Linear Algebra - Math 304

Fall 2018

Section	Instructor	Office	Office Hours	Phone	E-mail (Note*)	Meets	Room
1	Daniel Rossi	WH-107	M 1-2, W 11-12, Th 5-6		rossi	8:00-9:30	LH-12
2	Quincy Loney	WH-332	W 11:20-12:50	444-1529	quincy	9:40-11:10	LH-12
3	Adrian Vasiu	WH-111	Tu: 3:20–3:50, Wed: 3:30–5:00, Th: 2–3	777-6036	adrian	11:20-12:50	LH-12
4	Thomas Zaslavsky	WH-216	MWF 3:00-4:15, and by appointment.	777-2201	zaslav	1:10-2:40	LH-12
5	Alex Feingold	WH-115	MWF 1:10-2:10	777-2465	alex	2:50-4:20	LH-12
6	Alex Feingold	WH-115	MWF 1:10-2:10	777-2465	alex	4:40-6:10	LH-12

Click on the section number to get to a web-page for that section (if there is one).

(Note*): Each email address in this table is of the form xxx@math.binghamton.edu but that should happen automatically if you just click on the link.

Here is the detailed syllabus for all sections with course rules that you should know.

Three evening exams during the semester, and a Final Exam during final exams week, will be scheduled. Details are as follows:

Exam 1: Wed, Sept 26, 8:30 - 10:00 PM, LH-1 (Sections 1-4) and LH-14 (Sections 5,6)

Exam 2: Wed, Oct 31, 8:30 - 10:00 PM, LH-1 (Sections 1-4) and LH-14 (Sections 5,6)

Exam 3: Wed, Nov 28, 8:30 - 10:00 PM, LH-1 (Sections 1-4) and LH-14 (Sections 5,6)

Final Exam: Tuesday, Dec. 11, 2018, 10:25 AM - 12:25 PM, GW-69EX (West Gym)

Please arrive 10 minutes early for each exam to allow time for seating, and always bring your university ID. No calculators, cellphones or computers will be allowed during exams. A student who needs to leave the exam room during an exam must leave their cellphone in the room. Use of a cellphone to get answers to exam questions during an exam is cheating and will be treated as a violation of university honesty rules.

Notes

Here are some short notes for the course written by Prof. Mazur.

Homework

Online homework will be done using WebWork. (Note that this is a new server with the address webwork.math.binghamton.edu/webwork2/Math_304_Fall_2018)

Homework 0, intended to familiarize you with the program, will be posted by the first day of the course.

Your WebWork account username is the pre@ portion of your binghamton.edu e-mail account. Your initial password is the same as the username. Make sure to change it as soon as possible to a secure password, and save that choice where it will not be lost.

For example, if your Binghamton e-mail account is xyzw77@binghamton.edu then

- username: xyzw77
- password: xyzw77

Login to WebWork now, and change your password. If you registered after August 20, 2018, you have to send an e-mail to alex with subject “WebWork” and provide your first and last name, Binghamton e-mail address and section number in order to have an account on WebWork.

Expected workload outside of the classroom

This class is scheduled to meet three times per week for 90 minutes each time. In addition to attending all classes, you should expect to need 8 to 10 hours per week outside of the class meetings to study the material and do homework.

Expected behaviour in class

During classes students are expected to behave according to university rules. Some students feel free to use their cellphones during class, but most professors find that insulting, and it certainly prevents students from concentrating on the lecture. Any professor who sees a student using a cellphone instead of paying attention can ask the student to put the cellphone away, or can take it until the end of class. Addiction to cellphones is a serious condition affecting many people! It is allowed for students to use cellphones to photograph notes from the board. Some students may use laptop computers to take notes, but they should be careful not to use them for internet browsing during class. Each instructor has the final decision about what to allow in the classroom.

Resources for help with personal problems

The following link to a webpage of the Dean of Students contains important contact information for sources of help if you are having personal problems.

Dean of Students Help Page

Announcements

August 22: First Day of Classes: After meeting your instructor you should have been given this webpage address to check for the syllabus and instructions. Step 1: Read the entire syllabus, including the detailed syllabus at the first link on this page. Step 2: Click on the link for Webworks, set up a secure password and try the Chapter 0 homework assignment, which will get you used to the Webwork system. Step 3: Attend all classes and keep up with all homework corresponding to your section lectures.

September 6: Quiz 1 and its solutions for Sections 5 and 6 (Feingold) can be seen through the following link: Quiz 1 and its solutions.

September 12: Quiz 2 and its solutions for Sections 5 and 6 (Feingold) can be seen through the following link: Quiz 2 and its solutions.

September 18: Quiz 3 and its solutions for Sections 5 and 6 (Feingold) can be seen through the following link: Quiz 3 and its solutions.

September 21: Quiz 4 and its solutions for Sections 5 and 6 (Feingold) can be seen through the following link: Quiz 4 and its solutions.

September 21: A Practice Exam 1 and its solutions for all sections can be seen through the following link: Practice Exam 1 and its solutions.

September 30: Solutions for Exam 1 can be seen through the following link: Exam 1 Solutions. A graph showing the distribution of scores from all sections, and lines indicating the letter grade interpretation of the numerical score, can be found through the following link: Exam 1 Score Distribution and Letter Grade Interpretation. The following table summarizes the letter grade interpretation of the numerical score.

Average for all sections was 48.47 out of 75.

Grade	Score Range
A	67 - 75
A-	63 - 66
B+	58 - 62
B	52 - 57
B-	48 - 51
C+	45 - 47
C	40 - 44
C-	35 - 39
D	30 - 34
F	0 - 29

The purpose of these letter grades is to give you an idea of where your score puts you in relation to the rest of the class, and to help you decide whether to withdraw from the course or to work harder. Finally, in order to give students more time to complete the homework assignments from Chapter 2, the deadline for those assignments has been extended until 5:00 PM on Friday, Oct. 5.

October 8: Quiz 5 and its solutions for Sections 5 and 6 (Feingold) can be seen through the following link: Quiz 5 and its solutions.

October 22: Quiz 6 and its solutions for Sections 5 and 6 (Feingold) can be seen through the following link: Quiz 6 and its solutions.

October 24: Some practice problems suggested by Dr. Quincy Loney for Exam 2 (with solutions) can be seen through the following link: Quincy Loney Practice Questions for Exam 2 with Solutions.

October 24: Some practice problems suggested by Dr. Dan Rossi for Exam 2 (without solutions) can be seen through the following link: Dan Rossi Practice Questions for Exam 2.

October 24: A Practice Exam 2 and its solutions written by Prof. Feingold can be seen through the following link: Practice Exam 2 and its solutions.

October 27: Some practice problems suggested by Prof. Adrian Vasiu for Exam 2 (without solutions) can

be seen through the following link: Adrian Vasiu Practice Questions for Exam 2.

October 27: Quiz 7 and its solutions for Sections 5 and 6 (Feingold) can be seen through the following link: Quiz 7 and its solutions.

October 29: Dear Students: Exam 2 will consist of 9 problems. You are strongly encouraged to study in detail the Practice Exams 2 posted here and proposed by Professors Feingold and Vasiu. Additional practice problems proposed by Doctors Loney and Rossi are also posted above. We hope very much that you will prepare well for this exam. The instructors of Math 304.

October 30: The solutions to the practice problems suggested by Dr. Dan Rossi for Exam 2 can be seen through the following link: Dan Rossi Practice Solutions for Exam 2.

November 9: Solutions for Exam 2 can be seen through the following link: Exam 2 Solutions. A graph showing the distribution of scores from all sections, and lines indicating the letter grade interpretation of the numerical score, can be found through the following link: Exam 2 Score Distribution and Letter Grade Interpretation. The following table summarizes the letter grade interpretation of the numerical score. Average for all sections was 44.6 out of 75.

Grade	**Score Range**
A	65 - 75
A-	60 - 64
B+	55 - 59
B	50 - 54
B-	45 - 49
C+	42 - 44
C	37 - 41
C-	32 - 36
D	27 - 31
F	0 - 26

November 18: Quiz 8 and its solutions for Sections 5 and 6 (Feingold) can be seen through the following link: Quiz 8 and its solutions.

November 20: Practice problems for Exam 3 (with some solutions) can be seen through the following link:

Exam 3 Practice Problems and some solutions. If some of these problems confuse you, ask your instructor to go over them. That is the purpose of review sessions. The only written solutions made available for these problems are the ones in the file already.

November 27: Quiz 9 and its solutions for Sections 5 and 6 (Feingold) can be seen through the following link: Quiz 9 and its solutions.

December 4: Solutions for Exam 3 can be seen through the following link: Exam 3 Solutions. A graph showing the distribution of scores for Exam 3 from all sections, and lines indicating the letter grade interpretation of the numerical score, can be found through the following link: Exam 3 Score Distribution and Letter Grade Interpretation. The following table summarizes the letter grade interpretation of the numerical score. Average for all sections was 50.39 out of 75.

Grade	**Score Range**
A	67 - 75
A-	63 - 66
B+	58 - 62
B	52 - 57
B-	48 - 51
C+	45 - 47
C	40 - 44
C-	35 - 39
D	30 - 34
F	0 - 29

December 6: Quiz 10 and its solutions for Sections 5 and 6 (Feingold) can be seen through the following link: Quiz 10 and its solutions. Note: This quiz concerns a Gram-Schmidt orthogonalization process, and a projection to a subspace W using the orthogonal basis of W obtained in part (1), so it is good practice for these topics from Chapter 6.

December 6: Two Math 304 tutors have sent me the following information about a review session planned for this weekend. Jonathan Chen and Rachel Stuttman will hold a review session for the final this Sunday, Dec. 9, 2-5pm in LH-9. All are welcome (no need to sign up ahead of time) and should come with questions.

December 10: Dr. Quincy Loney has provided a long list of True/False questions with answers to help you study for the final exam. The file is available through the following link: Loney True/False Final Exam

questions and solutions.

December 18: The following table summarizes the letter grade interpretation of the numerical score for the Final Exam. Average for five out of six sections was 106.5 out of 200.

Grade	Score Range
A	170 - 200
A-	155 - 169
B+	145 - 154
B	135 - 144
B-	125 - 134
C+	115 - 124
C	100 - 114
C-	88 - 99
D	78 - 87
F	0 - 77

The following table summarizes the letter grade interpretation of the numerical score for the Quiz totals. Average for five out of six sections was 44.85 out of 75. Since different sections had different quizzes, administered different ways (not uniformly given or graded), some normalization of the raw scores was used before the numbers were added to the exam scores.

Grade	Score Range
A	65 - 75
A-	60 - 64
B+	55 - 59
B	50 - 54
B-	45 - 49
C+	40 - 44
C	35 - 39
C-	30 - 34
D	25 - 29
F	0 - 24

The following table summarizes the letter grade interpretation of the numerical score for the Course Total Scores. Average for five out of six sections was 300 out of 500.

Grade	Score Range
A	435 - 500
A-	400 - 434
B+	370 - 399
B	340 - 369
B-	310 - 339

C+	285 - 309
C	250 - 284
C-	220 - 249
D	190 - 219
F	0 - 189

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