

**COURSE DESCRIPTION**  
**INTRO TO LINEAR ALGEBRA**  
**MA 260-2B**  
**SPRING 2020**

DEPARTMENT OF MATHEMATICS  
UNIVERSITY OF ALABAMA AT BIRMINGHAM

**Course Instructor:** Fatoumata Sanogo  
**E-mail:** sanogof1@uab.edu  
**Office:** University Hall 4011  
**Phone:** (205) 934-8621  
**Office Hours:** TBA

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**Course Info**

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**Meeting times:** Tue/Thu, 3:30-4:45 PM  
**Meeting location:** HHB 221  
**Required Textbook:** *Elementary Linear Algebra* 11th Edition by Howard Anton and Chris Rorres, 2014, Sections: 1.1-1.8, 2.1-2.3, 3.1-3.3, 4.1-4.6, 5.1-5.2, 7.1-7.2

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**Important Dates**

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**First day of our class:** January 14, 2020  
**Martin Luther King Holiday:** , January 20, 2020  
**Last day to drop without paying full tuition:** January 21, 2020  
**Spring Break:** March 16–March 22, 2020  
**Last day of our class:** April 23, 2020  
**Midterm Date:** TBA  
**Final Exam Date:** **Wednesday**, April 29, 2020 (common final)

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**Course Policies**

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- Please make sure that you are able to receive e-mail through your Blazer-ID account.
  - If your are contacted by the Early Alert Program, you should consider taking advantage of the services it offers.
  - If you wish to request a disability accommodation please contact DSS at 934-4205 or at [dss@uab.edu](mailto:dss@uab.edu).

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**Course Description**

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linear systems, gaussian elimination, determinants, vector spaces, eigenvalues and eigenvectors, diagonalization, singular value decomposition, and applications in image compression, graph theory, population dynamics and computer graphics

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## Course Content

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- Linear Equations: Gaussian Elimination
  - Matrices: Matrix Operations and Properties, Invertible Matrices and Inverses
  - Determinants: Cofactor Expansion, row Reduction, Cramer's Rule
  - Euclidean Vector Spaces: Vectors, Norm, Dot Product and Distance, Orthogonality
  - General Vector Space: Real Vector Spaces, Subspaces, Linear Independence, Basis, Dimension
  - Eigenvalues and Eigenvectors
  - Diagonalization: Symmetric Matrices, Orthogonal Diagonalization
  - Selected Additional Topics: Singular Value Decomposition and Applications in Image Analysis, Graph Theory, Biology
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## Class Management via Canvas

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- Homework problems will be posted in canvas (<http://www.uab.edu/online/canvas>). Other class materials (class announcements, codes, grades and etc.) will be posted in canvas. Students should log in to canvas at least once a day! (I prefer to receive emails via canvas.)
  - Homework assignments, projects and activities will only be collected on canvas.
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## Assessment Procedures

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- Student achievement will be assessed by the following measures:
  - **Weekly class activity.** Class activity will be due weekly. There will be no extension of deadlines for any reason. Class activity contributes 10% to the course average.
  - **Weekly homework.** Homework will be due weekly. There will be no extension of deadlines for any reason. Homework contributes 20% to the course average.
  - **Project.** The project contributes 10% to the course average
  - **Midterm exam.** There will be two midterm exam. Each midterm exam contributes 15% to the course average.
  - **Final exam.** The final exam contributes 30% to the course average.

Grading Scheme: 30% class activity/hw, 30% midterm exams, 10% project, 30% final exam

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- Your final grade is determined according to the following table:

Course performance:	88-100	75-87	62-74	50-61	below 50
Final Grade:	A	B	C	D	F

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## Academic Honor Code

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The University of Alabama at Birmingham expects all members of its academic community to function according to the highest ethical and professional standards. Academic misconduct undermines the purpose of education. Such behavior is a serious violation of the trust that must exist among faculty and students for a university to nurture intellectual growth and development. Academic dishonesty and misconduct includes, but is not limited to, acts of abetting, cheating, plagiarism, fabrication, and misrepresentation. Candidates are expected to honor the UAB Academic Honor Code as detailed in the most current UAB Student Catalog. Please consult this resource (<https://www.uab.edu/students/one-stop/policies/academic-honor-code>) for additional information regarding the specific procedures to be undertaken when a student violates the UAB Academic Honor Code.

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**Non-harassment, Hostile Work/Class Environment**

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The UAB College of Arts and Sciences expects students to treat fellow students, their Course Instructors, other UAB faculty, and staff as adults and with respect. No form of hostile environment or harassment will be tolerated by any student or employee.

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