

In this diploma thesis you'll find suggestions for projects and worksheets drawn up for high school teachers of physics. The aim is to help teachers to prepare interesting physics course for students, in which the students will participate actively. Their goal will often be to construct their own theories, which they should proof and defend. In my projects I've mainly focused on mechanics (biomechanics of fall, biomechanics of stroke, kinematic description of vehicle on road, etc) and interdisciplinary links of physics with other courses, in particular with biology (zero gravity state, biomechanics of fall and stroke). Most of created projects assume using of common camcorder and video editing software. Some projects require high-speed camcorder and although buying this camcorder into schools is not very expensive in these days, in my thesis I'm offering several own video recordings ready for subsequent physical processing.