

Linear Algebra, Difference Equation and Introduction to MATLAB

In Cooperation with the GRADE Center GSEFM

Trainer



KaiLong Liu

GSEFM, Goethe University

KaiLong Liu is a doctoral candidate in Economics at the Graduate School of Economics, Finance, and Management (GSEFM) and a research assistant at the Chair for International Macroeconomics & Macroeconometrics in the area of economic model forecasting. He holds a degree in Economics and Finance from Hong Kong University of Science and Technology.

Objective

The GRADE Center GSEFM opens its „pre-semester courses“ , held by advanced PhD candidates, to all PhD candidates, registered at GRADE. These courses cover different topics.

Description

1. Introduction to MATLAB
2. Matrix Algebra (Theory and Numerical Illustration in MATLAB)
 - Rank, Determinant and Inverse
 - Eigenvalues and Eigenvectors
 - Similarity Transformations
3. Systems of Static Linear Equations (Theory and Numerical Illustration in MATLAB)
4. Systems of Linear Difference Equations (Theory and Numerical Illustration in MATLAB)
 - Autonomous Systems: Diagonalization, Jordan Normal Form and Real-Valued Representations
 - Backward and Forward Solutions
5. Vector and Matrix Differentiation (Theory and Numerical Illustration in MATLAB)

Conditions

Students are expected to have a solid undergraduate background in mathematics. Students missing some of this background are expected to have worked through the following reference prior to the beginning of the course:

Chiang, A.C. and K. Wainwright (2005): Fundamental Methods of Mathematical Economics, Mc Graw-Hill Irwin.

On-site sessions will take place if the epidemiological situation and the prevention guidelines issued by Goethe University make it possible. Otherwise, they will be replaced by online sessions. Information on the subject will be shared by email at least one week before the beginning of the program



Organizational Information

Language	English
Target group	Doctoral Candidates at all stages from all faculties
Date	Wednesday-Friday, 7-9 October 2020, 9:00 – 15:00 Monday, 12 October 2020, 9:00 – 15:00
Registration	For registration click here