



TAIBAH UNIVERSITY
COLLEGE OF SCIENCE
MATHEMATICS DEPARTMENT

SYLLABUS: MATH 243

COURSE : Linear Algebra 1

CODE : MATH 243

TEXTBOOK : Howard Anton, Chris Rorres, Elementary Linear Algebra. **Edition 11**

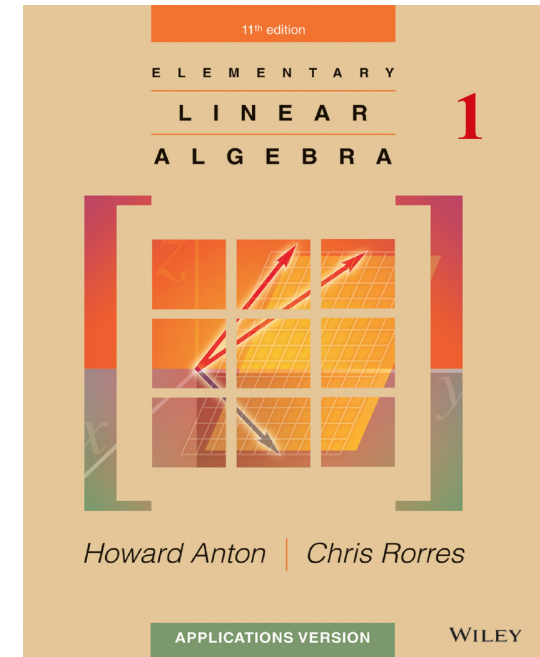
GRADES :

- Homework, Quizzes and Participation : 20%
- Midterms: 40%
- Final: 40%

NOTE : **Simple calculators are allowed.**

IMPORTANT DATES :

Exams	Date	Time
First Periodic Exam		
Second Periodic Exam		



COORDINATOR : Dr. C. BEDDANI

W	Sections	Topics	Examples	Proofs	HW
1+2	1.1 1.2	Introduction to Systems of Linear Equations Gaussian Elimination	1, 2, 3, 4, 5, 6. 1, 2, 3, 4, 5, 6, 7, 8.		1, 2, 6(a), 9(b), 20(a) 1, 2, 7, 13, 32.
3	1.3 1.4	Matrices and Matrix Operations Inverses: Algebraic Properties of Matrices	1, 2, 3, 4, 5, 6, 11,12 1, 2, 3, 4, 5, 7,9, 10, 12.	1.4.6, 1.4.9	2, 3, 6(e,f), 23. 8, 10, 16, 17, 22
4	1.5 1.6	A Method for finding A^{-1} More on Linear Systems and Invertible Matrices	4, 5. 1, 2.	1.6.2	13, 18, 19 5, 8, T2
5	1.7 2.1	Diagonal, Triangular, and Symmetric Matrices Determinants by Cofactor Expansion	1, 2, 4, 5, 6. 1, 2, 3, 4, 5, 6, 7,	1.7.2, 1.7.4	2, 8, 14, 19, 21, 22, 23, 25, 41. 3, 11, 13, 21, 29,
6	2.2 2.3	Evaluating Determinants by Row Reduction Properties of Determinants; Cramer's Rule	2, 3, 4, 5 1, 3, 4, 5, 6, 7, 8.	2.2.1 2.3.5	9, 12, 15, 18, 19, 21, 30, 4, 12, 16, 20, 21, 24, 29.
7+8	4.1 4.2	Real Vector Spaces Subspaces	1, 2, 4, 5, 6, 7, 8, 1, 4, 5, 6, 9, 10, 11, 13, 14, 15, 16.	4.1.1 (a,c) 4.2.2, 4.2.3, 4.2.4	1, 2, 11 1(a,c), 2(b,c, e), 4, 7, 8, 11, 13.
9	4.3	Linear Independence	1, 2, 3, 4, 5.		1, 2(a), 4(b), 5(a), 10(a).
10	4.4	Coordinates and Basis	1, 2, 3, 4, 5, 7, 8, 9.	4.4.1	1, 2, 3, 6, 11, 14(a).
11	4.5 4.6	Dimension Change of Basis	1, 2, 3, 4, 5, 1, 2, 3.		1, 7, 11, 14, 18. 1, 3, 6, 9.
12	4.7 4.8	Row Space, Column Space, and Null Space Rank and Nullity	1, 3, 4, 5, 6, 7, 8, 10. 1, 2, 3		8(b), 13, 14, 16. 1(a), 2(a)
13		Revision & Review			