COURSE DETAIL

MATHEMATICAL PROGRAMMING

Country

Japan

Host Institution

International Christian University

Program(s)

International Christian University

UCEAP Course Level

Upper Division

UCEAP Subject Area(s)

Mathematics

UCEAP Course Number

110

UCEAP Course Suffix

UCEAP Official Title

MATHEMATICAL PROGRAMMING

UCEAP Transcript Title

MATH PROGRAMMING

UCEAP Quarter Units

4.00

UCEAP Semester Units

2.70

Course Description

This course delves into matrix algebra, calculus (including differentiation and integration), and introductory optimization techniques, all of which are essential in the social sciences, particularly economics and finance. The primary focus of the course lies in mathematical analysis via programming with Octave. The course employs Octave (the free version of Matlab) to facilitate both analytical calculations and simulations.

The course does not assume that students have prior proficiency in calculus or programming and will start from the basics, progressing to the theoretical application of calculus, notably optimization. This term, we will emphasize studying static optimization using the Lagrange method. Optimization theory serves as the cornerstone of economics and finance.

For anyone interested in economics, finance, and programming, this course will be invaluable.

Language(s) of Instruction

English

Host Institution Course Number

ECO214E

Host Institution Course Title

MATHEMATICAL PROGRAMMING

Host Institution Campus

International Christian University

Host Institution Faculty

Host Institution Degree

Host Institution Department

Economics

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