I229 Introduction into Category Theory

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Category theory gives an appropriate basis to speak about, to describe and to investigate situations where we are dealt with complexe structures, their relations, and corresponding constructions.
Category theory can be seen, besides set theory, logic, and type theory, as one of the basic universal theories for Computer Science.
Nowadays, everyone working in Computer Science should have some basic knowledge about categorical concepts and methods as it will be provided, e.g., by this course.
This course is especially recommended for students intending to write their master thesis in software engineering or programming theory.
For a first more general impression of what category theory is about you can have a look at sections 1.1 and 1.2 of the paper "On the role of category theory in the area of algebraic specifications"
There are many books on Category Theory, but for the course I will choose the skript "Elements of Basic Category Theory" by Alfio Martine because it contains careful proofs and examples from Computer Science.
Besides this you can have a look into the book of Lawvere and the book of Barr and Wells.
By the way, the book of Lawvere is for me one of the best textbooks I have ever seen.