester with a best possible outcome. Success depends on our joint efforts. Last Day to Drop with a grade of W: Oct. 30, 2024.

Class attendance includes at least these activities: attend lecture presentations and participate in HW discussions and random quizzes in the scheduled lecture slots. Other course activities include: read lecture notes, read the textbook, do at least the assigned homework problems, follow UA emails and posts in UA Box and BBL. Missing any aspect of class attendance or course activity could make it difficult to keep up with the rest of class and earn a desirable course grade. Students are solely responsible for any work missed during an unexcused absence.

### **=Extra Credit Opportunities**

1. Extra exam problems if time permits. Credited to individual exams.
2. Extra HW, and extra computer programs are possible.  
Active participation of homework discussions.  
Credited to individual homework sets.
3. Bonus random quizzes are possible. Credited to the final exam.
4. For any written homework assignment set, everyone will be given an opportunity to redo at least one problem for partial bonus points. Your final score for the problem could be up to 90% of the perfect score if corrections are submitted within two days after return of the graded HW.
5. No extra credit work is possible after the final exam.  
No makeups for any extra credit work.

### **=Online Content Policy**

All provided lectures, notes, tests, and class discussions are for viewing by members of this class section only, and may not be posted in any other forum, or shared with anyone not enrolled in this section. In particular, I will not post them anywhere except on the class Blackboard page and/or the class UA+Box folder.

Furthermore,

1. If you participate in a recorded session or office hour with your camera engaged, or use a profile image, you are consenting to have that video or image recorded and distributed to the class. I will try hard to not record or distribute this information. However, if you do not want your profile image or video feed recorded, keep your camera off and do not use a profile image!
2. Likewise, if you un-mute your audio input during a session or office hour, you are consenting to having your comments, questions, or other vocalizations recorded.  
Please be aware that it takes a lot of work on my part to produce the materials for this class, while recording classes also implicates the federal privacy rights of your fellow students. UA policy expects you to NOT record course content, and/or publicly post course content (including the videos and notes I provide), including on social media sites. Students who record and/or publicly post course content will likely be in violation of UA policies and will be referred to the Office of Student Conduct for disciplinary action.

### **=Further Notes About Scheduled Office Hours**

Appointments for additional individual help/discussion Zoom/Office sessions are also available after phone or email confirmation for availability. Its Zoom link would be provided during 1<sup>st</sup> two weeks of classes. To start a Zoom session during the scheduled office hours, send me a notification email. I will respond as soon as I get free from the other students.

### **=Unexpected Situations**

(1) If something should occur that forces the University to shut down campus and to move courses to online, I will upload lecture notes to Blackboard and tests will be given online.

(2) In the event that it becomes impossible for me to implement the syllabus due to illness/quarantine or other emergencies, live Zoom lectures, recorded Zoom lectures, or written lecture notes, plus Zoom office hours would be possible alternatives, depending on the actual severity of situation. More specific announcements will be provided in case such a situation develops.