

# **P000089, Introduction to image analysis for forest sciences., 4.5 Hp**

## **Syllabus**

Finalized by: FUN SFAK, 2023-11-10

Valid from: VT2024

### **Level within study regulation:**

Third cycle

### **Grading scale:**

Pass / Failed

### **Course language:**

Swedish

### **Entry requirements:**

*Phd student, and basic knowledge in R, MATLAB or Octave*

### **Objectives:**

*The objective of the course is to give an introduction to image analysis suitable for research in forest sciences. On completion of the course, the student will be able to:*

- *perform image preprocessing such as greyscale thresholding and noise reduction*
- *apply basic filters (e.g., mean or median) to images*
- *perform histogram processing of images*
- *apply morphological filters to images*
- *perform basic image segmentation*

- *perform image classification*
- *perform basic object recognition*

## **Content:**

\*The course is built on lectures and computer exercises. The exercises are done in R and Octave. \*\*The main elements of the course are as follows: \*

- *Image acquisition*
- *Image enhancement*
- *Histogram processing*
- *Morphological processing*
- *Image segmentation*
- *Image classification*
- *Object recognition*

## **Modes of assessment:**

*Passed exercises and passed student project.* - If a student has failed an examination, the examiner has the right to issue supplementary assignments. This applies if it is possible and there are grounds to do so.

- The examiner can provide an adapted assessment to students entitled to study support for students with disabilities following a decision by the university. Examiners may also issue an adapted examination or provide an alternative way for the students to take the exam.
- If this syllabus is withdrawn, SLU may introduce transitional provisions for examining students admitted based on this syllabus and who have not yet passed the course.
- For the assessment of an independent project (degree project), the examiner may also allow a student to add supplemental information after the deadline for submission. Read more in the Education Planning and Administration Handbook.

## **Organisation:**

Department of Forest Resource Management

## Supplementary information

### Other information:

- The right to participate in teaching and/or supervision only applies for the course instance the student was admitted to and registered on.
- If there are special reasons, students are entitled to participate in components with compulsory attendance when the course is given again. Read more in the Education Planning and Administration Handbook.