Sveriges lantbruksuniversitet
Swedish University of Agricultural Sciences

SLUkurs

Syllabus

PVG0019 Basic biostatistical concepts and techniques, 3.0 credits

Syllabus approved

2011-10-14

Subjects

Animal Science

Education cycle

Third cycle

Grading scale

Pass / Failed
The requirements for attaining different grades are described in the course assessment criteria which are contained in a supplement to the course syllabus. Current information on assessment criteria shall be made available at the start of the course.

Language

English

Prior knowledge

Registered for PhD studies within biological sciences.

Objective, including learning outcomes

On completion of the course the students shall be able to:
- Understand basic statistical concepts and principles;
- Apply basic statistical techniques to biological problems;

• Recognize, select and use some common methods to visualize, explore and analyse biological data by means of computer software.
Focus is on the understanding of concepts and principles.

Content

Reading, exercises and workshops. A web tool will be used for communication between participants, exercises and discussions. Participants are encouraged to apply concepts and techniques from the course on their own research problems and discuss them with other participants and the course coordinator. A course introduction and three workshops will be organized to allow for discussion, in-depth explanations and responses to inquiries from the participants. These meetings will be possible to follow from other locations by video conference, etc.

The course is not based on any specific statistical software. Minitab has been used to produce most outputs in the course book, and a Student Data CD accompanies the book, containing data sets (ASCII, SPSS, Excel, Minitab, TI and JMP), and 19 statistical Java applets.

Topics covered by the course book:
• Exploring data with graphs and numerical summaries;
• Contingency, correlation and regression;
• Gathering data;
• Probability in daily life;
• Probability distributions;
• Sampling distributions;
• Confidence intervals;
• Significance tests about hypotheses;
• Comparing two groups;
• Association between categorical variables;
• Association between quantitative variables.

Requirements for examination

Exercises. Requirements for passing the course are approved presentation of exercises and participation in at least one course workshop.

Additional information

Course application should be submitted by e-mail to the course coordinator not later than 11 November 2011.

Department of Animal Environment and Health.
Domestic animals in a changing world.

Responsible department

Department of Animal Environment and Health