Sirindhorn International Institute of Technology, Thammasat University

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GTS112: Linear Algebra

Instructor

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Facebook Page: Go to fb.me/siitgts112s17 and click "Follow" to get all your info about the course.

References:

1. The partial notes of GTS112 Linear Algebra, Semester 2, Academic year 2017, Volume 1, Composed by Dr. Nirattaya Khamsemanan, SIIT, TU.
2. The partial notes of GTS112 Linear Algebra, Semester 2, Academic year 2017, Volume 2, Composed by Dr. Nirattaya Khamsemanan, SIIT, TU.
3. David Poole, *Linear Algebra: A modern introduction*, 3nd edition (Thomson Brooks/Cole)

Time and Place:

Section 1: Wednesday, 1-4 PM, RS 1-504
Section 2: Thursday, 1-4 PM, RS 1-504

Exams:

Midterm Exam: 14 Mar 2018 TIME 12:00 - 14:00
Final Exam: 23 May 2018 TIME 13:30 - 16:30

Grading:

Your final grade will be earned base on the best of the followings

Homework	10%
Class Attendance	10%
Quizzes	10%
Midterm Examination	35%
Final Examination	35%

Lectures:

You are very STRONGLY encouraged to attend lectures. Although the instructors will follow the book rather closely, it WILL be far simpler to understand the materials from the lectures, rather than from the book alone. Simply reading (or even memorizing!) the book, without achieving an understanding of the ideas involved, will be insufficient to obtain a passing grade. **Students who miss more 30% of classes will not be allowed to take the final exam and will automatically fail (Grade F) the course.**

Homework:

As the name suggests, homework is a work to be done outside of class. We will not devote much class time to discussing homework problems. Please feel free to see your instructor to obtain assistance. You are encouraged to work with other students on the homework however you must write down your own work. It would be a mistake to skip the homework, because no skill (in mathematics, foreign language, athletics, and so on) can be learned by passive involvement, but only by regular practice. Homework assignments will be graded with attention given to the method and insight rather than final outcomes**. Late work will not be accepted.**

Quizzes:

Quizzes are to be done in classes. You may consult the handouts. You may work with your friends but you must write your own solutions. Quizzes are not group work. It will be assessed individually. An unexcused absence will be given a grade of 0. **The instructor or coordinator should be notified before missing any quizzes if at all possible and immediately thereafter when not possible**. The instructor will determine if the absence from a quiz will be excused.

Examinations:

Read each question carefully. Write all your work in the space provided. You won't get full credit even when your answer is right without all of your work written down. You may use the back of the paper to continue your work. If you do so, write “continued on next page” to indicate that that is not the end of your solution. **Calculators, computers, cell phones are NOT permitted. Books are NOT allowed in the exam except for an A4 cheat sheet (two sided)**. Submit your cheat sheet along with your exam when you are done. You have 3 hours total. You are not allowed to leave the examination room within 2 hours after the start of the examination. Any dishonesty during the exam will result immediate failure (F) grade for the course and suspension for at least one semester. Write your name, student ID and your section on every page. You are not allowed to bring any parts of the exam out of the exam room.

Goals:

The goal for the semester is to learn, understand and be able to work with the main ideas of Linear Algebra. This does not only mean that you should be able to work through a bunch of problems similar to ones seen in the homework. But that you should have the ability to articulate the ideas presented in the course in a clear and coherent manner as well.

Expectations:

I expect you to do most of your learning outside of the classroom. You should expect to spend 5-8 hours a week studying and working on the material outside of class. Mathematics, like most subjects, is learned by doing it. We will not have time in class for you to do a lot of mathematics yourself. However, I do expect you to come to class and participate actively in class discussions. If you must miss a class, I expect you to find out what happened, either from your instructor or one of your classmates. You are responsible for everything that goes on in class.

Lectures Rules and Regulations:

1. When I TALK, you LISTEN. Be respectful to your classmates and your instructor. Keep your voice down. No chitchatting. Do not disturb the class.
2. 15 minutes rule: Attendance will not be checked before 15 minutes after the class started time. The classroom will be locked while the attendance is checked. If you are not in the classroom during that time, you will not receive attendance credit for that day. Raise your hand when your name is called. You must attend your own section in order to obtain attendance credit.
3. All communication devices must be off or on silent mode during lecture.
4. You are not allowed to talk on the phone in class. In case of emergency, you must take your phone call outside.
5. No snoring during class time.
6. Three strikes you out! If the disorder level is high, noise etc, the whole class will be warned. If it reaches three times, the whole class will not receive the attendance credit that day.
7. Videotaping, taking a photograph, Voice recording and any other ways of recording the lecture and lecturer are not allowed in class.
8. No pets in classroom.
9. You must dress per the TU dress code to classes, e.g. no T-shirts, no shorts, no flip-flops etc. Improper dressed may result in no attendance credit.
10. Any violation of academic integrity will not be tolerated.

Enrolling in this course means that you agree to obey the Lectures Rules and Regulations above. Should you fail to follow any of these rules, you may not receive attendance credit, may be asked to leave the classroom, and/or more penalties will be applied.

Academic Integrity:

A fundamental tenet of all educational institutions is academic honesty; academic work depends upon respect for and acknowledgment of the work and ideas of others. Misrepresenting someone else's work as one's own is a serious offense in any academic setting and it will not be condoned.

Academic misconduct includes, but is not limited to, providing or receiving assistance in a manner not authorized by the instructor in the creation of work to be submitted for academic evaluation (e.g. papers, projects, examinations and assessments - whether online or in class); presenting, as one's own, the ideas, words or calculations of another for academic evaluation; doing unauthorized academic work for which another person will receive credit or be evaluated; using unauthorized aids in preparing work for evaluation (e.g. unauthorized formula sheets, unauthorized calculators, unauthorized programs or formulas loaded into your calculator, etc.); and presenting the same or substantially the same papers or projects in two or more courses without the explicit permission of the instructors involved.

A student who knowingly assists another student in committing an act of academic misconduct shall be equally accountable for the violation, and shall be subject to the sanctions and other remedies described in The Student Code. Sanctions shall include, but are not limited to, a letter sent to the Dean of Students of the University; a grade of 0 on the assignment, quiz, or exam; a grade of F for the course.

Other Remarks:

Your time is valuable; I want you to get as much as possible out of your time in the classroom with me. Please don't hesitate to let me know how you feel about the pace, or just about how things are going in general.

Schedule of Lectures:
(Tentative: Subject to chance without prior notifications.)

Section 1	**Section 2**	**Topics**
January 10, 2018	January 11, 2018	Matrices and System of linear equations
January 17, 2018	January 18, 2018	Gauss-Jordan Elimination
February 7, 2018	February 8, 2018	Determinants
February 14, 2018	February 15, 2018	The LU Factorization and Cramer's Rule
February 21, 2018	February 22, 2018	Adjoint Matrices and Inverses of Matrices and Applications of Matrices
February 28, 2018	March 8, 2018	Vectors
March 12-17		**Midterm Exam period**
March 21, 2018	March 22, 2018	Linear Combination and Linear Independence
March 28, 2018	March 29, 2018	Vector Space, Subspaces, Basis, Dimension and Orthogonality
April 4, 2018	April 5, 2018	Row, Column, Null Space, Nullity, and Rank of a Matrix
April 18, 2018	April 19, 2018	Eigenvalues and Eigenvectors
April 25, 2018	April 26, 2018	Similarity and Diagonalization
May 2, 2018	May 3, 2018	Hermitian Matrices and Unitary Matrices
May 9, 2018	May 10, 2018	Leeway/Review
May 21- June 2		**Final Exam period**