Title: Classical Mechanics
Lecturer: Jakub Wagner
TA: Victor Martinez-Fernandez

Topics:
1. Newton's laws, vectors, coordinates
2. Conservation of momentum, angular momentum and energy
3. Oscillations
4. Variations and Lagrange Equations
5. Noether's Theorem
6. Two body problems
7. Noninertial Frames
8. Rigid bodies
9. Coupled oscillators
10. Hamiltonian mechanics
11. Special relativity

The recommended books are:
-"Classical Mechanics", J.R. Taylor
-"Introduction to classical mechanics", D. Morin
-"Classical Dynamics of Particles and Systems", S.Thornton, J.B.Marion
-”Classical Mechanics”, Landau, L. D.; Lifshitz, E. M.; Pitaevskii, L. P.

Rules:
Homework: 20%, Midterm exam: 30%, Final exam: 50%
You need to collect 60% of points to be admitted to the oral exam.
Oral exam: 3 questions from a list of topics

Test out exam:
This is a part of the block of Introductory courses, which are meant to assure that all of you, independent of your background, are at the level which is required from PhD student in physics. Certainly, some of you have already covered this material, and for such a case I am organizing the **test out exam**. It will consist of the written exam (beginning of April), and then (after obtaining 50% of the points) of the oral exam. Please contact the lecturer for a list of exemplary problems and topics for an oral exam.