

Morse theory
Abstract of the course

- Introduction and motivation.
- Review of differentiability in Banach and Hilbert spaces.
- Palais-Smale condition. Pseudo-gradient flow. Deformation lemma.
- Morse functions. Morse lemma. Attaching cells.
- Basic review of homology theories.
- Cellular decomposition. Morse inequalities.
- Transversality. Morse-Smale functions.
- The Morse complex. Counting the flow-lines.
- Definition of Morse Homology.
- Eventually, some generalizations and/or applications to critical points theory.

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