



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

**MTM410052 Algebraic Topology**

Pre-requisite: MTM410026 Topology, MTM410018 Advanced Calculus

Weekly lesson hours: 06h

**Discipline syllabus:** Elements of homology and complex algebra, map morphism, Homotopy, Homology, Cohomology, CW complexes, Excision, Coating spaces, Poincaré duality, Applications.

**BIBLIOGRAPHIC REFERENCES**

1. HATCHER, A. – Algebraic Topology – Cambridge University Press, Cambridge, 2002.
  2. BREDON, GLEN E. – Topology and Geometry - GTM 139, 1st ed., Springer-Verlag, 1993.
  3. FULTON, W. – Algebraic Topology: A first course – GTM 153, Springer, 1995.
  4. NOVIKOV, P. – Algebraic Topology I, Encyclopaedia of Mathematical Sciences, Vol. 12. Springer 1996.
  5. BRUZZO, U. – Introduction to Algebraic Topology and Algebraic Geometry. – <http://people.sissa.it/~bruzzo/notes/IATG/notes.pdf>.
  6. MAY, J. P. – A concise Course in Algebraic Topology – <http://www.math.uchicago.edu/~may/CONCISE/ConciseRevised.pdf>
5. HILTON, P., STAMMBACH, U. – A course in Homological Algebra – GTM 4, Second Edition, Springer-Verlag, New York- Berlin, (1977).