



**UNIVERSIDADE FEDERAL DE SANTA CATARINA  
CENTRO DE CIÊNCIAS FÍSICAS E MATEMÁTICAS  
PÓS-GRADUAÇÃO EM MATEMÁTICA PURA E APLICADA**

**MTM510040 Introduction to Category Theory**

Pre-requisite: MTM330400 Algebraic Structures

Weekly lesson hours: 06h

**Discipline syllabus:** Categories, functors, natural transformations, representable functors, Yoneda's lemma, equivalence and duality between categories, limits and colimits, adjunctions and monads, monoidal categories, abelian categories.

**BIBLIOGRAPHIC REFERENCES**

1. S. Mc Lane: \Categories for the working mathematician, 2nd Ed.", Springer-Verlag
2. (2010). (Livro texto)
3. J. Adamek: \Abstract and concrete categories: the joy of cats", Dover (2009).
4. F. Borceaux: \Handbook of categorical algebra", Enciclopedia of Mathematics and its Applications, 50, Cambridge (1994).
5. P. Etingof, S. Gelaki, D. Nikshych and V. Ostrik: \Tensor categories", (2009).  
<http://www-math.mit.edu/etingof/tenscat.pdf>
6. H Simmons: \Introduction to category theory", Cambridge (2011).