

Fall 2017  
MATH 70330 “Intermediate Geometry and Topology”  
Pavel Mnev

The upcoming class “Intermediate Geometry and Topology” in the Fall semester 2017 will be in the form of a seminar where most of the talks are given by the students on the topics of interest to them.

Some of the possible topics to discuss:

- Characteristic classes, Chern-Weil theory
- Simple-homotopy theory, combinatorial and analytic torsions
- Index theory via examples
- Examples of topological field theories
- Bits of symplectic geometry, moment maps and reductions, geometric quantization
- Morse theory, Witten’s deformation of Morse complex

As a tentative plan, we might start with discussing characteristic classes and then proceed according to the interests of the participants.

Students talking on related subjects are encouraged to work together as a team.

If you are interested in taking the class, please contact the instructor at [pmnev@nd.edu](mailto:pmnev@nd.edu) before the start of the semester (the earlier the better) to discuss what topics are of interest to you and what you might give a talk about.