INF223, Spring 2018
Category Theory and Diagrammatic Modelling

— Course Description and Pensum —

Category Theory is a mathematical language and conceptual tool providing an appropriate basis to describe and to reason about concepts, situations, and constructions involving complex structures and their relationships.

The course is arranged now towards applications in Diagrammatic Modelling especially in Software Engineering.

In the first part of the course I'll give a very basic introduction into Category Theory motivated by concepts and problems in Computer Science and Software Engineering.

In the second, more applied part, I'll discuss the formalization of (diagrammatic) specification techniques like UML class diagrams, ER diagrams, and database schemata by means of the so-called "Diagram Predicate Framework". If you are interested you may have a look at the web page of our research project:

http://dpf.hib.no/

My intention is to discussed and to formalize, at the end of the course, practical topics like meta-modeling, model reduction, model merging, and model transformation.

— Pensum —

The course is not based on a book but on a script that is still under development. If necessary I'll provide further papers, especially concerning the second, more practical part.

On the course page you will find soon a version of the script from May last year, in case, you want to have a look.