

# Scientific Methods, Analysis and Statistics

Programme course

6 credits

Vetenskaplig metod, analys och statistik

NBIB44

Valid from: 2017 Spring semester

**Determined by**

Board of Studies for Chemistry, Biology  
and Biotechnology

**Date determined**

2017-01-25

## Main field of study

No main field of study

## Course level

First cycle

## Advancement level

G1X

## Course offered for

- Biology, Bachelor´s Programme

## Specific information

The course is scheduled for the last time 2017. The course is replaced by NBIB50 Scientific Methods.

## Entry requirements

Note: Admission requirements for non-programme students usually also include admission requirements for the programme and threshold requirements for progression within the programme, or corresponding.

## Intended learning outcomes

Having completed the course, the student should be able to:

- analyse and report experimental data according to scientific methodology
- critically examine scientific and pseudo-scientific texts

## Course content

Applied statistics, the scientific methodology and critical thinking is introduced at lectures. Students have teacher-led exercises in applying statistical analysis on experimental data using computer software. Student groups collect and analyse experimental data generated at parallel courses. The analysis is presented in a written report. The analysis and course literature is discussed during seminars.

## Teaching and working methods

Lectures, seminars and computer sessions.

The course runs over the entire spring semester.

## Examination

MOM1	Seminars	1.5 credits	U, G
UPG2	Seminar	1 credits	U, G
UPG1	Written test	1 credits	U, G
LAB1	Laboratory work and written reports	2.5 credits	U, G

Grades are given as 'Fail' or 'Pass.

## Grades

Two-grade scale, U, G

## Department

Institutionen för fysik, kemi och biologi

## Director of Studies or equivalent

Agneta Johansson

## Examiner

Lars Westerberg

## Course website and other links

<https://www.ifm.liu.se/edu/coursescms/NBIB44/>

## Education components

Preliminary scheduled hours: 34 h

Recommended self-study hours: 126 h

## Course literature

Hultén, Hultman & Eriksson 2007. Kritiskt tänkande. Liber. Ruxton & Colegrave 2010. Experimental Design for the Life Sciences. 3rd ed. Oxford. Dytham 2010. Choosing and using statistics. A biologist's guide. 3rd edition. Wiley-Blackwell.

## Common rules

Regulations (apply to LiU in its entirety)

The university is a government agency whose operations are regulated by legislation and ordinances, which include the Higher Education Act and the Higher Education Ordinance. In addition to legislation and ordinances, operations are subject to several policy documents. The Linköping University rule book collects currently valid decisions of a regulatory nature taken by the university board, the vice-chancellor and faculty/department boards.

LiU's rule book for education at first-cycle and second-cycle levels is available at [http://stydokument.liu.se/Regelsamling/Innehall/Utbildning\\_pa\\_grund-\\_och\\_avancerad\\_niva](http://stydokument.liu.se/Regelsamling/Innehall/Utbildning_pa_grund-_och_avancerad_niva).