Instructor: Mr. Thomas Luckner
Email:luckner@email.sc.edu
Office: 122A
Office Hours: In person- MW 2:30-3:30,
Online via Blackboard- T 1:30-2:30,
or by appointment

COURSE DESCRIPTION AND OBJECTIVES

Prerequisites: Prerequisites: MATH 344L

 Course or Test: MATH - Mathematics 344 with minimum Grade of C. This may be taken concurrently.

Learning Outcomes: Upon successful completion of the course, students are expected to gain the foundational skills needed for working in MATLAB and should be able to use these skills for solving basic problems in applied linear algebra.

General Class Structure: The assignments for the week will be posted on Blackboard along with a quick video on how to use MATLAB to do similar tasks with a follow along lab. All assignments will be due on the Friday of the week they were given out on Blackboard. All details will be given in the weekly email update at the beginning of the week. Office hours are a perfect time to ask questions about the assignments.

REQUIRED MATERIALS

- **Online Materials: <u>MATLAB!!!</u>** This will be our main tool throughout the semester and must be used to do ANY assignment in this class. You can find this software on the University of South Carolina page. A link will be put on Blackboard as to where to get access. All other online materials are PROHIBITED.

COURSE POLICIES AND EXPECTATIONS

Attendance: Students are expected to attend every class activity. This will be done via Blackboard's statistics of who watches the videos I post. The instructor reserves the right to exact a grade penalty for students whose absences are in excess of 10 percent of the scheduled class sessions (call it weeks for this online class for which there are 15 weeks), whether excused or unexcused.

Participation: All members are expected to participate during class and may be called upon to respond to classroom discussions.

<u>All participants are expected to show respect to other students, the instructors, and any guests who may be visiting the class during the year (Golden Rule).</u>
<u>If a grade is borderline, participation will be a key factor in determining the final grade (ex: good attendance and borderline C+/B will lend to a B).</u>

Technology: Technology is 100% necessary to partake in this class. This includes a computer, access to internet and Blackboard, access to email, access to MATLAB, and, if you do not want to do in-person office hours, access to a webcam.

Academic Integrity: I expect you to familiarize yourself with the Honor Code found in the current student handbook. Keep in mind that "Any student who violates this Honor Code or who knowingly assists another to violate this Honor Code shall be subject to discipline." Honor Code & Carolina Creed: https://www.sa.sc.edu/creed/

Students with Disabilities: Students who would like to request accommodations for disabilities must talk to me as soon as possible (after class or during office hours). Students must register with the Office of Student Disability Services (LC 112A) before I can make any accommodations.

Studying: In most classes the professor/instructor will tell you the basic rule of "study at least 2-3 hours out of class for every hour within class." In this class, I recommend you do not "study" as these people may suggest. I recommend reiteration and trial for this class. The best way to learn how to code especially in linear algebra, is to try yourself! My videos will show you the new commands and sometimes what they do, but it is up to you to find how this is helpful. The homework will be a good guide, but just playing around with the software is highly suggested.

Late/Make-Up Policy: Homework can only be turned in late if there is a prior warning as to why it is not coming in on time in the first place. I do not take kindly to lying in terms of this and value honesty. Even if it is due to other school work why you won't be able to get it to me on time, let me know ahead of time and maybe we can figure something out! As for the project, you will have all semester to work on this project. The date is firm and no late time will be allowed/given.

ASSIGNMENTS

Homework: HOMEWORK IS THE MOST IMPORTANT PART OF THIS CLASS!!!!
Homework will be assigned on a regular basis, and due weekly. These homeworks will be labeled as lab assignments. All assignments will be completed online where the instructions for turning in will be on Blackboard and on the PDF posted on Blackboard. The homework sets will be announced at the beginning of the week (Monday) along with whatever other information the week brings. If you have questions, please email me. Homework is supposed to help you learn the material and, thus, **asking questions is highly encouraged**. This will help you not fall behind as the course will move quickly. It is your responsibility to work through the homework problems in their <u>entirety</u> in order to gain mastery of the material. Students are encouraged to consult each other on homework, but each student must personally submit his or her own solutions **IN HIS OR HER OWN WORDS**. In other words, do not submit identical code or the same thing, but with the variables named differently. Discussion should not be "tell me exactly the code you wrote" it should be "how did you do this problem". Otherwise, this is a form of cheating. In previous classes, students have gone to Chegg for solutions to these lab assignments. This is both cheating and defeats the purpose of the assignment. I have access to Chegg and will be comparing all homeworks to the Chegg solutions. Late homework will **NOT** be accepted unless the precautions explained in the Late/Make-up Policy are taken.

Project: There will be a project worth 25% of your grade. You will choose from a list of outlined topics given and answer the questions as presented by the instructor via MATLAB. This will be due **Decemeber 1st, 2020 at noon**. Notice this is the last day of classes, so plan accordingly. This is to give you a taste of what this software and linear algebra is capable of in the real world. Below are the topics. A sheet will be posted on Blackboard with specific details regarding the project.

Topics:

1. Cryptography
2. Markov Chains
3. Game Theory
4. Anything That Interests You That Uses Linear Algebra

EVALUATION

Lab Assignments…..75%

Project..25%

Final Grades will use the following scale (Note this is slightly different than the university grade scale.)

A	B+	B	C+	C	D+	D	F
100-90%	89-86%	85-80%	79-76%	75-70%	69-66%	65-60%	<60%

USEFUL WEBSITES:

- Blackboard Website: https://blackboard.sc.edu
- Software Support for Calculations: http://www.wolframalpha.com/ or http://www.khanacademy.org/
- Good app to use for notes and handouts, "Notability"

SUPPORT:

- My Office Hours (top of page 1)
- FREE TUTORING In LC 105 - *Check room, but usually Monday-Thursday 10am-3pm.*
- Student Success Center – Offers FREE tutoring and FREE 1 on 1 ONLINE tutoring. (http://www.sa.sc.edu/ssc/)

Hint for making learning easier: *Fuddle around with the software! You will learn best by just playing around and learning commands.*

Important Dates:

- 8/26/2020 Last day for students to DROP without a grade of "W".
- 11/4/2020 Last day for students to DROP or withdraw without a grade of "WF".
  Schedule is tentative and subject to change

Date	Sections Covered
8/24-8/28	Lab 0
8/31-9/4	Lab 1
9/7-9/11	Lab 2
9/14-9/18	Lab 3
9/21-9/25	Lab 4
9/28-10/2	Lab 5
10/5-10/9	Lab 6
10/12-10/16	Lab 7
10/19-10/23	Lab 8
10/26-10/30	Lab 9
11/2-11/6	Lab 10
11/9-11/13	Lab 11
11/16-11/20	Lab 12
Thanksgiving week	Enjoy time with your families and friends
December 1st	Project is due on Blackboard