

Course number		U-LAS10 10023 LE55								
Course title (and course title in English)		Quest for Mathematics I-E2 Quest for Mathematics I-E2			Instructor's name, job title, and department of affiliation		Graduate School of Engineering Senior Lecturer, Arseniy Aleksandrovich, Kuzmin			
Group		Natural Sciences		Field(Classification)		Mathematics(Foundations)				
Language of instruction		English		Old group		Group B		Number of credits		2
Number of weekly time blocks		1	Class style		Lecture (Face-to-face course)		Year/semesters		2025 • First semester	
Days and periods		Tue.2		Target year		Mainly 1st & 2nd year students		Eligible students		For all majors
[Overview and purpose of the course]										
In the "Quest for Mathematics", complex numbers and their applications are introduced. At first, we will follow some of the steps of their invention and learn to understand their basic properties. The importance of these numbers in physics and engineering will be explained: quantum mechanics or even calculation of some electric circuits rely on them. In this course we explore geometrical applications of complex numbers, geometrical transformations, and complex functions.										
[Course objectives]										
- To understand the origins and importance of complex numbers - Understanding of the geometric representation of complex numbers - Learn the complex numbers arithmetic - Learn the relation between trigonometric and exponential functions - Acquire the ability to use complex numbers										
[Course schedule and contents]										
In this course the following topics are covered:										
1. Introduction and history of complex numbers, their definition and basic properties. 2. The complex plane (Argand diagram). 3. Cubic equation. 4. De Moivre's formula, trigonometric functions 5. Vectors and complex numbers. 6. Euler's formula. 7. Introduction to complex analysis.										
Each subject will be covered in 1 to 3 lectures.										
[Course requirements]										
No knowledge of complex numbers is required to join this class. All necessary concepts are introduced during the lecture.										
[Evaluation methods and policy]										
Evaluation will be based on:										
10% Attendance										
20% Homework										

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Quest for Mathematics I-E2(2)
20% Quiz 50% Final exam
[Textbooks]
Not used
[References, etc.]
(References, etc.) Introduced during class
[Study outside of class (preparation and review)]
Preparation for lectures will include revision of class materials and homework assignments. Detailed instructions will be given during the class.
[Other information (office hours, etc.)]
[Essential courses]