

MA 162 Finite Math and Its Applications

Instructor: Dr. Nathan Druivenga

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Office hours: All office hours are held in the Mathskeller (CB63)
M 11:05-12:00pm, W 11:05-12:00pm, F 9-10am or by appointment.

Lectures: M, W 9:00am - 9:50am in CB 118

Recitation Syllabi: All of the recitation syllabi and contact information for Recitation Instructors may be found in the files tab <<https://uk.instructure.com/courses/1898932/files>> on Canvas. Disclaimer: Recitation Instructors reserve the right to change or amend these syllabi at any time for any reason. In that event, proper notice will be given.

9 am Lecture

Section 1	T 8:00-8:50 FB 213	Kaelin Cook-Powell
Section 2	R 8:00-8:50 FB 213	Kaelin Cook-Powell
Section 3	T 9:00-9:50 FB 213	Kaelin Cook-Powell
Section 4	R 9:00-9:50 FB 213	Kaelin Cook-Powell
Section 5	T 10:00-10:50 FB 213	Jay White
Section 6	R 10:00-10:50 FB 213	Jay White
Section 7	T 11:00-11:50 FB 213	Jay White
Section 8	R 11:00-11:50 FB 213	Jay White

Course Description

Finite mathematics with applications to business, biology, and the social sciences. Linear functions and inequalities, matrix algebra, linear programming, probability. Emphasis on setting up mathematical models from stated problems.

Prerequisites

MA 109 or equivalent

Student Learning Outcomes

This course will emphasize computational and modeling aspects of mathematics. The course will also require you to effectively communicate your solutions. This means that by the end of the semester you should be able to: setup application or word problems, explain the result of a computation, interpret formulas or processes, and clearly communicate your solution process, in addition to getting the "right" answer.

The web homework is only capable of testing your computational ability. Recitations, lecture, recommended readings, and other provided materials will help develop your modeling and mathematical communication skills.

Required Materials

* WebAssign Access: You will log in to the online homework system (WebAssign) through your Canvas account. You should use either Mozilla Firefox or Google Chrome when using Web Assign. You will need an access code for Web Assign. If you bought a new book from the bookstore then this will come with it. If not, then you can buy an access code directly from WebAssign. This account will give you access to the online homework as well as an e-book copy of the course text. Generally you will have two WebAssign assignments per week. They will most often be due Tuesdays and Thursdays at 11:59 pm. For policies concerning extensions of homework assignments see the relevant section below.

* REEF Education Access: As it is noted in course assignments below participation during lectures in REEF polling is 4% credit component of the course. Students may use a smartphone, tablet or laptop as a response device in conjunction with the corresponding app <<https://reef-education.com/get-started/for-students/>> by REEF Education. After a short trial period a subscription from REEF Education must be purchased. Details on pricing may be found at the following link. <https://reef-education.com/reef-products/pricing/>

* Calculator: You will need a calculator to perform certain calculations on exams. Scientific calculators (like the TI-30X) or business calculators (like the BA-II) will be adequate. Graphing calculators are allowed but they are not required. However, exam questions will be written to ensure that students with graphing calculators do not have an unfair advantage. Exam proctors reserve the right to clear the memory of any calculator you bring into the exam room. Note that you will never be allowed to use the calculator on a cell phone, or any other communication device. Please see this page for a description of permitted calculators which may be used on exams: <http://www.actstudent.org/faq/calculator.html>

Optional Materials

* Text: Finite Mathematics for the Managerial, Life, and Social Sciences, eleventh edition by Tan. I expect you to read the sections of the textbook we cover in class. However, you are not required to have a physical copy of the text because an e-book of the text is included with your WebAssign account.

Course Outline

- * Linear Algebra
 - * Chapter 1: Straight Lines and Linear Functions
 - * Chapter 2: Systems of Linear Equations and Matrices
- * Linear Programming
 - * Chapter 3: Linear Programming: A Geometric Approach
 - * Chapter 4: Linear Programming: An Algebraic Approach
- * Counting and Probability
 - * Chapter 6: Sets and Counting
 - * Chapter 7: Probability
- * Financial Mathematics
 - * Chapter 5: Mathematics of Finance
 - * Lecture Notes: FM1 through FM5

Course Assignments

Students will be evaluated in the following four components for this course, weighted by the percentages shown.

- * 4 Exams at 80% of the course grade
- * 19 graded WebAssign online homework assignments at 10% of the course grade
- * Recitation grades feature as 10% of the overall course grade.
- * REEF polling counts as 4%

Course Grading

Grading scale:

90 – 104%	A
80 – 89%	B
70 – 79%	C
60 – 69%	D
Below 60%	E

Grades will not be excessively rounded.

Exam Information

As shown above in the schedule there are 3 common hour exams and a non-cumulative final exam.

Mid-term Grade

Mid-term grades will be posted in myUK by the deadline established in the Academic Calendar (<http://www.uky.edu/registrar/calendar>).

Attendance Policy

Students are expected and required to attend all lectures and recitation sessions.

Alternates, Makeups and Extensions

* WebAssign: The online homework system WebAssign is configured for up to 2 automatic extensions (for a 24 hour duration) for each assignment. For details on how to request an automatic extension see here<http://www.webassign.net/manual/student_guide/t_s_making_automatic_extension_request.htm>. The automatic extension window will close exactly seven days after the original due date for any given assignment. Additionally, the two lowest scoring WebAssign homework assignments will be automatically dropped. Manual extensions will not be granted and no assignment due dates will be extended beyond Dead Week.

- * REEF Education Lecture Polling: Students must attend lecture to participate in lecture polling. In the event

of excused absences up to 5 lecture polls will be dropped from the final grade calculation. Students should retain all excused absence verification for their records but do not need to provide documentation for 5 or fewer absences from lecture. In the event that a student's absences exceeds 5 all documentation for excused absences will be considered at that time.

* Exams: In the event of an excused absence from an exam appropriate verification will be required as discussed below and a makeup may be given at the discretion of the instructor. Planned absences from exams must be verified at least one week prior to the exam.

Excused Absences

Students need to notify the instructor of absences prior to class when possible. Senate Rules 5.2.4.2 defines the following as acceptable reasons for excused absences: (a) serious illness, (b) illness or death of family member, (c) University-related trips, (d) major religious holidays, and (e) other circumstances found to fit "reasonable cause for nonattendance" by the professor.

Students anticipating an absence for a major religious holiday are responsible for notifying the instructor in writing of anticipated absences due to their observance of such holidays no later than the last day in the semester to add a class. Two weeks prior to the absence is reasonable, but should not be given any later. Information regarding major religious holidays may be obtained through the Ombud ([859-257-3737](tel:859-257-3737), http://www.uky.edu/Ombud/ForStudents_ExcusedAbsences.php<http://www.uky.edu/Ombud/ForStudents_ExcusedAbsences.php>).

Students are expected to withdraw from the class if more than 20% of the classes scheduled for the semester are missed (excused) per University policy.

Per Senate Rule 5.2.4.2, students missing any graded work due to an excused absence are responsible: for informing the Instructor of Record about their excused absence within one week following the period of the excused absence (except where prior notification is required); and for making up the missed work. The professor must give the student an opportunity to make up the work and/or the exams missed due to an excused absence, and shall do so, if feasible, during the semester in which the absence occurred.

Verification of Absences

Students will be asked to verify their absences in order for them to be considered excused. The one notable exception to this concerns REEF Education Lecture Polling as discussed above. Senate Rule 5.2.4.2<<http://www.uky.edu/Faculty/Senate/files/Excused%20Absences%209-2-09.pdf>> states that faculty have the right to request "appropriate verification" when students claim an excused absence because of illness or death in the family.

* A student must notify the Instructor of an absence prior to the absence or within one week after the absence. SR 5.2.4.2.E.

* A student must submit any written documentation supporting an excused absence within one week after the absence, except when the absence is for the observation of a major religious holiday.

* An absence for a major religious holiday or University-related trips requires advanced written notification two weeks before the event.

* In the event of serious illness a University Health Services Tier 2 or Tier 3 excuse is required, or a similar note from a health care provider who will confirm that you are a patient and were seen on the indicated day. Tier 1 excuses will not be accepted.

Dead Week

Classes continue as usual. Homework is due and the typical measures of in-class participation will be present. No papers or exams will be given during dead week.

Academic Integrity

Per University policy, students shall not plagiarize, cheat, or falsify or misuse academic records. Students are expected to adhere to University policy on cheating and plagiarism in all courses. The minimum penalty for a first offense is a zero on the assignment on which the offense occurred. If the offense is considered severe or the student has other academic offenses on their record, more serious penalties, up to suspension from the University may be imposed.

Plagiarism and cheating are serious breaches of academic conduct. Each student is advised to become familiar with the various forms of academic dishonesty as explained in the Code of Student Rights and Responsibilities. Complete information can be found at the following website: <http://www.uky.edu/Ombud><<http://www.uky.edu/Ombud>>. A plea of ignorance is not acceptable as a defense against the charge of academic dishonesty. It is important that you review this information as all ideas borrowed from others need to be properly credited.

Senate Rules 6.3.1 (see <http://www.uky.edu/Faculty/Senate/><<http://www.uky.edu/Faculty/Senate/>> for the current set of Senate Rules) states that all academic work, written or otherwise, submitted by students to their instructors or other academic supervisors, is expected to be the result of their own thought, research, or self-expression. In cases where students feel unsure about a question of plagiarism involving their work, they are obliged to consult their instructors on the matter before submission.

When students submit work purporting to be their own, but which in any way borrows ideas, organization, wording, or content from another source without appropriate acknowledgment of the fact, the students are guilty of plagiarism.

Plagiarism includes reproducing someone else's work (including, but not limited to a published article, a book, a website, computer code, or a paper from a friend) without clear attribution. Plagiarism also includes the practice of employing or allowing another person to alter or revise the work, which a student submits as his/her own, whoever that other person may be. Students may discuss assignments among themselves or with an instructor or tutor, but when the actual work is done, it must be done by the student, and the student alone.

When a student's assignment involves research in outside sources or information, the student must carefully acknowledge exactly what, where and how he/she has employed them. If the words of someone else are used, the student must put quotation marks around the passage in question and add an appropriate indication of its origin. Making simple changes while leaving the organization, content, and phraseology intact is plagiaristic. However, nothing in these Rules shall apply to those ideas, which are so generally and freely circulated as to be a part of the public domain.

Please note: Any assignment you turn in may be submitted to an electronic database to check for plagiarism.

Accommodations due to disability

If you have a documented disability that requires academic accommodations, please see me as soon as possible during scheduled office hours. In order to receive accommodations in this course, you must provide me with an electronic version of your Letter of Accommodation from the Disability Resource Center (DRC). The

DRC coordinates campus disability services available to students with disabilities. It is located on the corner of Rose Street and Huguelet Drive in the Multidisciplinary Science Building, Suite 407. You can reach them via phone at [\(859\) 257-2754](tel:8592572754) and via email at drc@uky.edu. Their web address is <http://www.uky.edu/StudentAffairs/DisabilityResourceCenter/><<http://www.uky.edu/StudentAffairs/DisabilityResourceCenter/>>.

Non-Discrimination Statement and Title IX Information:

The University of Kentucky faculty are committed to supporting students and upholding the University's non-discrimination policy. Discrimination is prohibited at UK. If you experience an incident of discrimination we encourage you to report it to Institutional Equity & Equal Opportunity (IEEO) Office, 13 Main Building, [\(859\) 257-8927](tel:8592578927).

Acts of Sex- and Gender-Based Discrimination or Interpersonal Violence: If you experience an incident of sex- or gender-based discrimination or interpersonal violence, we encourage you to report it. While you may talk to a faculty member or TA/RA/GA, understand that as a "Responsible Employee" of the University these individuals MUST report any acts of violence (including verbal bullying and sexual harassment) to the University's Title IX Coordinator in the IEEO Office. If you would like to speak with someone who may be able to afford you confidentiality, the Violence Intervention and Prevention (VIP) program<<http://www.uky.edu/StudentAffairs/VIPCenter/>> and Bias Incident Support Services<<http://www.uky.edu/biss/>> (Frazee Hall – Lower Level), the Counseling Center<<http://www.uky.edu/StudentAffairs/Counseling/>> (106 Frazee Hall), and University Health Services<<http://ukhealthcare.uky.edu/uhs/student-health/>> are confidential resources on campus.

Disclaimer

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