

## Report from the meeting of the WamPPP participants project held in Nis 03.02.2017.

On the day of 03.02.2017. at the College of applied technical sciences in Nis the WamPPP project meeting was held and was attended by: Aleksandra Boričić, project manager (VTŠ Niš), Branko Savić (VTŠ Novi Sad), Đorđe Mihailović (VTŠ Aranđelovac), Dejan Blagojević, the coordinator of the project (VTŠ Niš), Boban Cvetanović, (VTŠ Niš), Irina Cenić (VTŠ Niš) and Jelena Petković (VTŠ Niš).

The themes of the meeting were:

1. The current situation of the master of applied studies in Serbia
2. Experiences in the accreditation of the master professional studies
3. The preparation of the curriculum for the master professional studies program
4. Activities until now
5. Future activities
6. Documentation preparation
7. Documentation preparation

### 1. Theme: The current situation of the master of applied studies in Serbia (A. Boričić)

Master professional studies lasting two years or four semesters and are evaluated with 120 ECTS (60 ECTS per year). The right to the registration of the Master of vocational studies have professional engineers, or students who have completed Basic vocational studies. Also, students who have completed Specialist professional studies and achieved a total of 240 ECTS can continue their education in the second year of the Master of professional studies. After completion of a Master of professional studies, students acquire professional engineer professional master for the appropriate area and a total of 300 ECTS. The process of accreditation of the Master of professional studies is similar to the process of accreditation of basic and specialist vocational studies. The following differences and special conditions that must be taken into account. The following differences and special conditions that must be taken into account. Standard 5 concerning the curriculum projects that are in the structure of the Master programme on vocational studies, the following groups of subjects in relation to the total number of ECTS points are:

- academic - about 5%
- Professional, around 40%
- professional application, about 55%.

An integral part of the curriculum programme master of professional studies is a professional practice for at least 180 hours, or 90 hours per year, which is implemented in commercial organizations or public institutions.

The final work on a master's in professional studies is a project that addresses a practical problem of economic or public sector that is accepted by the Chamber of Commerce or public institutions. Final work is done at the Chamber of Commerce or a public institution **with which higher education institution has a contract**. A member of the Commission for the defense of the final work is representative of the institution in which the applicant did the final work, this implies a closer cooperation of the school and the economy.

Standard 9 which deals with the teaching staff requires that all teachers except teachers of foreign languages must have professional PhD with representative references. Representative references of

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the teaching staff in technical and technological sciences are: scientific and professional papers published in international and national journals, papers printed in proceedings from scientific and professional conferences, monographs, textbooks, review articles, work books, patents, new products or significantly improved products that already exist. A teacher who takes part in the realization of the master of professional studies program in addition to his references gives information on participation in: scientific, research, artistic, commercial and professional projects realized in cooperation with the economy. For quality purposes the masters study group is attended by up to 32 students during lectures, up to 16 students during practical classes and up to 8 students during laboratory classes.

She pointed out that a very good base for potential students of the Master of professional studies program would be the students who have already completed the specialist professional studies, but that the Master Professional program must be so high-quality, modern and attractive that it can attract more students from the basic professional studies wishing to later enroll the master study program.

**2. Theme: Experiences in the accreditation of the specialist studies ( B. Savić )**

Dr Branko Savić explained that the technical college in Novi Sad has accredited its specialized vocational studies in the field of waste management and explained the objections that the Commission for accreditation had about this programme. One of the main objections was that the goals and outcomes of the study program are not clear and that competencies are not well defined. Knowing the contents of the program, the Commission on accreditation has proposed changing the name of a program, so that instead of calling it "waste management" the study program should be called the "environmental protection" given that waste management is just one of the aspects of this program. The Commission highlighted that the elective courses "Recycling technology" and "Small power plants and renewable energy sources" should be mandatory in view of the anticipated outcomes and their links. The Commission for accreditation also had objections to the fact that there were higher education institutions which were listed on the reference list and were not included in the WamPPP project.

**3. Theme: Preparation of the curriculum for the master studies (A. Boričić i B. Cvetanović)**

Dr Aleknadra Boričić and dr Boban Cvetanović presented the proposal of a curriculum for the study program master of professional studies entitled "waste management" which would be implemented in the High technical school of professional studies in Nis.

**STUDY PROGRAM CURRICULUM  
WASTE MANAGEMENT  
MASTER OF APPLIED SCIENCES**

	<b>Name of the subject</b>	<b>Sem.</b>	<b>ESTC.</b>	<b>Classes of active teaching</b>	<b>Additional classes</b>
<b>First year</b>					
<b>First semester</b>					
1	<b>Ecological law</b>	<b>I</b>	<b>5</b>	<b>2+1</b>	
2	<b>Social ecology</b>	<b>I</b>	<b>5</b>	<b>2+1</b>	
3	<b>Logistics of waste</b>	<b>I</b>	<b>7</b>	<b>3+2</b>	
4	<b>Recyclable materials</b>	<b>I</b>	<b>7</b>	<b>2+2+1</b>	

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5	Elective subjects of the first block	Software tools in environment protection	I	6	2+2	
		Buisness english			2+2	
<b>ESTC 30</b>					<b>11+9=20</b>	
<b>Second semseter</b>						
6	Testing and characterization of waste		II	6	2+1+1	
7	Energetic poential of waste		II	7	2+3	
8	Health and environment		II	5	2+1	
9	Technology of processing waste		II	6	2+2	
10	Elective subject of the second block	Sistems of selection and separation of waste	II	6	2+2	
		Landfill design			2+2	
<b>ESTC 30</b>					<b>10+10=20</b>	
<b>Together 60 ESTC</b>						
<b>SECOND YEAR</b>						
<b>Third semester</b>						
11	The economic profitability of waste management		III	6	2+2	
12	Facilities for producing energy from waste		III	6	2+2	
13	Sensor technologies		III	6	2+2	
14	Elective subjects from the third block	Planing and design of products	II	6	2+2	
		Monitoring facilities for waste treatment			2+2	
15	Elective subjects from the fourth block	Managing industrial waste	III	6	2+2	
		Technology for waste water treatment			2+2	
<b>ESTC 30</b>					<b>10+10=20</b>	
<b>Fourth semester</b>						
16	Analysis and processing of data		IV	4	2+2	
17	Organistaion of the production process		IV	4	2+4	
18	Project management		IV	4	2+4	
19	Methodolgy of master(research) work		IV	4	3+3	
	Professional practice		IV	6	-	12 (15x12=180)
	Master thesis		IV	8	-	
<b>ESTC 30</b>						
<b>together 60 ESTC</b>						
<b>ALL TOGETHER 120 ESTC</b>						

Aleksandra Boričić and Boban Cvetanovic explained that this curriculum came with a consultation with representatives of the economy, and thus introduced the subject Environmental law because representatives of Commerce pointed out that it is very important that the future engineer possesses information about regulations concerning waste management and ensuring the respect of the

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regulations and to be trained to perform a regular reporting to public authorities (Ministry of ZŽS ZŽS, Agency). The subject Social Ecology will ensure that future students in the work with the staff of companies develop adequate waste management systems that are understandable to all clients, to be trained for participation in the preparation of local and regional waste management plans, trained to secure environmental permits and approvals for managing waste.

Recyclable materials would be studying the types of recyclable materials, research the expected life of the consumer products and recommendations options for more economic waste management, use of materials and application of processes not harmful to the environment.

Elective courses from the first year are given due to the fact that employers are looking for candidates who possess Soft skills, or knowledge of the English language and software knowledge.

Subjects from the second semester of the first year are already narrow professional and relate to various aspects of waste management on the application of the hierarchy model of waste management for reduction, reuse, recycling, renewable materials and storing unrecyclable materials to the procedures relating to the environment and waste management services in developing training materials and conducting international and internal training and education for adequate waste management (business partners clients and employed staff).

Subjects from the second year, touching upon the economic viability of waste management, students learn the preparation and realisation of the budget, including the determination of financial methods, procedures and costs relating to the environment protection and waste management services. They also include subjects such as Planning and product design which is very current and needed in modern society, the Monitoring facilities for waste treatment, management of industrial waste and waste water processing Technology.

In the second semester through the subject of Analysis and data processing students study research and analytical studies on programs of waste management and problems associated with it, and through the subject Organization of the production process and project management study the development of engineering projects and business plans for waste management and contingency plans, planning, coordination and implementation of various projects for waste management and recycling, participation in the preparation of local and regional waste management plans.

After discussion of the meetings attendees the conclusions are as follows:

### **Conclusions:**

- The number of subjects needs to be reduced, especially in the second semester of the second year because of the time needed to produce the master vocational work;
- When submitting the request for the accreditation of the master of professional studies the VTŠ Niš should be on the front page to highlight that this is a study program which is a result of an international project;
- We need to clarify whether the practice can be 180 hours per year or must be divided into 90 hours per year;
- Elective courses should be such that by choosing any of the optional subjects the students get the same or similar competences.

### **4.Theme: activities until now (D. Blagojević, A. Boričić)**

Dr. Aleksandra Boričić and Dr. Dejan Blagojević informed the attendees on the activities realized in the envisioned work package I. Most activities are implemented, some activities are by their nature such that they are continuously implemented and it will be during the entire duration of the project. Activities such as: Develop a portfolio of training courses utilizing the ICT platform and deliver in this employees in various industrial sectors, Establish the centres for environmental protection,

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Continure delivering training courses to industry partners and enterprises, Training and informal sectors deprived society applications and campaigns, Training and informal sectors deprived society groups he WM, Collect and analyse evaluatin forms from student and company trainees are being prepared and will be partialy realized in the second year of the project.

### **5. Theme: Future activities (A. Boričić )**

Dr. Alexander Boričić has informed the meeting attendees that according to the Standards for accreditation of first and second level of higher education, and also master of professional studies, it is necessary for a higher education institution to provide coverage of all subjects with appropriate secondary teachers and resources, which are available in time and in sufficient number for the teaching process.

Since it is in the package II as one of the foreseen activities, an activity titled: "Developing teaching/training materials" and given the fact that the new study program master of professional studies in the field of waste management, higher education institutions that want to make this study program accredited probably don't have proper instruments for learning, it is necessary that the teachers who will take part in the realization of this program as soon as possible start with writing and publishing literature, as prescribed by law and in the regulations of higher authorities.

It is also needed as soon as possible that the teachers who will write the publications conclude copyright agreements.

She pointed out that the project provides funds for the development of teaching materials.

The next activity that needs to be done as soon as possible is to start the organizing and conducting short courses for employees that is in the package II and it is titled: Develop the ICT-based platform for interactive student and employee training.

### **6.Theme: Preparation of the documentation ( J. Petković )**

Jelena Petković has informed those present that they consumed financial resources obtained in the first round, or that more than 70% of the previously paid sum is spent, and largely for the procurement of equipment. To continue with further activities foreseen in the project, it is necessary to inform the agency for the education, audiovisual and culture policies and apply for extra payments by need to deliver:

- Request for payment as indicated in Annex VI;
- A statement of the costs incurred as indicated in Annex VI;
- A progress report of the realization of activities as indicated in Annex V.

The request for payment should be accompanied by the certificate of a financial statement and basic accounts as indicated in Annex VII. This receipt must be provided in all cases, regardless of the amount indicated as total contributions in the form of reimbursement of expenses.

The time frame within which the Agency should pay the requested assets is 60 days

### **7. Theme: Preparation of documentation ( I. Cenić )**

Considering that it is necessary to prepare a statement of the costs incurred it is needed that the students deliver the folowing documentation:

- Accounts for the purchased equipment-copies of bills;
- Annex 2 (Staff Cost) and supporting documentation by Serbian rules (e.g.: agreement on copyright, copies of bank statements);

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- Annex 3 (Travel costs and Costs of stay) and supporting documentation by Serbian rules (e.g.: travel journals, hotel bills, bank statements and other bills related to the costs of travel);
- If one of the partners had co-financing he must submit documentation that proves it (by Serbian policy) (e.g.: If the Staff Cost is cofinanced relevant documentation shall be submitted)

**Conclusions:**

It is necessary to hold a meeting where all partners will submit the required documentation and that will be led by Irina Cenić to instantly determine whether the file is complete or not, and suggest what to correct and submit. Dr. Banko Savić proposed that the meeting should be held in Novi Sad at the end of February or in early March of 2017. It is necessary to check the project Web site, supplement it with activities that took place and that are not published.

Niš, 03.02.2017.

The record was led by Jelena Petković  
technical secretary of the WamPPP project