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Knowledge shall provide in the form of lectures and by direct contact with the Students during laboratory exercises at the computer station. Examination of lectures boils down to defense of the term paper and takes the form of answers. The studer is required to submit its optimization algorithm and discuss the principles of optimal decisions based on the practical solution of his own optimization task in the field of road pavement construction. The assessment consists of the sum of the points awarded for term paper and evaluation of an oral defense.						
Course description						
Introduction to multi-criteria analysis.						
Formulation of the objective functions of optimization tasks.						
Algorithms to search for extremes of functions of several variables						
Multi-criteria optimization in the examples						
Evolution algorithms						
Solver in the available spreadsheets						
In the laboratory computer knowledge is tested through: a) assessment of student activity in the classroom, b) an evaluation of the project tasks performed during classes during the semester (alone, or in small teams) involving the preparation of a short application implementing the specified of numeric algorithm and performing optimization theirs own task in the field of road construction. The assessment provides also the grading of student's ability to work standalone at the computer.						
Basic bibliography:						
Additional bibliography:						
Result of average student's workload						
Activity		Time (working hours)				
1. Lectures		15				
2. Laboratory exercises	15					
3. Own work	10					
4. Defense of the project and test of lectures		2				
Student's workload						
Source of workload	hours	ECTS				
Total workload	50	2				
Contact hours	30	1				
Practical activities	15	1				