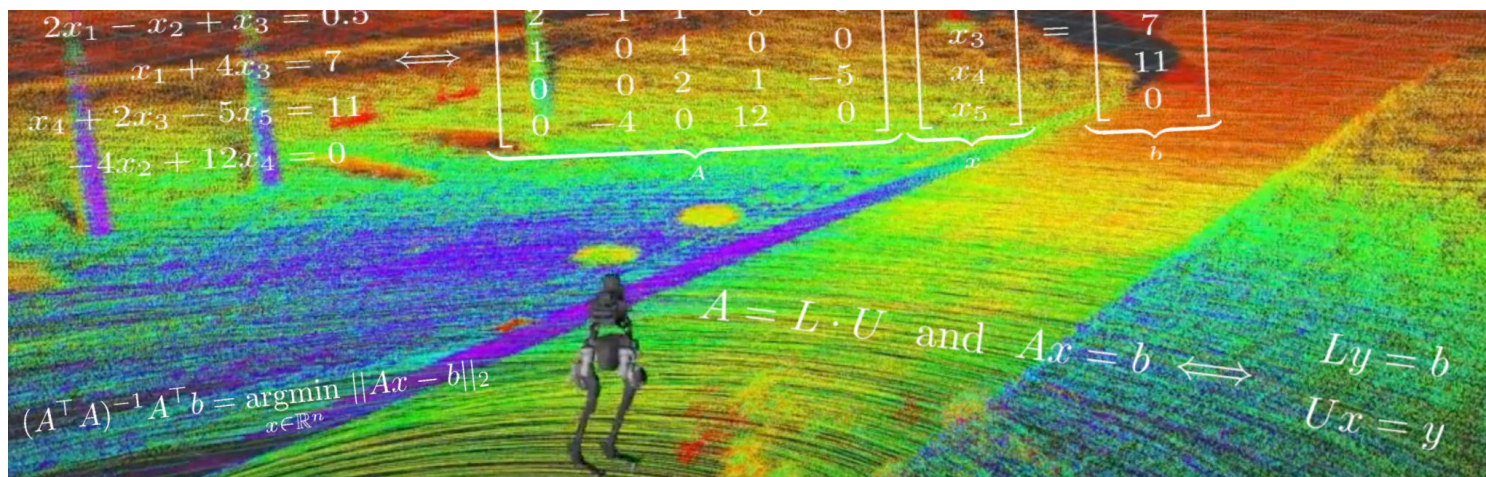


# Course Syllabus



- [Schedule](#)
- [Course Overview](#)
- [Materials](#)
- [Assignments and Exams](#)
- [Grading](#)
- [Course Policies](#)
- [Help with this Course](#)
- [UNC Policies and Services](#)

## SCHEDULE

| Week | Dates                            | Textbok Sections   | Topic  | Quizzes and Tests |
|------|----------------------------------|--|--|-------------------|
| 1    | Jan 9 - 13                       | <ul style="list-style-type: none"> <li>• Hartman1.1</li> <li>• Hartman1.2</li> <li>• Hartman1.3</li> </ul> | <ul style="list-style-type: none"> <li>• Systems of linear equations</li> <li>• Solving systems of linear equations</li> <li>• Elementary row operations and Gaussian elimination</li> </ul> |                   |
| 2    | (no class Jan 16)<br>Jan 16 - 20 | <ul style="list-style-type: none"> <li>• Hartman1.4</li> <li>• Hartman2.1</li> </ul>                       | <ul style="list-style-type: none"> <li>• Existence and uniqueness of solutions</li> <li>• Matrix addition and scalar multiplication</li> </ul>   |                   |
| 3    | Jan 23 - 27                      | <ul style="list-style-type: none"> <li>• Hartman2.2</li> <li>• Hartman2.3</li> </ul>                       | <ul style="list-style-type: none"> <li>• Matrix multiplication</li> <li>• Vectors</li> </ul>   |                   |

|    |                                       |   |  |                |
|----|---------------------------------------|---|--|----------------|
|    |                                       | <ul style="list-style-type: none"> <li>Hartman2.4</li> </ul>  | <ul style="list-style-type: none"> <li>Vector equations</li> </ul>   |                |
| 4  | Jan 30 - Feb 3                        | <ul style="list-style-type: none"> <li>Hartman2.5</li> <li>Hartman2.6</li> <li>Hartman2.7</li> </ul>      | <ul style="list-style-type: none"> <li>Matrix equations</li> <li>Matrix Inverses</li> <li>Properties of inverses</li> </ul>  |                |
| 5  | Feb 6 - 10                            | <ul style="list-style-type: none"> <li>Hartman3.1</li> <li>Hartman3.2</li> </ul>                          | <ul style="list-style-type: none"> <li>Test 1</li> <li>Transpose</li> <li>Trace</li> </ul>   | Test 1 (Feb 7) |
| 6  | no class Feb 13,<br>14<br>Feb 13 - 17 | <ul style="list-style-type: none"> <li>Hartman3.3</li> <li>Hartman3.4</li> </ul>                          | <ul style="list-style-type: none"> <li>Determinant</li> <li>Properties of determinants</li> </ul>  |                |
| 7  | Feb 20 - 24                           | <ul style="list-style-type: none"> <li>Hartman2.3Bonus</li> <li>Hartman4.1</li> <li>Hartman4.2</li> </ul> | <ul style="list-style-type: none"> <li>Linear transformations</li> <li>Eigenvalues and eigenvectors</li> <li>Properties of eigenvalues and eigenvectors</li> </ul> |                |
| 8  | Feb 27 - Mar 3                        | <ul style="list-style-type: none"> <li>Holt6.2</li> <li>Holt8.1</li> </ul>                                | <ul style="list-style-type: none"> <li>Diagonalization</li> <li>Dot products and orthogonal vectors</li> </ul>   |                |
| 9  | Mar 6 - 10                            | <ul style="list-style-type: none"> <li>Holt8.3</li> </ul>   | <ul style="list-style-type: none"> <li>Test 2</li> <li>Orthogonal matrices and symmetric matrices</li> </ul>   | Test 2 (Mar 7) |
|    | Mar 13 - 17<br>Spring Break           |   |  |                |
| 10 | Mar 20 - 24                           | <ul style="list-style-type: none"> <li>Holt2.3</li> <li>Holt8.2</li> </ul>                                | <ul style="list-style-type: none"> <li>Linearly independent vectors</li> </ul>   |                |

|    |                                  |   |   |                 |
|----|----------------------------------|---|---|-----------------|
|    |                                  | <ul style="list-style-type: none"> <li>Holt8.4</li> </ul> | <ul style="list-style-type: none"> <li>Gram-Schmidt orthogonalization</li> <li>Singular value decomposition</li> </ul>  |                 |
| 11 | Mar 27 - 31                      | <ul style="list-style-type: none"> <li>Holt8.4</li> </ul> | <ul style="list-style-type: none"> <li>Singular value decomposition, continued</li> <li>SVD applications: Image compression and principal component analysis</li> </ul> |                 |
| 12 | Apr 3 - 7<br>no class Apr 6 or 7 |   | <ul style="list-style-type: none"> <li>Introduction to derivatives</li> </ul>   |                 |
| 13 | Apr 10 - 14                      |   | <ul style="list-style-type: none"> <li>Test 3</li> <li>Calculating derivatives of polynomials and exponential functions</li> <li>Level Curves</li> </ul>                | Test 3 (Apr 11) |
| 14 | Apr 17 - 21                      |   | <ul style="list-style-type: none"> <li>Partial Derivatives</li> <li>Gradient</li> <li>Max and Min Values and Gradient Descent</li> </ul>                                |                 |
| 15 | Apr 24 - 28                      |   | <ul style="list-style-type: none"> <li>Neural Networks</li> <li>Catch up and Review</li> </ul>  |                 |
|    | May 2 at 12:00                   |   |   | Final Exam      |

## OVERVIEW

### Course Description

Math 210 introduces students to the tools of linear algebra and optimization, including solving linear systems, matrices as linear transformations, eigenvalues and eigenvectors, approximations, derivatives, and optimization in multiple dimensions. This course emphasizes multidimensional thinking and applications to data science. Python will be used as a computational tool.

## Target Audience

This course is intended for data science minors and for students who want to learn linear algebra and optimization techniques for application to economics or other quantitative fields. Students who have already taken Math 347 or Math 577 should not take this class due to the substantial overlap.

## Prerequisites

Students are expected to be proficient working with functions and their graphs, manipulating variable expressions, and solving equations using algebra, as demonstrated by Math 110 or Math 110P credit

## Learning Objectives

This course will enable students to:

1. Perform operations on matrices
2. Use matrices to solve problems
3. Describe how matrices are used to simplify data and compress images
4. Calculate and interpret derivatives
5. Use derivatives to maximize or minimize quantities and to train neural networks

## Course topics

This list is tentative and may be changed. Any changes will be announced in class and posted on Sakai.

1. Systems of linear equations and matrices
2. Elementary row operations and Gaussian elimination
3. Existence and uniqueness of solutions
4. Matrix operations (addition, scalar multiplication, multiplication)
5. Vectors
6. Solving matrix equations
7. Inverses of matrices
8. Transpose, trace, and determinant
9. Eigenvalues and eigenvectors
10. Diagonalizing matrices
11. Dot product and orthogonality
12. Symmetric matrices
13. Linear independence
14. Gram-Schmidt orthogonalization

15. Singular value decomposition
16. Derivatives
17. Optimization
18. Partial derivatives
19. Gradient and gradient descent
20. Neural networks

## Course Structure

Class meets TuTh 2:00 - 3:15 in Phillips 224. Class activities will include interactive lecture and problem solving in small groups.

Students are expected to prepare for each class by watching short videos and completing before class assignments. Homework assignments will be due three times a week. There will be three midterms and a final exam.

## Instructional Staff

### Instructor

Linda Green, [greenl@email.unc.edu](mailto:greenl@email.unc.edu)  
(<mailto:linda.green@unc.edu>)]







---

## MATERIALS

### Textbooks

We will use the following textbooks:

1. [Fundamentals of Matrix Algebra](https://open.umn.edu/opentextbooks/textbooks/fundamentals-of-matrix-algebra)  (<https://open.umn.edu/opentextbooks/textbooks/fundamentals-of-matrix-algebra>) by G. Hartman, ISBN: 978-1467901598 (required - pdf is free, hard copy is ~\$10 from Amazon)
2. [Linear Algebra with Applications](https://www.amazon.com/Linear-Algebra-Applications-Jeffrey-Holt-dp-1464193347/dp/1464193347/ref=dp_ob_title_bk)  ([https://www.amazon.com/Linear-Algebra-Applications-Jeffrey-Holt-dp-1464193347/dp/1464193347/ref=dp\\_ob\\_title\\_bk](https://www.amazon.com/Linear-Algebra-Applications-Jeffrey-Holt-dp-1464193347/dp/1464193347/ref=dp_ob_title_bk)) by J. Holt, ISBN: 978-1464193347 (recommended as a reference, see course reserves for scanned book sections)
3. [Applied Calculus](https://math.libretexts.org/Bookshelves/Calculus/Applied_Calculus_(Calaway_Hoffman_and_Lippman))  ([https://math.libretexts.org/Bookshelves/Calculus/Applied\\_Calculus\\_\(Calaway\\_Hoffman\\_and\\_Lippman\)](https://math.libretexts.org/Bookshelves/Calculus/Applied_Calculus_(Calaway_Hoffman_and_Lippman))) by S. Calaway, D. Hoffman, and D. Lippman (recommended as a reference, [online version](#) 

([https://math.libretexts.org/Bookshelves/Calculus/Applied\\_Calculus\\_\(Calaway\\_Hoffman\\_and\\_Lippman\)](https://math.libretexts.org/Bookshelves/Calculus/Applied_Calculus_(Calaway_Hoffman_and_Lippman))) and pdf <https://www.opentextbookstore.com/details.php?id=14> are free)

## Edfinity

Homework and before class assignments will be on Edfinity. Please make an account as follows:

1. If you already have an Edfinity account from a previous course, please sign into it. Otherwise, go to step 2.
2. Go to the following registration link: <https://edfinity.com/join/LWHEJE6H>
3. You will be prompted to pay~\$25 and enroll in our section.

## Gradescope

Tests will be graded via Gradescope. You should be able to access Gradescope from the tab at the left of Canvas. If this doesn't work, you can enroll yourself at [gradescope.com](https://gradescope.com) [\(<http://gradescope.com>\)](http://gradescope.com) using the entry code ZZBEB3. Please use your UNC email. There is no charge for using Gradescope.

## Colab

We will use [Google Colab notebooks](https://colab.research.google.com/notebooks/intro.ipynb#) [\(<https://colab.research.google.com/notebooks/intro.ipynb#>\)](https://colab.research.google.com/notebooks/intro.ipynb#) with Python to supplement by-hand computations. Colab is free and integrated with Google docs. You may need a gmail account to use it. No prior experience with Colab, Python, or any other programming language is expected.

Colab documents from class will be available at [tinyurl.com/math210unc](https://tinyurl.com/math210unc) [\(<https://tinyurl.com/math210unc>\)](https://tinyurl.com/math210unc)

## Piazza

Instead of emailing the instructor with questions about homework problems or logistics, please post your questions on Piazza. Other students and the instructor can answer them there for the benefit of all students. If you were not automatically added to Piazza, you can register yourself here: [piazza.com/unc/fall2023/math210](https://piazza.com/unc/fall2023/math210) [\(<http://piazza.com/unc/fall2023/math210>\)](http://piazza.com/unc/fall2023/math210). There is no charge for using Piazza.

## Videos

Videos for this class are posted on the instructor's YouTube [Linear Algebra playlist](https://www.youtube.com/playlist?list=PLAEgL_CQRjwQg9-V0rcnC5Q_tA42eVYZ1) [\(\[https://www.youtube.com/playlist?list=PLAEgL\\\_CQRjwQg9-V0rcnC5Q\\\_tA42eVYZ1\]\(https://www.youtube.com/playlist?list=PLAEgL\_CQRjwQg9-V0rcnC5Q\_tA42eVYZ1\)\)](https://www.youtube.com/playlist?list=PLAEgL_CQRjwQg9-V0rcnC5Q_tA42eVYZ1) with links on Canvas and within Edfinity.

## Zoom

One office hour each week will be online on Zoom, using the following URL:

<https://unc.zoom.us/my/lindagreenunc> ↗. (<https://unc.zoom.us/my/lindagreenunc>). All other office hours will be in person. Class will be in person only.

## Calculators

For homework and some classwork, you will need a basic scientific calculator or a graphing calculator or a calculator app. Basic and scientific calculators are allowed on tests.

---

---

# ASSIGNMENTS AND EXAMS

The following components of this course will contribute to your grade.

## Before Class Assignments

For most classes, there are one or two before class assignment on Edfinity, due at the start of class on Tuesdays and Thursdays. Instructions on what to do before class are posted on Canvas > Modules. Your lowest two before class assignment grades will be dropped.

## Homework

Most homework assignments will be on Edfinity. Homework will be due three times a week: on Mondays, Wednesdays, and Fridays at 11:59 pm. Normally, assignments on topics discussed in class on Tuesday will be due on Friday or Monday, topics discussed on Thursday will be due on Monday or Wednesday. Occasionally, more than one assignment may be due on the same day. Due dates can be found on Edfinity and on Gradescope.

Your lowest homework score will be dropped if at least 80% of students complete the mid-semester survey and a second lowest homework will be dropped if at least 80% complete the end of semester course evaluation.

## Tests

There will be three tests given in class. Your lowest test grade will be replaced by your final exam grade, if your final exam grade is higher.

Tentative test dates are as follows:

- Test 1: 2/6/2023
- Test 2: 3/7/2023
- Test 3: 4/11/2023

## Participation

Participation in class will be graded as follows: 2 points if you came to class and participated, 1 point if you came but did not participate or only came part of the time. Your lowest 4 scores will be dropped.

## Final Exam

The cumulative final exam will be on Tuesday, May 2 from 12:00 - 3:00 pm in accordance with UNC's final exam schedule. The final exam is given in compliance with UNC's final exam regulations and calendar, and will not be given prior to this exam date. In order to take the make-up exam after this date, you must have an official examination excuse from the Dean or authorized agent of the Dean (in Steele Building).

## GRADES

| Assignment               | Percentage of Final Grade |
|--------------------------|---------------------------|
| Homework                 | 15%                       |
| Before Class Assignments | 5%                        |
| Participation            | 5%                        |
| Tests                    | 45%                       |
| Final Exam               | 30%                       |

## Grading Scale

Percentages will be converted to letter grades according to the following scale.

| Letter Grade | Percentage |
|--------------|------------|
| A            | 93–100%    |
| A-           | 90–92%     |
| B+           | 87–89%     |
| B            | 83–86%     |
| B-           | 80–82%     |
| C+           | 77–79%     |
| C            | 73–76%     |
| C-           | 70–72%     |



| Letter Grade | Percentage |
|--------------|------------|
| D+           | 67–69%     |
| D            | 60–66%     |
| F            | 0–59%      |

---


---

# COURSE POLICIES

## Communication

Please post questions about homework and class logistics on Piazza.

If you have a private question, specific to your individual circumstances, you can post privately on Piazza or send the instructor an email. If the instructor does not respond to an email or private message within 48 hours, please send a second message.

If you need to have a private conversation, not appropriate for a public office hours setting, please book an appointment via [lindagreenunc.youcanbook.me](http://lindagreenunc.youcanbook.me)  (<http://lindagreenunc.youcanbook.me/>) .

## Illness

Please do not attend class in person if you are sick, think you might be sick, or have been in contact with someone who is sick. Please consult the filled in notes posted after class to see what you miss.

The following are University Approved Absences:

- Authorized University activities
- Disability/religious observance/pregnancy, as required by law and approved by Accessibility Resources and Service and/or the Equal Opportunity and Compliance Office (EOC)
- Significant health condition and/or personal/family emergency as approved by the Office of the Dean of Students, Gender Violence Service Coordinators, and/or the Equal Opportunity and Compliance Office (EOC).


## Late Work and Make-up Work

No make-up tests will be given. Tests can be given early if the student will be absent for university athletics, an academic field trip, or a religious holiday and makes prior arrangements with written documentation at least a week in advance. Exceptions may be made in extreme circumstances with intervention from the Dean of Students. The lowest test score will be replaced by the final exam score, so one missed test will not affect your grade.

Homework on Edfinity will be accepted up to a week late for a 25% penalty.

Attendance points cannot be made up but the lowest 4 attendance scores will be dropped.

## Honor Code

It is expected that each student in this class will conduct themselves within the guidelines of the UNC Honor System, described at <https://catalog.unc.edu/policies-procedures/honor-code/>  (<https://catalog.unc.edu/policies-procedures/honor-code/>).

On homework, before class assignments, and in-class worksheets, students are encouraged to work together in pairs or small groups, provided that all participants are contributing and the collaboration benefits the learning of all involved. Simply copying or trading answers is an instance of cheating. Homework are open book and open notes, and calculators and computer apps are permitted.

Tests and the final exam are closed book and closed notes unless otherwise specified. Calculators are permitted unless otherwise specified. It is an instance of cheating to give or receive help on a test or exam, except from the instructor. In particular, it is a violation of the honor code to post test questions on the internet or access questions that others have posted, or to get help from online problem solving services, whether computerized (e.g. Wolfram Alpha) or staffed by live humans (e.g. Chegg).

If you are not sure what is permitted on any assignment, please ask!

In addition to avoiding actual academic dishonesty, please avoid appearances of academic dishonesty. In particular, please silence and put away cell phones before any exams are handed out, please avoid the appearance of looking at other students' papers, please avoid accessing any internet sites that are not specifically permitted during online assessments. In order to maintain a proper testing atmosphere, the instructor may ask students to switch seats before or during an in-person exam and the instructor will proctor students taking online assessments via Zoom or using other online proctoring tools.

Students who observe a violation of the honor code should report it to the instructor. The instructor will report any suspected honor code violations to the Honor Court.


---

---

## HELP WITH THIS COURSE





There are several ways to get help for this class.

### Office Hours



- Linda Green's office hours in Phillips 338 and at Zoom <https://unc.zoom.us/my/lindagreenunc>  (<https://unc.zoom.us/my/lindagreenunc>): (check Piazza pinned post on office hours for updates)

- M 3:00 – 4:00 (in Phillips 338)
- W 4:00 -- 5:00 (on Zoom <https://unc.zoom.us/my/lindagreenunc>)
- Th 11:00 – 12:00 (in Phillips 338)

## Tutoring

- The math department offers free in-person and online tutoring at the [Math Help Center](https://math.unc.edu/undergraduate/resources/) , M - F and possibly weekends.
- The Learning Center sponsors free drop-in peer tutoring on Monday and Tuesday evenings from 6 - 8 pm at <https://learningcenter.unc.edu/drop-in-peer-tutoring/>  [\(https://learningcenter.unc.edu/drop-in-peer-tutoring/\)](https://learningcenter.unc.edu/drop-in-peer-tutoring/) as well as free in-person and online tutoring by appointment Sunday - Friday at <https://learningcenter.unc.edu/appointment-peer-tutoring/>  [\(https://learningcenter.unc.edu/appointment-peer-tutoring/\)](https://learningcenter.unc.edu/appointment-peer-tutoring/).
- The math department maintains a [tutor list](https://math.unc.edu/undergraduate/resources/)  [\(https://math.unc.edu/undergraduate/resources/\)](https://math.unc.edu/undergraduate/resources/) of math grad students offering paid private tutoring.


## Other Resources

- The Learning Center has a math coach who can give you tips on how to study for and succeed in a math class - you can make an appointment here: <https://learningcenter.unc.edu/services/stem/academic-coaching/>  [\(https://learningcenter.unc.edu/services/stem/academic-coaching/\)](https://learningcenter.unc.edu/services/stem/academic-coaching/).
  - Copies of final exams from previous years are available at <https://math.unc.edu/undergraduate/resources/>  [\(https://math.unc.edu/undergraduate/resources/\)](https://math.unc.edu/undergraduate/resources/)
- 

# UNC POLICIES AND SERVICES

## Accessibility Resources and Services

The University of North Carolina at Chapel Hill facilitates the implementation of reasonable accommodations, including resources and services, for students with disabilities, chronic medical conditions, a temporary disability or pregnancy complications resulting in barriers to fully accessing University courses, programs and activities.

Accommodations are determined through the Office of Accessibility Resources and Service (ARS) for individuals with documented qualifying disabilities in accordance with applicable state and federal laws. See the ARS Website for contact information: <https://ars.unc.edu>  [\(https://ars.unc.edu\)](https://ars.unc.edu) or email [ars@unc.edu](mailto:ars@unc.edu).

## Counseling and Psychological Services

CAPS is strongly committed to addressing the mental health needs of a diverse student body through timely access to consultation and connection to clinically appropriate services, whether for short or long-term needs. Go to their website: <https://caps.unc.edu/> ↗ or visit their facilities on the third floor of the Campus Health Services building for a walk-in evaluation to learn more.

## Title IX Resources

Any student who is impacted by discrimination, harassment, interpersonal (relationship) violence, sexual violence, sexual exploitation, or stalking is encouraged to seek resources on campus or in the community. Reports can be made online to the EOC at <https://eoc.unc.edu/report-an-incident/> ↗ (<https://eoc.unc.edu/report-an-incident/>). Please contact the University's Title IX Coordinator (Elizabeth Hall, interim – [titleixcoordinator@unc.edu](mailto:titleixcoordinator@unc.edu)), Report and Response Coordinators in the Equal Opportunity and Compliance Office ([reportandresponse@unc.edu](mailto:reportandresponse@unc.edu)), Counseling and Psychological Services (confidential), or the Gender Violence Services Coordinators ([gvsc@unc.edu](mailto:gvsc@unc.edu); confidential) to discuss your specific needs. Additional resources are available at [safe.unc.edu](http://safe.unc.edu) ↗ (<http://safe.unc.edu>).

## Additional Policies and Resources



Please refer to <https://curricula.unc.edu/wp-content/uploads/sites/1311/2022/10/Spring-2023-Policy-Insert.docx> ↗ (<https://curricula.unc.edu/wp-content/uploads/sites/1311/2022/10/Spring-2023-Policy-Insert.docx>) for additional information that applies to all undergraduate courses, including information on:

- Attendance Policy
- Honor Code
- Acceptable Use Policy
- Accessibility Resources and Services
- Counseling and Psychological Services (CAPS)
- Title IX Resources
- Policy on Non-Discrimination
- Diversity Statement
- Undergraduate Testing Center
- Learning Center
- Writing Center
- Grade Appeal Process



## Academic Policies and Services

- Honor Code
- IT Acceptable Use Policy
- Data Security and Privacy
- Accessibility
- Student Support


## Honor Code

Remember that as a student of UNC-Chapel Hill, you are bound by the University's [Honor Code](#)  (<http://honor.unc.edu/>), which states that "It shall be the responsibility of every student at The University of North Carolina at Chapel Hill to obey and support the enforcement of the Honor Code, which prohibits lying, cheating, or stealing when these actions involve academic processes or University students or academic personnel acting in an official capacity." An especially serious Honor Code violation is plagiarism. You may wish to take a [tutorial on plagiarism](#)  (<http://www.lib.unc.edu/plagiarism/>) that was developed by librarians at UNC, Duke, NCSU, and NCCU. If you have questions, please consult your instructor. Please note that downloading or printing out the quizzes or exams in Sakai is prohibited; doing so is considered a violation of the Honor Code.


### Plagiarism

[Plagiarism](#)  (<http://writingcenter.unc.edu/handouts/plagiarism/>) is a serious violation of the Honor Code. To become more familiar with the issues surrounding plagiarism, and how to best avoid this academic issue, view this brief [Plagiarism Tutorial](#)  (<http://guides.lib.unc.edu/plagiarism/purpose>) created by the librarians of UNC-Chapel Hill, Duke University, NC State University, and NC Central University. If you have any questions about what constitutes plagiarism or how to properly cite a source, please contact your instructor.

## IT Acceptable Use Policy


By enrolling as a student in this course, you agree to abide by the University of North Carolina at Chapel Hill policies related to the acceptable use of IT systems and services. You may be asked to participate in online discussions or other online activities that may include personal information about you or other students in the course. The rights and protection of other participants are protected under the UNC-Chapel Hill [Information Technology Acceptable Use Policy](#) 

<https://policies.unc.edu/TDCClient/2833/Portal/KB/ArticleDet?ID=131247#:~:text=Users%20may%20likewise%20not%20misuse,of%20others%27%20computer%20or%20da>, which covers topics related to using digital resources, such as privacy, confidentiality, and intellectual property.

Consult the University website "[Safe Computing at UNC](#)  (<https://safecomputing.unc.edu/>)," for information about the data security policies, updates, and tips on keeping your identity, information, and devices safe.

## Data Security and Privacy

### University and LMS Privacy Policies

- [UNC-Chapel Hill Privacy Statement](#)  (<https://www.unc.edu/about/privacy-statement/>)
- Sakai's Discussion Forum, Assignments, DropBox, Gradebook, and Tests & Quizzes tools are designed to share FERPA-protected information privately between instructors and individual

students.

## UNC-Supported Vendor Privacy Policies

*Add/Remove vendors as needed for the course, here and in the External Vendor section below.*

- **Microsoft** [↗\(https://www.microsoft.com/online/legal/v2/?docid=43\)](https://www.microsoft.com/online/legal/v2/?docid=43)
- **Zoom** [↗\(https://zoom.us/privacy\)](https://zoom.us/privacy)
- **VoiceThread** [↗\(https://voicethread.com/privacy/\)](https://voicethread.com/privacy/)
- **Warpwire** [↗\(https://www.warpwire.com/legal/privacy-policy/\)](https://www.warpwire.com/legal/privacy-policy/)
- **LinkedIn** [↗\(https://www.linkedin.com/legal/privacy-policy\)](https://www.linkedin.com/legal/privacy-policy)
- **Adobe Creative Cloud** [↗\(https://www.adobe.com/privacy/policy.html\)](https://www.adobe.com/privacy/policy.html)

## External Vendor Privacy Policies

- **OpenStax** [↗\(https://openstax.org/privacy-policy\)](https://openstax.org/privacy-policy)
- **OER Commons** [↗\(https://www.oercommons.org/privacy\)](https://www.oercommons.org/privacy)

When using online resources offered by organizations not affiliated with UNC-Chapel Hill, such as Google or YouTube, please note that the terms and conditions of these companies and not the University's Terms and Conditions apply. These third parties may offer different degrees of privacy protection and access rights to online content. You should be well aware of this when posting content to sites not managed by UNC-Chapel Hill. When links to sites outside of the unc.edu domain are inserted in class discussions, please be mindful that clicking on sites not affiliated with UNC-Chapel Hill may pose a risk for your computer due to the possible presence of malware on such sites.

## Accessibility

### Office of Accessibility/Accommodations

If you are a student with a documented disability, you can receive services through **Accessibility Resources & Service (ARS)**. [↗\(https://accessibility.unc.edu/\)](https://accessibility.unc.edu/) You must self-identify through ARS to receive services or accommodation from either of these offices. ARS works closely with programs, offices, and departments throughout the University to help create an accessible environment.

The office is located in Suite 2126 of the Student Academic Services Building (SASB), 450 Ridge Road, Chapel Hill, NC, and is open from 8 am to 5 pm Monday through Friday. You can contact them by phone at 919-962-8300 or 711 (NC-RELAY), or by email at [accessibility@unc.edu](mailto:accessibility@unc.edu) [↗\(mailto:accessibility@unc.edu\)](mailto:accessibility@unc.edu).

### Accessibility Statements











*Add/remove as needed for the course.*

### University and LMS Accessibility Statements

- **UNC-Chapel Hill Accessibility Statement** [↗\(https://www.unc.edu/about/accessibility/\)](https://www.unc.edu/about/accessibility/)

- [Sakai Voluntary Product Accessibility Statement](https://confluence.sakaiproject.org/pages/viewpage.action?pageId=110690616)    
 [. \(https://confluence.sakaiproject.org/pages/viewpage.action?pageId=110690616\).](https://confluence.sakaiproject.org/pages/viewpage.action?pageId=110690616)

External Applications integrated into the LMS Accessibility Statements


- [VoiceThread Accessibility Statement](https://voicethread.com/about/features/accessibility/)  [. \(https://voicethread.com/about/features/accessibility\).](https://voicethread.com/about/features/accessibility/)
- [Warpwire Accessibility Statement](https://www.warpwire.com/media/document/Warpwire-VPAT2.1-201810.pdf)  [. \(https://www.warpwire.com/media/document/Warpwire-VPAT2.1-201810.pdf\)](https://www.warpwire.com/media/document/Warpwire-VPAT2.1-201810.pdf)
- [Cengage Accessibility Statement](https://www.cengage.com/accessibility/)  [. \(https://www.cengage.com/accessibility/\)](https://www.cengage.com/accessibility/)
- [Lumen Learning Accessibility Statement](https://lumenlearning.com/policies/accessibility/)  [. \(https://lumenlearning.com/policies/accessibility/\)](https://lumenlearning.com/policies/accessibility/)
- [McGraw-Hill Education Accessibility Statement](https://www.mheducation.com/about/accessibility.html)    
 [. \(https://www.mheducation.com/about/accessibility.html\)](https://www.mheducation.com/about/accessibility.html)
- [Pearson Accessibility Statement](https://www.pearson.com/us/accessibility.html)  [. \(https://www.pearson.com/us/accessibility.html\)](https://www.pearson.com/us/accessibility.html)
- [RedShelf Accessibility Statement](https://www.about.redshelf.com/accessibility/)  [. \(https://www.about.redshelf.com/accessibility\)](https://www.about.redshelf.com/accessibility/)
- [WebAssign Accessibility Information](https://www.webassign.com/instructors/features/accessibility/)    
 [. \(https://www.webassign.com/instructors/features/accessibility/\)](https://www.webassign.com/instructors/features/accessibility/)
- [WileyPLUS Accessibility Statement](https://www.wiley.com/en-us/accessibility)  [. \(https://www.wiley.com/en-us/accessibility\)](https://www.wiley.com/en-us/accessibility)
- [W.W. Norton Accessibility Options](https://books.wwnorton.com/books/accessibility.aspx?id=4620)  [. \(https://books.wwnorton.com/books/accessibility.aspx?id=4620\)](https://books.wwnorton.com/books/accessibility.aspx?id=4620)

Supporting Sites and Technologies Accessibility Statements


- [Adobe Accessibility Statement](http://www.adobe.com/accessibility.html)  [. \(http://www.adobe.com/accessibility.html\)](http://www.adobe.com/accessibility.html)
- [LinkedIn Learning Accessibility](https://www.linkedin.com/accessibility/)  [. \(https://www.linkedin.com/accessibility\)](https://www.linkedin.com/accessibility/)
- [Microsoft Office Accessibility Statement](http://www.microsoft.com/enable/default.aspx)  [. \(http://www.microsoft.com/enable/default.aspx\)](http://www.microsoft.com/enable/default.aspx)
- [OER Commons Terms of Use: Accessibility](https://www.oercommons.org/terms)  [. \(https://www.oercommons.org/terms\)](https://www.oercommons.org/terms)
- [YouTube Accessibility Statement](https://support.google.com/youtube/answer/189278?hl=en)  [. \(https://support.google.com/youtube/answer/189278?hl=en\)](https://support.google.com/youtube/answer/189278?hl=en)

## Student Support

### Cancellation, Withdrawal, and Suspension



A registered student may terminate registration in three possible ways: cancellation, withdrawal, and suspension, depending on the circumstances. For definitions of these terms and the steps necessary to process each of them, see the [University Policy Memorandum](https://registrar.unc.edu/academic-services/policies-procedures/university-policy-memorandums/upm-7-cancellation-withdrawal-and-suspension/)  [. \(https://registrar.unc.edu/academic-services/policies-procedures/university-policy-memorandums/upm-7-cancellation-withdrawal-and-suspension/\).](https://registrar.unc.edu/academic-services/policies-procedures/university-policy-memorandums/upm-7-cancellation-withdrawal-and-suspension/)

### Policy on Non-Discrimination


The University is committed to providing an inclusive and welcoming environment for all members of our community and to ensuring that educational and employment decisions are based on individuals' abilities and qualifications. Consistent with this principle and applicable laws, the University's [Policy Statement on Non-Discrimination](https://eoc.unc.edu/our-policies/policy-statement-on-non-discrimination/)  [. \(https://eoc.unc.edu/our-policies/policy-statement-on-non-discrimination/\)](https://eoc.unc.edu/our-policies/policy-statement-on-non-discrimination/) offers access to its educational programs and activities as well as employment terms and conditions without respect to race, color, gender, national origin, age, religion, creed, genetic information, disability,

veteran's status, sexual orientation, gender identity or gender expression. Such a policy ensures that only relevant factors are considered and that equitable and consistent standards of conduct and performance are applied.

## Reporting Harassment or Discrimination


If a student is experiencing harassment or discrimination, they can seek assistance and file a report through the Report and Response Coordinators (see contact info at [safe.unc.edu](https://safe.unc.edu)  (<https://safe.unc.edu>)) or the [Equal Opportunity and Compliance Office](http://eoc.unc.edu)  (<http://eoc.unc.edu>).

Any administrator or supervisor, including a department chair, associate dean or other administrator, who receives notice of a student's complaint of alleged prohibited harassment, including sexual misconduct, or discrimination must contact the Equal Opportunity/ADA Office as soon as possible upon receipt of the complaint at 137 E. Franklin St., Suite 404, 919-966-3576.

Faculty and staff who experience discrimination or harassment can file a complaint on the [Equal Opportunity and Compliance Office](http://eoc.unc.edu)  (<http://eoc.unc.edu>) web site (look for the "Make a report" link on that page).

## Gender-Inclusive Language


The University of North Carolina at Chapel Hill is committed to providing an inclusive and welcoming environment for all members of our community. Consistent with that commitment, the gender-inclusive terms (chair; first-year student; upper-level student, etc.) should be used on University documents, websites and policies.

The UNC Writing Center has a [handout on Gender-Inclusive Language](http://writingcenter.unc.edu/tips-and-tools/gender-inclusive-language)  (<http://writingcenter.unc.edu/tips-and-tools/gender-inclusive-language>).

## Student Support Email and Phone Numbers

- To report acceptable use problems at UNC-Chapel Hill, call **919-962-HELP** or email: [abuse@unc.edu \(mailto:abuse@unc.edu\)](mailto:abuse@unc.edu).
- For issues involving copyrights or other policy concerns, call **919-445-9393** or email: [copyright@unc.edu \(mailto:copyright@unc.edu\)](mailto:copyright@unc.edu).
- For issues involving system security, call **919-962-HELP** email: [security@unc.edu \(mailto:security@unc.edu\)](mailto:security@unc.edu).
- For any other issues, please send email to [abuse@unc.edu \(mailto:abuse@unc.edu\)](mailto:abuse@unc.edu).

## QUESTIONS ABOUT THE COURSE?

Post on [Piazza](http://piazza.com/unc/spring2023/math210)  (<http://piazza.com/unc/spring2023/math210>)! Please make it public so that other students can benefit. Anonymous posts are fine.

If you have a private concern, please make a private post on Piazza to the instructor only, or email the instructor directly: [greenl@email.unc.edu](mailto:greenl@email.unc.edu).



# QUESTIONS ABOUT TECHNOLOGY?

Contact the ITS Service Desk:

- Chat: <https://help.unc.edu/>  [\(https://help.unc.edu/\)](https://help.unc.edu/)]
- [Online Help Request](http://help.unc.edu/)  [\(http://help.unc.edu/\)](http://help.unc.edu/)