

NCSU DEPARTMENT OF MATHEMATICS

MA 114 Spring 2019

**MA 114:** Introduction to Finite Mathematics with Applications

**Course Coordinator:** Molly Fenn ([mafenn2@ncsu.edu](mailto:mafenn2@ncsu.edu))

**Office:** SAS 2108

**Textbook**

Finite Mathematics by Waner and Costenoble, 6th edition. The eBook is available in WebAssign.

**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; Markov chains; applications in the behavioral, managerial and biological sciences. Computer use for completion of assignments.

**Grades**

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

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

<b>Grade Component</b>	<b>Weight</b>	<b>Details</b>
WebAssign Homework	20%	Homework will be done through WebAssign and will be due frequently.
In-Class Tests	60%	There will be three in-class tests, each worth 20% of your grade.
Final Exam	20%	The final exam will be given on TBD.

## Schedule

We will be following the approximate schedule below:

Week 1 (1/7-1/11): Sections 1.1-1.2 (numerical, graphical, and algebraic views of functions, functions and models)

Weeks 2 and 3 (1/14-1/25, **no class on 1/21**): Sections 1.3 (linear functions and models) and Chapter 3 (systems of linear equations, solving with matrices, applications)

Week 4 (1/28-2/1): Sections 4.1-4.3 (matrix algebra)

Week 5(2/4-2/8) : Review and Test 1 covering through 4.3

Week 6 (2/11-2/15): Sections 4.4 and 4.5 (game theory, input-output models)

Weeks 7 and 8 (2/18-3/1): Chapter 5 (linear programming, simplex method)

Week 9 (3/4-3/8): Review and Test 2

## Spring Break

Weeks 10 and 11 (3/18-3/29): Chapter 6 (sets and counting, permutations and combinations)

Week 12(4/1-4/5): Sections 7.1-7.3 (sample spaces, relative frequency, probability)

Week 13 (4/8-4/12): Review and Test 3

Weeks 14 and 15 (4/15-4/26 **no class on 4/19**): Sections 7.4-7.7 (probability and counting, Bayes' Theorem, Markov chains)

## 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.

## Course Communications

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

- Moodle discussion forums will be used to facilitate class discussion. Check these forums often and please feel free to reply to your fellow students' posts.
- I will do my best to respond to weekday e-mails and posts within 24 hours. Email messages or posts left after 4 pm Friday will be responded to by Monday evening.
- If you would like to speak with an instructor in person and you can't make it to the posted office hours, please email me to schedule a time that is convenient. Include several time slots that would work for you in your email.

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 see <http://google.ncsu.edu/what-best-way-forward-my-nc-state-gmail-non-nc-state-e-mail-address>.

If you have a question that the whole class may benefit from hearing the answer to, please

post on the “Course Content Q&A” forum. I will check this forum often to respond to open questions. You should also check frequently to answer or ask questions.

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 your instructor with your question. Including a scan or photo of your work can help. If an instructor receives an email with a question more appropriate to the forum, she may copy and paste the question there without identifying the student who sent it.

### **Academic Integrity**

Students are required to comply with the university policy on academic integrity found in the Code of Student Conduct found at <http://policies.ncsu.edu/policy/pol-11-35-01>. 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.

### **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.

### **Accommodations for Disabilities**

Reasonable accommodations will be made for students with verifiable disabilities. In order to take advantage of available accommodations, student must register with the Disability Services Office (<http://www.ncsu.edu/dso>), 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 at <http://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/](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.

### **Copyrighted Materials**

The course website contains copyrighted materials and was developed for instructional purposes to be used by students at North Carolina State University. Students currently registered in this course are permitted to print or make copies of parts of this site for their own personal use in conjunction with completing the course. Text, audio files, images or design of this website may not otherwise be distributed or modified in any manner without the prior written permission of the instructor.