

# MATH 315-010 - Elementary Linear Algebra

## Syllabus Spring 2021

Revised February 14, 2021

### General Course Information

**Instructor:** Dr. Novi Herawati Bong

Office : 313 Ewing Hall

Email : [nhbong@udel.edu](mailto:nhbong@udel.edu) (the best way to reach me)

Office Hours (**via Zoom**):

- W 4:00 PM - 5:00PM: <https://udel.zoom.us/j/96456442961> (waiting room will be used)
- TR: 1:00 PM - 2:00 PM: <https://udel.zoom.us/j/92651991011> (waiting room will be used)
- or by appointment.

**Lecture Section 010 Meets:** TR 09:30 AM - 10:45 AM (**via Zoom**):

<https://udel.zoom.us/j/95230784048>

**Textbook:** There will be no official textbook for this course. Please download *Applied Combinatorics*, by M. T. Keller and W. T. Trotter, and use it for all the background material that you might need. Available online for free (<https://open.umn.edu/opentextbooks/textbooks/339>).

**Pre-requisites:** MATH210

**Topics:** Graphs as models of networks, trees and distances, matchings and factors, connectivity and paths, coloring problems for graphs, planar graphs, computational geometry.

### Course Description

The objectives of this course are to study and understand the fundamental concepts of graph theory and computational geometry with a focus on algorithms whenever possible, to rigorously prove mathematical statements, to write correct proofs of such mathematical statements and to use computational tools such as SageMath to investigate problems in graph theory. The lectures are important for your understanding of the material and even though attendance is not mandatory, I expect that with the exception of medical or other extraordinary circumstances, each student should attend every class.

Mathematics is a constructive subject building on earlier material, so it is really important that you put a consistent and strong effort into learning this material. You should stay on top of the subject by spending some time (at least 1 hour) on it every day, and not just cram for exams. Otherwise, this course will leave you behind. Focus on understanding the material and key concepts and not on memorizing proofs. The best way to study mathematics is with a pen and paper in a quiet and relaxing space while all unnecessary electronics and other distractions are off. For study tips, check out this book: *Make It Stick: The Science of Successful Learning* by Peter C. Brown, Henry L. Roediger III and Mark Mc. Daniel <https://ebookcentral-proquest-com.udel.idm.oclc.org/lib/udel-ebooks/detail.action?docID=3301452>. It's very useful and interesting!

### Online lectures:

- I will be using Zoom to conduct class sessions virtually as scheduled. The zoom meeting is set up so that only authenticated users can join the course, so you have to login to Zoom using your UD credentials.

- The zoom link can be found on your course Canvas homepage, or in the beginning of this syllabus. **Please mute your mic once in the app**, otherwise we will have an audio mess. You are encouraged to turn your camera on.
- I will try to have the Zoom sessions recorded, if all goes well, and make them available for you to view later (hopefully on the same day, if Canvas allows it). You will be able to access them through **Media Gallery** in the course Canvas page.
- If you want **to ask questions**, you can **raise your hand**. To do that, you need to click on **”manage participant”**, there there is an icon to raise hand. Then you can unmute your mic and ask your questions.

**Course Website:** Please visit the course Canvas page **regularly** to find all related course material such as announcements, grades (for homework, quizzes, exams), and other resources (answer keys, study material). The Canvas page can be accessed through [udel.instructure.com](https://udel.instructure.com). **Please set your Canvas notification to: Notify me right away** so you will receive any announcement posted on Canvas page. You can check your setting on Canvas notification.

**Homework:** Assignments will be given throughout the semester, will be posted on Canvas assignment. Assignments will be out of 10 points. You have to type up your solutions (for example in Latex or Word, etc). **The submission will be online, you will need to upload your work (preferably in 1 pdf file) through Canvas.** Email submission will NOT be accepted.

**Quizzes:** There will be **3 Quizzes**. The plan right now is as follow: the quiz will become available on Canvas at 9 am of each quiz day, and will expire at midnight. You can take the quiz any time during the day. For every quiz, you will have 30 minutes time. Once you open the quiz on Canvas, the quiz time will start running. You will have to submit your quiz within 30 minutes from opening it.

**Exams:** There will be **three 75 minutes exams** that happen during the lecture session (tentative schedule: Week 4, Week 9, Week 14).

The exam will be proctored on Zoom. If you are not familiar about Zoom exam, please watch the following Youtube video on **how to take your exam via Zoom**. I will follow that procedure.

<https://www.youtube.com/watch?v=ZH14w9JQ3eQ&list=PL9BDjDnNoh58CnNo-slj93VZMT0yuFkjf>

Here is the link to help:

<https://services.udel.edu/TDClient/32/Portal/KB/ArticleDet?ID=702>

**Academic Integrity** Cheating will not be tolerated. For details of the University of Delaware policy on academic integrity, consult the student handbook at the following website:

<http://www1.udel.edu/stuguide/20-21/index.html>

also see:

<http://www1.udel.edu/studentconduct/ai.html>

## Grading

### Weights

Homework	Quizzes	Exams	Project
30%	10%	50%	10%

## Grade Scale

Final Grade	A	A-	B+	B	B-	C+	C	C-	D+	D	D-	F
Final Average	≥ 90	≥ 86	≥ 82	≥ 79	≥ 76	≥ 72	≥ 69	≥ 65	≥ 62	≥ 58	≥ 55	< 55

**Students with Disabilities** If you need an accommodation for any type of learning disability, for ADD/ADHD, for vision or hearing problems, or for any other disability, it is your responsibility to contact the Office of Disability Support Services for evaluation. You can investigate the available services and the procedures for getting an approved accommodation at the website: <http://www.udel.edu/DSS/> Once you have been evaluated and an accommodation has been approved, you should schedule a meeting with me so that we can privately discuss any measures that are necessary for you to fully participate in the course and so that I can fairly evaluate your progress. You should be aware of two issues: (1) It can take some time to get evaluated. Act quickly and start the process as early as possible if you think that you have an issue that needs to be addressed. (2) Attempting to take advantage of accommodations for which you have not been approved is a violation of the academic integrity policy and will be dealt with as such. For returning UD students, make sure that you are aware of the current procedures – some things may have changed. There is information about the Student Accommodation Manager on the DSS home page.

## Academic Calendar and other Important Dates for Spring 2021

A complete academic calendar is available at:

<http://www1.udel.edu/registrar/cal/calendars/2020-2021.pdf>

Here are some important dates:

Day	Date	Description
Monday	Feb 15, 2021	Spring Semester starts
Friday	Feb 26, 2021	Last day to register or add class without fee; Last day to drop without W on transcript;
Saturday	Mar 27, 2021	Passover starts and continues for seven days
Tuesday	Mar 30, 2021	Blue Hen Re-Coop Day, classes suspended
Friday	Apr 2, 2021	Mid-semester grades for Freshmen are due to UDSIS Good Friday
Monday	Apr 5, 2021	Registration begins for Summer Session 2021
Monday	Apr 19, 2021	Registration begins for Fall semester 2021 Blue Hen Re-Coop Day, classes suspended
Monday	May 3, 2021	The last day to withdraw or change registration status without penalty
Wednesday	May 12, 2021	Eid al-Fitr begin at sundown, continues until sundown Thursday, May 13, 2021.
Tuesday	May 18, 2021	Last day of classes
Wednesday	May 19, 2021	Reading Day
Thursday	May 20, 2021	Final examinations begin
Thursday	May 28, 2021	Final examinations end
Tuesday	June 1, 2021	Deadline for 2021 Spring semester grades to be posted to UDSIS.

**This syllabus is subject to change.**