

MA114 - INTRODUCTION TO FINITE MATHEMATICS WITH APPLICATIONS

Summer 2021 Section 051
5:30pm - 7:25pm TR

Instructor: Johnny Gillings (jrgillin@ncsu.edu) **Office Hours:** Wed 3pm - 4pm

Course Description Elementary matrix algebra including arithmetic operations, inverses, and systems of equations; introduction to linear programming including simplex method; sets and counting techniques, elementary probability including conditional probability; applications in the behavioral, managerial and biological sciences. Computer use for completion of assignments.

Course Materials This course is administered online, and students will therefore require internet access. Webassign access is required for this course. The course textbook is provided through Webassign. This is available to purchase at [The Webassign website \(link\)](#) and requires a Cengage account. Usage is free for a (very) limited time. Contact me if you have questions about the login process, or Jenn Burt (jlgeorge@ncsu.edu) if there is a more technical problem preventing your access. You should contact one of us prior to reaching out to Cengage for assistance.

- *Zoom Access:* We will meet virtually using Zoom, the video conferencing application. Use the following links to access the Zoom meetings for problem sessions and office hours:

- [Class Zoom Link](#)

- *Webassign Access Code:* The class key for this section is **ncsu 5825 8825**. The class key is case sensitive and the spaces are required. You will need to pay for access to assignments and the textbook. Webassign and textbook access costs \$100. The cheaper homework-only option is not recommended, but acceptable. Using a Cengage Unlimited plan is **not** necessary, but if you have multiple courses that use Webassign, that is a cost effective option for you.
- *Reference Text:* Waner, Costenoble, *Finite Mathematics*, 7e. This is included with Webassign unless you specify otherwise. All material is based on the text, and reading it along with the assignments may prove very helpful.

Course Website We will be using the Moodle learning management system (<http://wolfware.ncsu.edu>) for this course. You will log in using your Unity ID and password. (Refer to online information at <http://oit.ncsu.edu/unityid> or contact (919) 515-HELP or HELP@ncsu.edu for assistance with your Unity ID). After the beginning of the semester, you will see a link to our course site. Once in the site, you can Bookmark or add the site as a Favorite in your web browser so that you can return directly to that page.

All course videos will be accessed via Moodle.

Course Communications

Modes of communication in use for this course include email, Zoom office hours, and Moodle.

- I am always available through email and will typically respond quickly on weekdays before 5pm. Otherwise, I will respond within 24 hours.
- If you would like to speak via Zoom and cannot make office hours, send me an email with your availability and we will attempt to schedule a time to meet.

Please be aware that all email communications for this course will be sent to your NCSU unity email. If you do not regularly use your ncsu.edu account, there are settings within Gmail that allow you to forward your e-mail to another account. For more information, please click [here](#)

If you have a question that is very specific to the work you have done (i.e. if you nearly finished your work but got stuck towards the end), you can email me with your question.

Attendance University policy requires a record of attendance for all 100 level courses. Attendance via Zoom is expected, and it is in your best interest to attend class. Technical and/or medical issues should be reported to me at your earliest convenience. Recordings of synchronous problem sessions will be provided.

Electronically-hosted Components Please be advised this course is being recorded for current and potential future educational purposes. By your continued participation in this recorded course, you are providing your permission to be recorded.

Course Continuity In the event that the synchronous elements of this course are completely disrupted due to COVID-19, extra content will be provided through additional pre-recorded practice problems, ungraded Moodle quizzes, and ongoing additional digital instructor and TA support (email, forum participation, Zoom, etc.).

Health and Well-Being Resources

These are difficult times, and academic and personal stress are natural results. Everyone is encouraged to [take care of themselves](#) and their peers. If you need additional support, there are many resources on campus to help you:

- Counseling Center ([NCSU Counseling Center](#))
- Health Center ([Health Services — Student](#))
- If the personal behavior of a classmate concerns or worries you, either for the classmate's well-being or yours, we encourage you to report this behavior to the NC State CARES team: ([Share a Concern](#))
- If you or someone you know are experiencing food, housing or financial insecurity, please see the Pack Essentials Program ([Pack Essentials](#))

Academic Integrity Students are required to comply with the university policy on academic integrity found in [the Code of Student Conduct](#).

The NCSU Student Code of Conduct covers all work done in this course. Any suspected violations will be promptly reported. Academic dishonesty will result in an automatic failing grade for the course.

Community Standards related to COVID-19 We are all responsible for protecting ourselves and our community. Please see the community standards [community standards](#) (released on 7/28/2020) and Rule 04.21.01 regarding Personal Safety Requirements Related to COVID-19 RUL 04.21.01 – Personal Safety Requirements Related to COVID-19 – Policies, Regulations & Rules.

Important Dates

Exam #1	June 10, 2021
Exam #2	July 1, 2021
Exam #3	July 22, 2021
Final Exam	August 3, 2021, 7:00PM - 9:30PM

Letter Grade Distribution

This course uses standard NCSU letter grading:

$90 \leq A- < 93$	$93 \leq A < 97$	$97 \leq A+ \leq 100$
$80 \leq B- < 83$	$83 \leq B < 87$	$87 \leq B+ < 90$
$70 \leq C- < 73$	$73 \leq C < 77$	$77 \leq C+ < 80$
$60 \leq D- < 63$	$63 \leq D < 67$	$67 \leq D+ < 70$
	$0 \leq F < 60$	

Course Schedule The following is a tentative outline of the course.

Week	Material	
Week 0 (5/20)	Syllabus, Sections 3.1, 4.1 (systems of linear equations, introduction to matrices)	
Week 1 (5/25)	Sections 4.2, 3.2 (matrix algebra, elementary row operations)	
Week 2 (6/1)	Sections 3.3, 4.3 (matrix algebra, elementary row operations)	
Week 3 (6/8, 6/10)	Sections 4.5, 5.1 (Gauss-Jordan reduction, applications)	Exam 1
Week 4 (6/15)	Sections 5.2, 5.3 (applications, matrix inversion)	
Week 5 (6/22)	Section 5.4 (input-output models)	
Week 6 (6/29, 7/1)	Sections 6.1, 6.2 (graphing linear inequalities, solving linear programming problems)	Exam 2
Week 7 (7/6)	Sections 6.3, 6.4 (the simplex method)	
Week 8 (7/13)	Section 7.1, 7.2, 7.3 (set and set operations)	
Week 9 (7/20, 7/22)	Section 7.4, 7.5 (cardinality, decision algorithms)	Exam 3
Week 10 (7/27)	Final Review	

Course Evaluations A formal evaluation is conducted by the University at the end of the semester and the goal is to achieve 100% class participation in this survey. Online class evaluations will be available for students to complete during the last two weeks of class. Students will receive an email message directing them to a website where they can login using their Unity ID and complete evaluations. All evaluations are confidential; instructors will never know how any one student responded to any question, and students will never know the ratings for any particular instructor.

Grading Policy This course uses standard NCSU letter grading, with no rounding.

Component	Weight	Details
Webassign	20	Homework will be done through Webassign and will be due every week on Wednesday at 11:59pm. Due dates for every assignment can be seen on Webassign.
Exams	60	There are three exams throughout the semester, each worth 20 percent of the grade. These will be taken on Zoom during the Thursday class times. Students are expected to have their cameras on for exams, and only resources specified during class may be used.
Final Exam	20	There will be a cumulative final exam. See 'Important Dates' for more information.

Trans-Inclusive Statement

In an effort to affirm and respect the identities of transgender students in the classroom and beyond, please contact me if you wish to be referred to using a name and/or pronouns other than what is listed in the student directory.

Accommodations for Disabilities

Reasonable accommodations will be made for students with verifiable disabilities. In order to take advantage of available accommodations, students must register with the Disability Resource Office at Holmes Hall, Suite 304, Campus Box 7509, 919-515-7653. For more information on NC State's policy on working with students with disabilities, please see the Academic Accommodations for Students with Disabilities Regulation (REG02.20.01) (<https://policies.ncsu.edu/regulation/reg-02-20-01/>).

Non-Discrimination Policy

NC State University provides equality of opportunity in education and employment for all students and employees. Accordingly, NC State affirms its commitment to maintain a work environment for all employees and an academic environment for all students that is free from all forms of discrimination. Discrimination based on race, color, religion, creed, sex, national origin, age, disability, veteran status, or sexual orientation is a violation of state and federal law and/or NC State University policy and will not be tolerated. Harassment of any person (either in the form of quid pro quo or creation of a hostile environment) based on race, color, religion, creed, sex, national origin, age, disability, veteran status, or sexual orientation also is a violation of state and federal law and/or NC State University policy and will not be tolerated. Retaliation against any person who complains about discrimination is also prohibited. NC State's policies and regulations covering discrimination, harassment, and retaliation may be accessed at <http://policies.ncsu.edu/policy/pol-04-25-05> or http://www.ncsu.edu/equal_op/. Any person who feels that he or she has been the subject of prohibited discrimination, harassment, or retaliation should contact the Office for Equal Opportunity (OEO) at 919-515-3148.

Basic Needs Security

Any student who faces challenges securing their food or housing or has other severe adverse experiences and believes this may affect their performance in the course is encouraged to notify the professor if you are comfortable in doing so. Alternatively, you can contact the Division of Academic and Student Affairs to learn more about the [Pack Essentials program](#).

Supporting Fellow Students in Distress

As members of the NC State Wolfpack community, we each share a personal responsibility to express concern for one another and to ensure that this classroom (as well as the campus as a whole) remains a healthy and safe environment for learning. Occasionally, you may come across a classmate whose personal behavior concerns or worries you, either for your classmate's well-being, for your well-being, or for the well-being of others. When this is the case, we would encourage you to report the behavior on the link located on NC State's Students of Concern website (<http://go.ncsu.edu/NCSUcares>).

List of Policies

Students are responsible for reviewing the NC State University PRRs (policies, rules and regulations) that pertain to their course rights and responsibilities:

- Equal Opportunity and Non-Discrimination Policy Statement <https://policies.ncsu.edu/policy/pol-04-25-05/> with additional references at <https://oied.ncsu.edu/equity/policies/>
- Code of Student Conduct <https://policies.ncsu.edu/policy/pol-11-35-01/>
- Grades and Grade Point Average <https://policies.ncsu.edu/regulation/reg-02-50-03/>
- Credit-Only Courses <https://policies.ncsu.edu/regulation/reg-02-20-15/>
- Audits <https://policies.ncsu.edu/regulation/reg-02-20-04/>