

Information

Math 338

Professor	Marcello Lucia Office 1S-226, marcello.lucia@csi.cuny.edu http://www.math.csi.cuny.edu/~mlucia/								
Time and Place	Monday: 4:40–6:20pm, 3S-119 Wednesday: 4:40–6:20pm, 3S-119 Office hours: Monday: 1:20–2:10pm Wednesday: 1:20–2:30pm.								
Textbook	INTRODUCTION TO LINEAR ALGEBRA, by <i>Strang (4th Edition)</i> Wellesley-Cambridge Press & Co. (2009) ISBN: 978-0-9802327-1-4								
Course Outline	This course aims to study linear systems, and introducing the general concepts of linear map.								
Course Grade	The final course grade is determined as follows: <table><tr><td>Quizzes</td><td>20%</td></tr><tr><td>First Test</td><td>20%</td></tr><tr><td>Second Test</td><td>20%</td></tr><tr><td>Final</td><td>40%</td></tr></table> <p>Quiz: <i>Every Monday, you should expect to have a quiz</i></p> <ul style="list-style-type: none">• There will be a total of 10 quizzes, each one will be graded out of 10 (a total maximal sum of 100)• The sum of those quizzes will be 20% of the final grade• A sum ≤ 40 will be an F for this class <p>First test: October 14th Second Test: November 18th Final: Refer to the official calendar of CSI</p>	Quizzes	20%	First Test	20%	Second Test	20%	Final	40%
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Integrity policy	Cheating hurts everybody. Please refer to http://www.csi.cuny.edu/privacy/cuny_academic_integrity.pdf								
Cell phone	Let us stay focused on the class ! Thus, cell phone should be switched off.								
Lesson Plans	Below, each lesson corresponds to a 100 minutes class								

Lesson	Sections	Topics	Homework
1	1.1	Vectors, Linear combinations	p.8
2	1.2	Dot Products	p.19
3	1.3, 2.1	Matrices, Linear equations	p.29, p.40
4	2.2	Elimination	p.51
5	2.3	Elimination using matrices	p.63
6	2.4	Matrix operations	p.75
7	2.5	Inverse matrices	p.89
8	2.6	Factorization $A=LU$	p.102
9	2.7	Transpose, permutations	p.115
10	3.1	Vector spaces	p.127
11		Exam 1 (October 14th)	
12	3.2	Null space	p.140
13	3.3	Rank, reduced form	p.151
14	3.4	Solution to $AX = b$	p.163
15	3.5	Independence, basis, dimension	p.178
16	3.6	Dimension of the four subspaces	p.190
17	4.1	Orthogonality of the four subspaces	p.202
18	4.2	Projections	p.214
19	4.3	Least squares approximations	p.226
20	4.4	Orthogonal Bases and Gram-Schmidt	p.239
21		Exam 2 (November 18th)	
22	5.1	Determinants	p.251
23	5.3	Cramer's rule, inverses	p.279
24	6.1	Eigenvalues	p.293
25	6.2	Diagonalizing a matrix	p.307
26	6.3	Applications	p.325
27	7.1	Linear Transformations	p.380-381
28		Review	