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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