View Syllabus Information

Course Information			
Year	2023	School	School of Fundamental Science and Engineering
Course Title	Linear Algebra A (1) IPSE Course		
Instructor	LIU, Jiang		
Term/Day/Period	winter quarter 01:Tues.4／02:Thur.5		
Category	Mathematics	Eligible Year 1st year and above	Credits 2
Classroom		Campus Nishi-Waseda(Former: Okubo)	
Course Key	26G0210005	Course Class Code 01	
Main Language	English		
Class Modality Categories	[On-campus]		
Course Code	MATX11ZL		
First Academic disciplines	Mathematics		
Second Academic disciplines	Mathematics		
Third Academic disciplines	Algebra		
Level	Beginner, initial or introductory	Types of lesson Lecture	

Syllabus Information	Latest Update : 2023/02/16 15:49:50
Course Outline	This course is an elementary introduction to the topic of Linear Algebra. The students are required to get familiar with the fundamental concepts and examples in linear alge bra including the concepts of the linear system, matrix, determinants, and so on. It is e ssential for students to understand the calculation and rigorous proof related to the ma trix theory. This is a face-to-face course, and the lecture notes will be uploaded through Moodle. Please confirm the announcement before each class.
Objectives	The goal for this course is to grasp the most fundamental concepts in Linear Algebra. It is expected that this course could offer a basic l adder for students to study more advanced mathematical courses or engineering subjects. In addition, this course should serve as a basi s for second part of Linear Algebra course, Linear Algebra B. The fundamental concepts and tools of the subject covered are: ・Linear system: row reduction, Echelon forms, vector equations, matrix equations, linear independence, and linear transformation, etc. ・Matrix: matrix operations, inverse of matrix, invertible matrix, and subspace of Rˆn, etc. ・Determinant: Introduction, Properties, and Cramer’s rule.
before/after course of study	Review after each class, re-reading or re-writing your notes, take more practice. By spending enough time reviewing material after each cl ass, you can quickly refresh your memory and will have a much easier time studying for finals.
Course Schedule	Class 1 Linear System (1): Definition and Solvability Class 2 Linear System (2): Row Reduction and Echelon Forms Class 3 Linear System (3): Vector Equations Class 4 Linear System (4): Matrix Equations Class 5 Linear System (5): Solution Set Class 6 Linear System (6): Linear Independence Class 7 Linear System (7): Linear Transformation Class 8 Matrix (1): Matrix Operations Class 9 Matrix (2): Inverse of the Matrix Class 10 Matrix (3): Invertible Matrix Class 11 Matrix (4): Subspace of R^n Class 12 Determinants (1) Introduction Class 13 Determinants (2): Properties and Cramer’s Rule Class 14 In-Class Examination (Final Term)

Textbooks	D. Lay, S. Lay and J. McDonald, ¥Linear Algebra and its Applications, 4th/5th edition", Pearson
Reference	Strang, Gilbert. Introduction to Linear Algebra. 5th ed. Wellesley-Cambridge Press, 2016. ISBN: 9780980232776.
Evaluation	

Rate		Evaluation Criteria
Exam:	80%	Final Exam 80%
Class Participation:	20%	Inclass performance (includes attendance, participation, and performance on quizzes and homework problems.)

Note / URL	