Math 220-1  
Summer 2020

Instructor: Jessica Dickson  
Teaching Assistant: Sahar Nesaei  
Office Hours: TWTh Noon-1pm  
TA Office/MLC Hours: TBD  
Email: jmdickson@wsu.edu  
TA Email: sahar.nesaei@wsu.edu  
Web: Blackboard (https://learn.wsu.edu)

Meeting Times: M-F, 9am – 10:15am via Zoom  
Credits: 2  
Prerequisites: Math 171 or concurrent enrollment.

Accessing Zoom Class Link: You can access the zoom link using Blackboard or contact the instructor.

Accessing Office Hours: You can access Zoom office hours using Blackboard or contact the instructor.

Required Materials:
Linear Algebra and Its Applications by David Lay, Fifth Edition (available with online homework).

MatLab or Octave: MatLab is available free for students through Washington State University.  

Course Topics: We will cover material from chapters 1 – 6: Linear equations, matrix algebra, determinants, vector spaces, eigenvalues and eigenvectors, orthogonality.

Learning objectives: After successfully completing this course, a student will (at a minimum) be able to:

- Correctly define and use key terms, including: linear system, linear combination, linear independence, echelon form, linear transformation, onto, one-to-one, matrix inverse, subspace, column space, row space, basis, dimension, rank, eigenvalue, eigenvector, inner product, orthogonality, orthogonal projection.
- Correctly perform the following procedures: solving linear systems using row reduction (a.k.a. Gaussian elimination); adding, subtracting, multiplying and inverting matrices; finding the determinant of a matrix; finding eigenvalues and eigenvectors of a matrix; the Gram-Schmidt process.
- Understand, discuss and apply the relationship between the properties of a matrix A and those of the corresponding transformation  T(x)=Ax.
**Attendance:** Lectures will be held live through Zoom during the scheduled course time and regular attendance is expected. Most (but not all) lectures will be recorded. If you miss a day and would like access to a recorded lecture (if available), you can email me for the link. Note that recorded lectures will not be made automatically available. Powerpoint slides from each lecture will be made available.

**Grading:**
The point distribution will be weighted as follows:

- Learning Catalytics (Best 15/18) 10%
- Homework Assignments 40%
  - Standard (Best 19/21) (17%)
  - TA – Graded (Best 19/21) (17%)
  - Computer Project (Best 4/5) (6%)
- Midterm Exam 25%
- Final Exam 25%

Final grades will be determined by the scale:

- 90-91.9% A-
- 92-100% A (A+ can not be given)
- 80-81.9% B-
- 82-87.9% B
- 88.0-89.9% B+
- 70-71.9% C-
- 72-77.9% C
- 78.0-79.9% C+
- 60.0-69.9% D
- Below 60.0% F

**Learning Catalytic:**
During live lectures there will be occasional solo or group questions asked requiring an answer using Pearson’s Learning Catalytics. There will be a limited window of time in which questions may be answered (usually 2 to 5 minutes). You will not be able to answer questions outside of this window. A correct question is awarded full credit, an incorrect question is awarded half credit, and no answer receives no credit. Scores are averaged by lecture. The lowest 3 daily averages will be dropped.

**Homework Assignments:**
All homework is assigned & completed through Pearson’s MyLab and accessed through Blackboard. Assignments will not always be explicitly assigned during lecture so keep an eye on MyLab for due dates. There are three primary types:

- **Standard MyLab homework assignments** which are automatically graded. These problems can be reworked as many times as needed. They can also be completed past the due date at a 25% penalty (up to June 5th). The lowest 2 scores will be dropped at the end of the term.
- **TA-graded assignments** usually have hand-typed answers that will be graded by a teaching assistant. **No late TA-graded assignments will be accepted.** The lowest 2 scores will be dropped at the end of the term.
- **Computer Projects** can be completed using either MatLab (or Octave). They can also be completed past the due date at a 25% The lowest score will be dropped.
Exams
There will be a Midterm exam around May 22nd and a Final Exam on June 5th. Exams will be work-focused with an emphasis on clearly explaining steps and thought process. There are no make-up or early exams. More information will be available when we get closer to the exam.

Notes:
- This is an incredibly fast course – only 4 weeks long. This means it is extra important to study daily as the class moves quickly and there is no time to “catch up” later. Students can expect to spend a minimum of 2 hours out of class to every hour in class on homework. Please plan accordingly.
- The reasoning behind dropping assignments is to account for unavoidable absences or other circumstances that may prevent a student from completing an assignment. This means that extensions or make-up work will not be allowed in most circumstances. If something very unusual happens please let me know as soon as possible to see what options you may have in continuing with the course.

Schedule: This is a tentative outline of the course and is subject to change.

Week 1: 1.1, 2, 3, 4, 5, 7
Week 2: 1.8,9 / 2.1, 2, 3 & MIDTERM
Week 3: 2.8, 9 / 3.1, 2 / 5.1, 2
Week 4: 6.1, 2, 4 & FINAL

Students with Disabilities
Reasonable accommodations are available for students with a documented disability. If you have a disability and need accommodations to fully participate in this class, please either visit or call the Access Center (Washington Building 217; 509-335-3417) to schedule an appointment with an Access Advisor. All accommodations must be approved through the Access Center.

Academic Integrity
All members of the university community share responsibility for maintaining and promoting the principles of integrity in all activities, including academic integrity and honest scholarship. Students are responsible for understanding the full Academic Integrity Statement found here [link]. Students who violate WSU’s Academic Integrity Policy (identified in WAC 504-26-010(3) and -404) will fail the course and will not have the option to withdraw from the course pending an appeal, and will be reported to the Office of Student Conduct. If you have any questions about what is and is not allowed in this course, you should ask course instructors.

Accommodation for Religious Observances or Activities
Washington State University reasonably accommodates absences allowing for students to take holidays for reasons of faith or conscience or organized activities conducted under the auspices of a religious denomination, church, or religious organization. Reasonable accommodation requires the student to coordinate with the instructor on scheduling examinations or other activities necessary for course completion. Students requesting accommodation must provide written notification within the first two weeks of the beginning of the course and include specific dates for absences. Approved
accommodations for absences will not adversely impact student grades. Absence from classes or examinations for religious reasons does not relieve students from responsibility for any part of the course work required during the period of absence. Students who feel they have been treated unfairly in terms of this accommodation may refer to Academic Regulation 104 – Academic Complaint Procedures.

**Classroom and Campus Safety**

Please sign up for emergency alerts on your account at MyWSU. For more information on this subject, campus safety, and related topics, please view the FBI’s Run, Hide, Fight video and visit the classroom safety page [https://provost.wsu.edu/classroom-safety/](https://provost.wsu.edu/classroom-safety/).