

# SLUkurs

## Syllabus

**PFS0172 Sampling, 4.0 credits**

## Syllabus approved

2020-02-19

## Subjects

Mathematic Statistics

## 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

Statistics I: Basic statistics, 4 hp or similar.

## Objective, including learning outcomes

The objective of the course is to give a broad introduction to basic sampling theory and related statistical inference. The course is built on lectures, exercises and computer exercises. Exercises and computer exercises are mandatory.

On completion of the course, the student will be able to:

- understand basic concepts of sampling from finite and infinite populations
- describe some basic sampling methods including conditions and assumptions
- describe and apply basic estimators for survey sampling
- select an appropriate sampling method for a given problem
- carry out a basic probability sampling survey
- interpret and evaluate results from basic surveys correctly and draw reasonable conclusions
- clearly and concisely communicate results and conclusions
- use statistical software for sampling

## **Content**

The main contents are as follows:

- Simple random sampling
- Systematic sampling
- Cluster sampling
- Stratified sampling
- The Horvitz-Thompson estimator and unequal probability sampling
- Two-stage and two-phase sampling
- Basic point and plot sampling of an infinite population
- Line-intercept sampling
- Detectability in sampling
- Line-transect sampling
- Capture-recapture estimation

## **Requirements for examination**

Passed exercises and passed examination in written and/or oral form.

Grading scale: Pass/Failed

## **Additional information**

The Department reserves the right to cancel the course if there are not more than 5 students who have applied for the course.

**Responsible department**

Department of Forest Resource Management