

Course Unit Descriptor

Study Programme: Environmental Engineering		
Course Unit Title: Material Flow Analysis		
Course Unit Code: Z520		
Name of Lecturer(s): Goran Vujić		
Type and Level of Studies: Master level		
Course Status (compulsory/elective): compulsory		
Semester (winter/summer): winter		
Language of instruction: English		
Mode of course unit delivery (face-to-face/distance learning): face-to-face		
Number of ECTS Allocated: 4		
Prerequisites: None		
<p>Course Aims:</p> <p>The educational goals of the subject is to acquire general knowledge about metabolism of the anthrophosphere and material flow analysis as a methodology for the design and analysis of antropogenic metabolism. The main objective is to establish an adequate basis for decision-making in environmental management, resource management and identification of material flows and envisage the behavior of the analyzed system according to the proposed or implemented technical or technological changes.</p>		
<p>Learning Outcomes:</p> <p>Acquisition of basic knowledge in the field of metabolism of the anthrophosphere as the basis for the soundly management of resources and the environment. Qualifaing students that through engineering analysis apply methodology of material flow analysis to model the anthropogenic metabolism, analyse and collect data, implementing software packages tailored made for the performing of material flow analysis.</p>		
<p>Syllabus:</p> <p>Theoretical knowledge: fundamental concept of anthropogenic metabolism, basic principles of material flow analysis, the link between anthropogenic metabolism, environmental management and resource management, possibilities of application material flow analysis in the field of anthropogenic metabolism, basic methods for identification and mapping the material flows, defininition the most important flows in the environment, introduction with of software packages and their potential application to model the anthropogenic metabolism, the ability of the results application to improve the environmental management system and resource management, introduction to basic methods for the evaluation of the results obtained by material flows analysis. Practical learning: analysis and introduction to software packages for the implementation of material flow analysis, case studies analysis, related to the issues from the lectures, computer tasks, making examples of material flow for the selected problem.</p>		
Required Reading: Relevant literature in English, tbd		
Weekly Contact Hours: 5	Lectures: 2	Practical work: 3
<p>Teaching Methods:</p> <p>Teaching is organized through lectures and exercises with full student participation. During exercises students are introducing with different practice examples and solving tasks which contributes to overcoming material is processed during lectures.</p>		

Knowledge Assessment (maximum of 100 points):			
Pre-exam obligations	points	Final exam	points
Group Assignment		Examination Assignment	
Exercises			
Test			
Test			

The methods of knowledge assessment may differ; the table presents only some of the options: written exam, oral exam, project presentation, seminars, etc.