

# Functional Programming 1

## (1DL330)

Tjark Weber  
tjark.weber@it.uu.se



The background is a vibrant, abstract digital composition. On the left, a human brain is rendered in a semi-transparent, wireframe style with blue and grey tones. To the right, a large, colorful, 3D-rendered object resembling a musical instrument or a complex structure is shown in shades of orange, red, and pink. The entire scene is filled with intricate patterns of fine lines, dots, and musical notes, creating a sense of dynamic energy and connectivity. The overall aesthetic is futuristic and artistic, suggesting a fusion of technology and creativity.

**Programming without variables, loops and mutable state.**

**Think different.**

Functional programming is not only different but also **widely used**, both in Sweden and abroad.

The Klarna logo consists of the word "Klarna" in a blue, sans-serif font. The letter "K" is stylized with a white negative space cutout.The Ericsson logo features three dark blue, slanted parallel bars above the word "ERICSSON" in a bold, blue, sans-serif font.The Facebook logo is a dark blue rectangle with the word "facebook" in white, lowercase, sans-serif font.The Google logo is the word "Google" in its signature multi-colored font: blue, red, yellow, blue, green, and red.The IBM logo consists of the letters "IBM" in a blue, sans-serif font, where each letter is formed by multiple horizontal blue bars.The Microsoft logo features the four-pane Windows logo (red, green, blue, yellow) to the left of the word "Microsoft" in a grey, sans-serif font.

# Course Structure

- ▶ Period 1
- ▶ 5 hp
- ▶ Flipped classroom (pre-recorded videos, live Q&A sessions)
- ▶ 5 assignments (group and individual, with lab sessions and instant automatic feedback)

# Contents

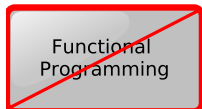
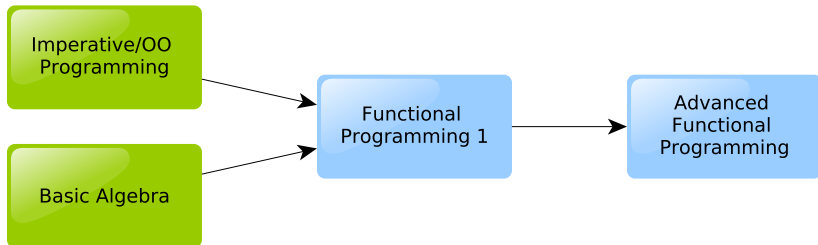
- ▶ Recursion
- ▶ Inductive data types
- ▶ Polymorphism
- ▶ Higher-order functions
- ▶ Modules
- ▶ Functional algorithms



If you don't know what these are yet: great! Learning about them is the whole point of the course.

- ▶ Guest lecture: Functional programming in industry

# Entry Requirements



If you have taken a course on functional programming before, it is not recommended that you take FP1. Instead, consider taking Advanced FP in period 2.

“This course was one of the best courses that I ever had.”

Student feedback