	U-LAS10 10011 LE55		

	Linear Algebra with Exercises B		
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Linear algebra is one of the fundamental and important parts of mathematics. With Linear Algebra A and B, students are expected to understand not only the fundamental concepts of vector spaces and linear mappings, but also the concrete treatments of matrices and systems of linear equations.

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The objective of this course is to introduce linear algebra concepts such as vector spaces, linear mappings, matrices and systems of linear equations.
In addition to learning linear algebra, students can learn how to discuss and present mathematical topics in English through this course.

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1. Abstract Vector Spaces
(1--3) Basis, dimension, linear mappings and matrices,
(4--5) Change of bases, subspaces, direct sums, kernel and image

2. Euclidean Spaces
(6--7) Inner product, orthogonal matrices, unitary matrices,
(8--10) Orthonormal basis and orthogonal complements

3. Eigenvalues and Diagonalization of Matrices
(11--12) Eigenvalues and eigenvectors, eigenpolynominals,
(13--14) Diagonalization of symmetric matrices by orthogonal matrices (diagonalization of Hermitian matrices by unitary matrices)

The schedule is subject to change.

Total   14 classes, 1 Feedback session

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Students are expected to understand Calculus with Exercises A and Linear Algebra with Exercises A.

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Students will be evaluated based on their performance in both the lecture and the exercises sessions.
* Lecture will be graded based mainly on the final examination.

* Exercises will be evaluated based mainly on submitted reports and participation in class.
The details of the evaluation system will be given by the lecturer at the first lecture.
Students who fail to pass the examination but reach a certain standard are eligible for reexamination.

Linear Algebra with Exercises B(2)

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To be announced.

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It is advisable to attend the lecture " Calculus with Exercises B" in parallel.
Students are welcome to ask questions during, at the beginning or at the end of the class.
The instructor encourages students to arrange an appointment with him if they have questions.