

COURSE DETAIL

MATHEMATICAL STATISTICS: STATISTICAL INFERENCE THEORY

Country

Sweden

Host Institution

Lund University

Program(s)

Lund University

UCEAP Course Level

Upper Division

UCEAP Subject Area(s)

Statistics Mathematics

UCEAP Course Number

118

UCEAP Course Suffix**UCEAP Official Title**

MATHEMATICAL STATISTICS: STATISTICAL INFERENCE THEORY

UCEAP Transcript Title

INFERENCE THEORY

UCEAP Quarter Units

6.00

UCEAP Semester Units

4.00

Course Description

The course covers sufficient statistics, factorization criteria, exponential families, Rao-Blackwells theorem, ancillary statistics, Cramér-Rao's bound, Neyman-Pearson's lemma, permutation test, and connection between hypothesis testing and confidence intervals. Asymptotic methods: maximum likelihood estimation, profile, conditional and penalized likelihood as well as hypothesis testing with likelihood ratio-, Wald- and score-method. Bayesian inference: estimation, hypothesis testing, and confidence interval and the difference compared to frequentist interpretation.

Language(s) of Instruction

English

Host Institution Course Number

MASC02

Host Institution Course Title

MATHEMATICAL STATISTICS: STATISTICAL INFERENCE THEORY

Host Institution Course Details

<https://www.lunduniversity.lu.se/lubas/i-uoh-lu-MASC02>

Host Institution Campus

Lund

Host Institution Faculty

Science

Host Institution Degree

Host Institution Department

Math

Course Last Reviewed

2023-2024

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