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| The title of the course | **Simulations of dynamical systems using MSC.ADAMS** |
| Faculty | [Faculty of Mechanical Engineering and Computer Science](http://eng.ath.bielsko.pl/index.php/faculties/gerg) |
| The level of studies | Undergraduate (BA)  Postgraduate (MA)  Engineer (BSc) |
| Semester | Winter/summer |
| The form of classes and number of hours | Laboratory/Project |
| Language of instruction | English |
| The number of ECTS | 2 |
| Teacher | Dr hab. inż. Andrzej Urbaś, prof. UBB |
| The aims of the course  (maximum 500 characters) | The aim of the course is to introduce to the methods of modelling of mechanical systems using MSC.ADAMS software |
| The content of the course: main topics and key ideas | 1. Modelling simple dynamical systems with one and many degrees of freedom with kinematic or force input.  2. Modelling of complex systems - import geometry from CAD software. |
| Didactics methods | multimedia presentation |
| Course requirements | project |
| Literature (basic and supplementary) | 1. MSC.ADAMS Manual  2. S.S. Rao, Mechanical Vibrations, Addison-Wesley Publishing, 1995  3. [Den Hartog](http://www.google.pl/search?hl=pl&tbo=p&tbm=bks&q=inauthor:%22J.+P.+Den+Hartog%22), J. P. Mechanical Vibrations, Courier Dover Publications, 2013 |
| The effects of the education   * knowledge * skills * social competences | knowledge: student knows the capabilities of MSC.ADAMS software.  skills: student is able to handle MSC.ADAMS software, formulate the task dynamics and simulate its behaviour.  social competences: student working in a group is able to formulate the task dynamics, make simplify the model, discuss the simulation results. |