Course Unit Descriptor

Study Programme: Environmental Engineering And Occupational Safety Engineering

Course Unit Title: Management of special waste streams

Course Unit Code: Z517

Name of Lecturer(s): Batinić Bojan, Stanisavljević Nemanja

Type and Level of Studies: master

Course Status (compulsory/elective): elective

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

Course Aims:.

Acquiring basic knowledge in the field of specific waste streams, in accordance with modern principles of environmental protection. Knowledge in the segment of collection, transport and the corresponding options for the treatment of specific waste streams which include: batteries and accumulators, electronic and electrical waste, end-of-life vehicles, waste tires, waste oils, construction and demolition waste, etc. Analysis of possibilities for the treatment of specific waste streams, in terms of resource conservation and environmental protection, using currently available technologies.

Learning Outcomes:

Student acquire the basic necessary knowledge related to the overall management system of specific waste streams, thereby qualifying for inclusion in such systems from engineering perspective. By learning about modern methods for the collection, transport and treatment of special waste streams, with previously acquired basic knowledge, the student acquires a sufficient level of competency in order to identify the main problems in the elements of the specific waste stream management system. The main outcome of education means that the student will acquire the basic necessary knowledge and skills for managing a group of specific waste fractions, i.e. waste categories which requires different solutions in comparison to conventional waste streams.

Syllabus.

Theoretical part:

The problems and importance of specific waste streams management in terms of environmental protection; The basic physical and chemical characteristics and classification of specific waste streams; Legislation in the field of special waste streams; Analysis of current technologies
in accordance with basic principles of environmental protection and resource conservation. Examples of best practices for managing a specific waste streams.

Practical part:

Analysis of practical examples and case studies related to the issue of management of specific waste streams, computational tasks related to the collection, transport and available technologies for the treatment of specific waste streams, defining basic technical solutions and the improvement of the management of certain waste stream.

Required Reading:

Relevant literature in English, tbd

Weekly Contact Hours: 2	**Lectures: 2**	**Practical work: 2**

Teaching Methods:

Lectures. Computational exercises. Seminar Essays. Consultations.

Lectures present the theoretical part of the course, supported by practical examples for better understanding and adoption of course content. Within exercises, students solve practical problems/tasks in order to get a comprehensive perceiving of teaching material previously discussed within the lectures.

Knowledge Assessment (maximum of 100 points):			
Pre-exam obligations	points	**Final exam**	points
Attendance			
Computer exercises			
Tests (4x)			