

COURSE DETAIL

MULTIVARIATE STATISTICAL ANALYSIS

Country

China

Host Institution

Fudan University

Program(s)

Fudan University

UCEAP Course Level

Upper Division

UCEAP Subject Area(s)

Statistics

UCEAP Course Number

144

UCEAP Course Suffix**UCEAP Official Title**

MULTIVARIATE STATISTICAL ANALYSIS

UCEAP Transcript Title

MLTVARTE STATS ANLS

UCEAP Quarter Units

4.50

UCEAP Semester Units

3.00

Course Description

Course Objective

- 1□ To be familiar with the basic concepts of multivariate distribution theory and multivariate statistical analysis methods
- 2□ To master the statistical ideas and mathematical principles of common multivariate statistical analysis methods.
- 3□ To understand the application of multivariate statistical theory in numerical calculations and machine learning.

Course Content

Basic knowledge of probability theory and linear algebra, definition and properties of multivariate normal distributions (maximum likelihood estimation, properties of estimators, sampling distribution of sample means), applications of multivariate normal distributions in numerical calculations, central limit theorem, testing of multivariate statistics (likelihood ratio test, Hotelling T² distribution), matrix element distribution (Wishart distribution and inverse Wishart distribution), topic model (Latent Dirichlet Allocation), Principal component analysis (probabilistic principal component analysis and EM algorithm).

Language(s) of Instruction

Chinese

Host Institution Course Number

DATA130044

Host Institution Course Title

MULTIVARIATE STATISTICAL ANALYSIS

Host Institution Course Details

Host Institution Campus

Host Institution Faculty

Host Institution Degree

Host Institution Department

School of Big Data

Course Last Reviewed

2023-2024

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