

## **SD Specialisation: Software Development Technology**

### **This specialisation enables you to**

- Effectively use functional programming constructs also in object-oriented programming languages such as Scala, C# and Java
- Use at least one declarative programming notation besides SQL
- Work with software in a high-level and semi-automated fashion, when the program code itself is subject to manipulation by development tools
- Discuss and evaluate new technologies and tools in programming languages
- Compare and discuss programming languages, and efficiently learn new languages
- Realise efficiency gains by exploiting parallelisation and concurrency opportunities while preserving correctness.

### **Career Prospects**

This specialisation aims to prepare you to take software developer and software architect jobs in major software houses and consultancies (business software, administrative software, finance, etc). Major national companies (say Edlund, Simcorp, Deltek/Maconomy) and major international corporations (including Google, Microsoft Development Center Copenhagen, Twitter, and so on) put extremely high value on advanced programming language skills.

### **Prerequisites**

Students are expected to be fluent programming in Java, in designing UML class diagrams, in foundations of mathematics, in basics of databases, and in the basics of algorithms. Following the courses Discrete Mathematics, Introductory Programming, Introduction to Databases, and Introduction to Algorithms and Data Structures would satisfy these prerequisites.

In general the specialisation requires willingness to work with mathematical concepts. It is an advantage, but not a requirement, to have an undergraduate degree in mathematics, physics or engineering (with a significant math component)