



Universidade Federal de Pernambuco
Centro de Ciências Exatas e da Natureza
Departamento de Matemática
Secretaria de Pós-Graduação

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DISCIPLINA: TOPOLOGIA DIFERENCIAL
NÍVEL: DOUTORADO (Disciplina Eletiva)
CÓDIGO: MA 980
CARGA HORÁRIA : 90 horas

EMENTA :

- Manifolds and Maps : Submanifolds of \mathbb{R}^{n+k} . Differential Structures . Differentiable Maps and the Tangent Bundle . Embeddings and Immersions . Manifolds with Boundary . A Conventions.
- Function Spaces : The Weak and Strong Topologies on $C^r(M,N)$. Approximations . Approximations on ∂ -Manifolds and Manifolds Pairs . Jets and the Baire Property . Analytic Approximations .
- Transversality : The Morse-Sard Theorem . Transversality .
- Vector Bundles and Tubular Neighborhoods : Vector Bundles . Constructions with Vector Bundles . The Classifications of Vector Bundles . Oriented Vector Bundles. Tubular Neighborhoods. Collars and Tubular Neighborhoods of Neat Submanifolds . Analytic Differential Structures .
- Degrees, Intersection Numbers, and the Euler Characteristic : Degrees of Maps . Intersection Numbers and the Euler Characteristic . Historical Remarks .

REFERÊNCIAS :

- **Hirsch**, Morris W . *Differential Topology* .Springer-Verlag , 1976