English course title
Kursnamn på engelska
Modern statistics in natural sciences

Swedish course title
Kursnamn på svenska
Modern statistik i naturvetenskaper

Extent (credits)
Omfattning (högskolepoäng)
5hp

Language of instruction
Undervisningsspråk
English

Recommended prerequisites
Rekommenderade förkunskaper
Basic statistics

General course objective/s and learning outcomes (Also specify which PhD examination goals that are addressed/covered. Describe how.)
Kursens syfte och mål (Beskriv vilka mål för examen på forskarnivå som beaktas och på vilket sätt.)
To give an introduction to the most commonly applied modern statistical techniques and tools used in a wide range of natural sciences. In addition to providing you with an overview of the statistical “tool-box”, the course aims at giving an understanding of the philosophy and reasoning behind statistical design and inference. This is a general statistic course that attracts many students from biology, geosciences, chemistry, information technology and other related fields.

Course contents
Kursinnehåll
Experimental designs leading to ANOVA or ANCOVA, including block experiments, repeated measurement designs, nested and factorial designs. Multiple regression, including techniques for selecting variables and evaluating models. Generalized linear models (GLIM) with logistic and Poisson regression. Introduction to power analysis, multivariate analysis, resampling and permutation techniques.

Instruction (course structure)
Undervisning (kursens uppläggnings)
The course consists of lectures, discussions and exercises.

Assessment (form of examination)
Examination (examinationsformer)
Passed all exercises and attended all lectures.

Course examiner (name, e-mail)
Examinator (namn, e-post)
Göran Arnqvist, Göran.Arnqvist@ebc.uu.se

Department with main responsibility
Contact person/s (course responsible teacher) (name, e-mail)
Kontaktperson/er (kursansvarig lärare) (namn, e-post)
Göran Arnegård, Goran.Arnegard@ebc.uu.se
Richard Svanbäck, richard.svanback@ebc.uu.se

Course dates/period
Kurs datum/period
Late January - mid-March 2020

Maximum number of participants
Antal platser
30

Submit the application for admission to
Skicka anmälan till kursen till
http://www.biologi.uu.se/utbildning/forskaoutbildningskurser/

Submit the application not later than
Skicka anmälan senast
2.12.2019