Linear Algebra II

Registration Code	0052221	**Credits**	2.0
Course Category	Sciences Basic		
Term (Semester) / Day / Period	G-II (1st year, Spring Semester) / Tue. / 2 (10:30～12:00)		
Instructor	DARPÖ Erik		
Target Schools (Programs)	Hu(J)・La(S)・Ec(S)・Sc(P・C・B)・En(P・C・Au)・Ag(B)		

●Objective of the Course

Linearity is one of the most fundamental concepts for the handling of quantities in current natural science. Indispensable in quantum mechanics and relativity, its use has spread across all branches of natural science and beyond. Linear algebra, developed in the nineteenth century, is the mathematical theory of linearity. The second half of this one-year course focuses on advanced concepts of Linear algebra, such as the notion of a (real) vector space, orthogonal maps, determinants, eigenvalues and eigenvectors. Its purpose is to give a deeper and broader understanding of the mathematical theory of linearity, as well as increased proficiency in mathematical reasoning and proof techniques.

●Course Prerequisites

While not a formal requirement, Linear Algebra I is strongly recommended

●Course Contents

Orthogonal maps, vector spaces, determinants and their applications, eigenvalues and eigenvectors, applications of eigenvalue theory, linear differential equations.

●Evaluation Methods

There will be two main, written exams: midterm (35%) and final (45%). Addtionally, there will be homework assignments (10%) and quizzes (10%). The final grade will be determined by the total amount of points obtained according to the following scale: S: 90-100, A: 80-89, B: 70-79, C: 60-69, F:0-59.

Course withdrawal: Any student who does not participate in the final exam will receive the grade “Absent”. It is not necessary to submit a course withdrawal request form.

●Notice for Students

1. The reference book is available in the Main library and in the Science library (enough copies in total for all students).
2. It is strongly recommended to register also to Mathematics Tutorial II b.

Textbook	None
Reference Book	Otto Bretscher: ***Linear Algebra with Applications***, fourth edition, Pearson