COURSE DETAIL

STATISTICAL MODELING OF EXTREME VALUES
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 137
UCEAP Course Suffix
UCEAP Official Title STATISTICAL MODELING OF EXTREME VALUES
UCEAP Transcript Title STAT MODL EXTRM VAL
UCEAP Quarter Units 6.00
UCEAP Semester Units 4.00

Course Description
The course presents the fundamental statistical methods for extreme value analysis, discusses examples of applications regarding floods, storm damage, human life expectancy, and corrosion, provide practical use of the models, and points to some open problems and possible developments. Extreme value theory concerns mathematical modelling of random extreme events. Recent development has introduced mathematical models for extreme values and statistical methods for them. Extreme values are of interest in economics, safety and reliability, insurance mathematics, hydrology, meteorology, environmental sciences, and oceanography, as well as branches in statistics such as sequential analysis and robust statistics. The theory is used for flood monitoring, construction of oil rigs, and calculation of insurance premiums for re-insurance of storm damage. Often extreme values can lead to very large consequences, both financial and in the loss of life and property. At the same time the experience of really extreme events is always very limited. Extreme value statistics is therefore forced to difficult and uncertain extrapolations, but is, none the less, necessary in order to use available experience in order to solve important problems.

Language(s) of Instruction
English

Host Institution Course Number
FMSN55

Host Institution Course Title
STATISTICAL MODELING OF EXTREME VALUES

Host Institution Campus
Engineering

Host Institution Faculty

Host Institution Degree

Host Institution Department
Engineering- Mathematical Statistics

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