Basic biostatistics, 5 credits
Research level

Learning outcomes
By the end of the course the students will be able to:

- Describe when to use common statistical methods, i.e. Students t-test, ANOVA, non-parametric tests for two and more groups, chi-2 test, correlation and regression analysis.
- Interpret results from computer program for the methods mentioned above
- Describe some methods for calculation of sample sizes and power
- Describe how to plan and design a study
- Evaluate medical articles from a statistical point of view

Contents
The course deals with the most common statistical methods in biostatistics. The main focus of the course is that the students should be able to know when to use a certain test and correctly interpret the results from a statistical program. Some aspects of study design in experimental, clinical and observational studies are also discussed as well as aspects of validity, errors and power analysis.

Educational methods
Lectures followed-up by practice in groups or individually. Most of the practice will be performed in a computer lab.

Examination
Individual exercises and a group presentation.

Students who have failed the course or part of the course twice are entitled to request another examiner for the following examination occasion.

Admission Requirements
General requirements
Admitted to education at research level (PhD-studies).

Some basic knowledge of descriptive statistics is recommended.

PhD students are admitted according to the following priority order:
1. PhD students registred at the Faculty of Health Sciences
2. PhD students registred at other faculties within Linköping University
3. PhD students registred at other universities
Participation in the course of other students than above is only possible if there are fewer applicants from the above groups than students to be admitted.

**Grading**
Pass or Fail.

**Course evaluation**
Planning and implementation of the course shall be carried out on the basis of the wording in this course plan. The evaluation of the course should therefore consider the question how well the course agrees with the course plan. Written evaluation will be arranged at a scheduled time at the end of the course.

**Certificate**
At the student’s request, course certificate may be issued by the course organiser.

**Course Literature**
The course organiser will provide a list of relevant literature before the start of the course.

**Additional information**
If the course is withdrawn, or is subject to major changes, examinations according to this course plan are normally offered on a total of at least three occasions within one year, one of them in close connection with the first examination.

The course is normally given in English.

---

**Basic Biostatistics, 5 credits**
Organiser: Department of Clinical and Experimental Medicine

<table>
<thead>
<tr>
<th>Registration number</th>
<th>Course code</th>
</tr>
</thead>
<tbody>
<tr>
<td>LiU 468/06-50</td>
<td>8FO0002</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Level</th>
<th>Educational area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research</td>
<td>Medicine</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Valid from</th>
<th>Revised from</th>
</tr>
</thead>
<tbody>
<tr>
<td>Autumn 2007</td>
<td>(2007-08-27)</td>
</tr>
</tbody>
</table>

Decided by Research and postgraduate studies board (Forsknings- och forskarutbildningsnämnden, FUN) 2007-01-29 on behalf of the Board of the faculty of Health Sciences (Fakultetsstyrelsen, FSM)