COURSE DETAIL

SPATIAL STATISTICS WITH IMAGE ANALYSIS
Country Sweden
Host Institution Lund University
Program(s) Lund University
UCEAP Course Level Upper Division
UCEAP Subject Area(s) Statistics Mathematics Engineering
UCEAP Course Number 184
UCEAP Course Suffix
UCEAP Official Title SPATIAL STATISTICS WITH IMAGE ANALYSIS
UCEAP Transcript Title SPATIAL STATS&IMAGE
UCEAP Quarter Units 6.00
UCEAP Semester Units 4.00

Course Description
This course provides students with tools for handling high-dimensional statistical problems. The course contains models and methods with practical applications, mainly for spatial statistics and image analysis. Of special importance are the Bayesian aspects, since they form the foundation for many modern spatial statistical and image analysis methods. The course emphasizes methods with applications in climate, environmental statistics, and remote sensing. The following topics are covered: Bayesian methods for stochastic modelling, classification, and reconstruction; random fields, Gaussian random fields, Kriging, Markov fields, Gaussian Markov random fields, non-Gaussian observationer; covariance functions, multivariate techniques; simulation methods for stochastic inference (Gibbs sampling); applications in climate, environmental statistics, remote sensing, and spatial statistics.

Language(s) of Instruction
English

Host Institution Course Number
FMSN20/MASM25

Host Institution Course Title
SPATIAL STATISTICS WITH IMAGE ANALYSIS

Host Institution Course Details

Host Institution Campus
Science/Engineering

Host Institution Faculty

Host Institution Degree

Host Institution Department
Mathematics/Engineering- Mathematical Statistics

Course Last Reviewed

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