

LINEAR ALGEBRA
FALL '08 [MATH-210-2]
SEPT 2 – DEC 21

ROB 201B

T,R 3:15-4:30

SEPT	2	T	INTRO. LECTURE	
		R	1.1, 1.2	
	9	T	1.3, 1.4	
		R	1.4, 1.5	
	16	T	1.6, 1.7	
		R	2.1, 2.2	
	23	T	2.3	
		R	REVIEW	
	30	T	ROSH HASHONAH – NO CLASS	
OCT.	2	R	TEST 1 (1.1 - 2.3)	
	7	T	RETURN TEST	
		R	YOM KIPPUR – NO CLASS	
	14	T	3.1, 3.2, 3.3	
		R	3.3, 3.4, 3.5	PROJECT #1 DUE
	21	T	4.1, 4.2	
		R	4.2, 4.3	
	28	T	5.1, 5.2	
		R	5.3, 5.4	
NOV	4	T	ELECTION DAY – NO SCHOOL	
		R	5.5, 5.6	
	11	T	REVIEW	
		R	TEST 2 (3.1 - 5.6)	
	18	T	RETURN TEST	
		R	6.1, 6.2	
	25	T	6.2, 6.3	
		R	THANKSGIVING - NO SCHOOL	
DEC	2	T	6.6, 7.1	
		R	7.2, 7.3	
	9	T	8.1, 8.2, 8.3	PROJECT #2 DUE
		R	REVIEW FOR FINAL	

FINAL EXAM WEEK: MON. DEC 15 – FRI. DEC 19

FINAL EXAM (EXAM ON ALL CHAPTERS) - THURSDAY, DEC 18, 12:30 - 2:30

1. AFTER MATERIAL IS COMPLETED IN CLASS, THE HOMEWORK FOR THAT MATERIAL IS DUE THE VERY NEXT CLASS DAY.
2. STUDENTS ARE RESPONSIBLE FOR KNOWING ALL RULES AND REGULATIONS. IT IS THEIR DUTY TO FIND THEM OUT EVEN IF CLASS EXPLANATIONS ARE MISSED.
3. ATTENDANCE IS REQUIRED. THERE IS NO MAKE-UP FOR MISSED WORK UNLESS ABSENCE IS EXCUSED.
4. STUDENTS ARE ENCOURAGED TO WORK TOGETHER ON HOMEWORK AND GENERAL STUDYING. TESTS ARE THE EXCEPTION - THESE ARE PURELY INDIVIDUAL ACTIVITIES AND JOINT WORK IS NOT ACCEPTABLE.
5. THIS COURSE IS NOT AVAILABLE ON A PASS/NO CREDIT OPTION.

HOMEWORK ASSIGNMENTS

ASSIGN # =====	SECTION =====	PAGE =====	PROBLEMS =====	TOTALS =====
1	1.1	6	1,3,4,5,6,8	6
2	1.2	19	1,2,3,4,5,7,9	7
3	1.3	34	1,3acei,4,5,6,12,18	7
4	1.4	48	1,3,5,7,12,14,17,21	8
5	1.5	57	1,2,3ad,5,6,10,17	7
6	1.6	66	1,3,5,7,17,24,25	7
7	1.7	73	1,3,4,5,6,15,18	(49) 7
8	2.1	94	1,3,4,7,9,11,13,17,19	9
9	2.2	101	1,3,5,7,9,13,15	7
10	2.3	109	1,2,3,4,6,8,9,16,18	9 (25)
12	3.1	130	3,4,5,6,7,8,10	7
13	3.2	134	1,2,3,4,6,7,11	7
14	3.3	142	1ac,2ac,3ac,4ac,5ac,6ac,10,13,18,25	10
15	3.4	153	1ad,2a,3a,9,15,20	5
16	3.5	162	1ac,2ac,3a,4a,5,7,9ac,21	(37) 8
17	4.1	178	1abc,2,3,4,6ace,7,9ac,15	8
18	4.2	193	1ad,2ab,5ab	3
19	4.3	206	1,3,5ab,9ab	(15) 4
20	5.1	226	1,2,3,5,10,12,17	7
21	5.2	238	1,2ac,3,5,8a,11,12,21	8
22	5.3	248	2ab,3ab,4a,5a,7a,9,15	7
23	5.4	263	1ab,2ab,5,6,12,15,23	7
24	5.5	276	1,3ab,5a,6ab,7ab,9a	6
25	5.6	288	1,2ac,4abc,5,6,19	(41) 6
26	6.1	304	3,4,7a,9ab,11ab,17,20,24	8
27	6.2	315	1ace,3,5ac,10,19,21	6
28	6.3	328	1ab,2ab,3ab,4ab,9a,16a,17a	7
29	6.6	354	2,3ace,4a	3 (24)
31	7.1	367	1ab,2ab,3ab,4ab,5ab,6ab	6
32	7.2	378	1,2,5,9,10,18	6
33	7.3	383	1abc,2,3,5	(16) 4
34	8.1	398	1,3,5,11,15,32	6
35	8.2	405	1,3,5,7,11	5
36	8.3	413	1ace,3ac,7ac,9	(15) 4
GRAND TOTAL				222

Each problem counts as 1 point. There is **NO CREDIT** for parts of problems. You either get full credit (1 point) for each problem or no credit.

APPLICATIONS LAB ASSIGNMENTS

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THESE ASSIGNMENTS ARE GROUP ACTIVITIES.

DO ANY TWO OF THE APPLICATION PROJECTS ASSOCIATED WITH THE SECTIONS IN CHAPTER 11 IN THE BOOK. THAT IS, FROM SECTIONS 11.1 THRU 11.20 IN THE TEXT BOOK, WITH THE FOLLOWING QUALIFICATIONS:

1. CHOOSE NO MORE THAN ONE PROJECT PER CHAPTER.
2. TURN IN YOUR CHOICES FOR PROJECTS TO THE PROFESSOR IN ADVANCE IN WRITING TO GET APPROVAL FOR YOUR CHOICES. NO TWO GROUPS ARE ALLOWED TO DO THE SAME PROJECT. THEREFORE HAVE BACKUP PROJECTS IN MIND IN CASE YOUR FIRST CHOICE IS REJECTED. TURN IN BOTH THE LIST OF FIRST CHOICES AND THE LIST OF BACKUP CHOICES.

EXTRA CREDIT PROJECTS ARE INDIVIDUAL PROJECTS AND DUE BY THE LAST DAY OF CLASS. YOU MAY CHOOSE ANY ONE OF THE PROJECTS THAT WERE NOT CHOSEN AS GROUP PROJECTS FOR EXTRA CREDIT. THEREFORE YOU MUST GET APPROVAL FOR YOUR EXTRA CREDIT PROJECT FROM THE PROFESSOR BEFORE YOU START THE PROJECT.

Documentation Standards:

The general format and contents of each lab assignment should be as follows:

As a guiding rule, the write-up should contain enough explanation and detail to allow someone to understand your PROJECT with confidence.

The write-up should be on standard 8.5 x 11 inch paper. It should be typed, or if hand written - printed very neatly. All pages should be stapled together in the upper left hand corner.

The write-up must contain the following parts, each beginning on its own page and in the order listed:

- I. Cover sheet with the project title. Also list YOUR group number and all people from your group who have worked on this project.
- II. Second page with the exact statement of the Project problems. (You may photocopy the problems from the text).
- III. Project Problem solutions showing all work. The work must be clear, neat and with detailed explanations. View this as an essay assignment.

The PROJECTS will be due ON THE DATES SPECIFIED BY THE PROFESSOR ON THE TOP PAGE ABOVE.

Cover Sheet Format

	GROUP NO.:	
Course:	GROUP Names:	
Reference No.:	Date:	
APPLICATION PROJECT SECTION NO.:		
	PROJECT TITLE	

Second Sheet

EXACT STATEMENT OF PROBLEM
(COPIED FROM TEXT - MAY BE XEROXED)
(MAY TAKE SEVERAL PAGES)

GROUP RESPONSIBILITIES

1. Set up 3-5 person groups:
 - a. Each group gets two 3x5 cards and put all names of group members and phone numbers on them.
 - b. Elect group leader and indicate who on the 3x5 cards.
 - c. Select portfolio keeper, who should be the group leader but doesn't have to be. Indicate this on the 3x5 cards.
 - d. The portfolio keeper is responsible for collecting all info for portfolio and getting copies to group members.
 - e. The group leader is the group liaison with the prof.
 - f. One of the 3x5 cards goes to the prof and the other is put on the portfolio.

2. Meet and work on homework together and see to it that each member has worked out solutions to all problems. Each group must keep a portfolio for this purpose! There will be one copy of each correctly worked problem in this portfolio. Homework may be shared between groups. Providing assistance to group members is expected. Share phone numbers and offer help BEFORE class. The professor is also available if help is needed. It is the responsibility of the group leader/portfolio keeper to see the professor at least once per week during the semester. You can only get credit for seeing the professor once per week.

3. Groups will discuss difficulties and problems with this course regularly. One member will act as secretary during these discussions and take notes. At least two copies of these notes are needed. One for the portfolio and one for the professor. These notes should be dated and contain the name of the secretary. The group leader has the responsibility of bringing a copy of the notes and speaking to the professor about these problems at the regular meetings with the professor (at least once per week). Other members of the group may attend with the group leader.

4. If there are projects due, each group will turn in one copy of the project to the professor. One copy will be put in the portfolio (after it has been graded) and each group member should have a copy. The members decide among themselves which project the group will do. The professor will serve as a resource person if help is needed. Libraries, other professors, or students can also serve as resources.

SUPPLEMENTAL ACTIVITIES

Below are listed several ways to get points. You must do 60 points worth of these activities. You get to choose which of these activities to do. Please note that these activities have due dates. You cannot get credit for any activity past the due date. You may, of course, turn things in early!

1. Mathematical autobiography (5 points) DUE SEPT 18

Write an at most two page essay investigating your personal relationship with mathematics and statistics. What experiences formed your attitude toward math?

3. Computer Math (5 points/program - limit 3)

Check with professor for due dates. No more than one program/tutorial can be turned in per week. Students learn how to use a mathematics software package. Solve some of your homework exercises using the program and print out the problem and results from the computer. Alternatively, if the software has a tutorial, work it out and print it up. There are many possible software packages. For example, MathCad, Macsyma, Maple, Mathematica, MathLab, Theorist, MacMath, and Derive. If you have a different program that you would like to learn, just ask the professor.

4. Attend Departmental Colloquia (5 points - limit 4)

5. Additional Math Problems (2 - 50 points)

From time to time the professor will present opportunities to work on additional, more challenging math problems. Each problem solved is worth 2 points. The problems must be written up neatly, one problem per page, with plenty of explanation. These problems may be done either by individuals or as a group activity (ALTHOUGH THEY ARE TURNED IN INDIVIDUALLY). They are due within THREE weeks after the day the homework for that section is done in class.

Each solution should contain a description of the problem, a description in words to accompany your mathematical work, and a conclusion interpreting your answer to the problem. A solution to a problem always reveals an interesting story. Your job is to tell it to an audience with a background in Calculus, but who happen to be unfamiliar with the topic. The supplemental exercises are all problems in text that have not been done in class or assigned for homework.

6. Five Page Report (up to 15 points)

This is an essay type report on a math topic of your choosing. You must get approval of your topic from the professor first. The professor will also work out with you a due date. This report must contain a bibliography WITH at least 3 sources. You may **not** use the internet as a source. You must also put in footnotes indicating where in the source you got your material.

7. E-MAIL Account (5 points) DUE OCT 2

The students must find out how to get an Email account, how to use it and they must successfully send the professor a message.

8. Old Exams for Practice (5 points/exam - limit 3 exams)

See the professor to get copies of the old exams. They are due at the test review class.

9. Individual Projects (5 points/lab - limit 4)

These are the Projects from Chapter 11 as described above..

10. Technology exercises at end of each chapter (3 – 45 points)

Each problem is worth 3 points. These problems are written up using the guidelines given in item number 5. above.

ATTENDANCE POLICY

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Please review the College's attendance policy in the student handbook, p. 65-66. The following class attendance policy is presented in accordance with paragraph 4, p. 66 "additional attendance criteria."

Mathematics learning depends on constant reinforcement, so missed classes are missed opportunities to practice what you have learned and are learning. A maximum of three (3) absences throughout the semester will be tolerated.

Students are responsible for all missed work. You may contact a classmate or the professor (**E-Mail address: Itzkowitz@Rowan.edu**) for the assignments.

The first three absences will cost a loss of 4 points each. Every other absence will cost a loss of 10 points each. These lost points may be made up by doing additional Supplemental Activities (see Supplemental Activities sheet).

LATENESS POLICY

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The rationale given above for absences also serves as rationale for not coming late to class. Students are permitted three (3) latenesses per semester. That is, students will be allowed to get credit for homework due the day of the lateness only for the first three latenesses. After the first three latenesses, there will be no make-up for missed homework credit.

In addition, each of the first three latenesses will cost the loss of 2 points each. Each additional lateness will cost the loss of 5 points. These lost points may be made up by doing additional Supplemental Activities.

SOME STUDY HINTS

TO CREATE THE REALITY YOU WANT, USE:

- 1. THOUGHTS (DESIRES, WANTS, BELIEFS)**
- 2. WORDS (SPOKEN OR WRITTEN)**
- 3. ACTIONS**

#3 ABOVE IS MORE POWERFUL THAN #2 WHICH IN TURN IS MORE POWERFUL THAN #1.

ALSO NOTE THAT EMOTIONS, AND STRONG FEELINGS ACCELERATES THE MANIFESTATION OF YOUR CREATIVITY.

TO SOLVE PROBLEMS:

- 1. Preparation (state what needs to be solved, work on it)**
- 2. Incubation (Allow time for solution to manifest)**
- 3. Illumination (calmness or peacefulness is necessary for the solution to become conscious)**
- 4. Verification (necessary in science and math to convince others - this is the writing of the solution to check for errors)**

What this tells us about studying (in particular, math):

- 1. How well we learn a subject is proportional to the amount of time spent thinking about it.**
- 2. Math, science, and engineering take about twice as long as other subjects to learn.**
- 3. Suggested study procedure:**
 - A. Daily**
 - 1. Read material before class - prepare questions.**
 - 2. Take notes in class, also ask questions.**
 - 3. After class, reread material and do the homework.**
 - 4. We go over HW in class - ask questions about any difficulties.**
 - B. Before tests**
 - 1. Go over material and all worked examples at least three to five times.**
 - 2. Do extra examples on your own.**
 - 3. Do the review (you can hand this in for extra credit.)**
 - 4. Relax before tests. That is, during the evening before the test.**
 - 5. On the test, remain calm (use deep breathing and/or tighten your toes)**