



Strengthening of master curricula in water resources management for the Western Balkans HEIs and stakeholders (SWARM)

(597888-EPP-1-2018-1-RS-EPPKA2-CBHE-JP)

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SWARM newsletter, Issue 2/November 2019

Welcome to the SWARM newsletter!

This bulletin provides information on the latest SWARM project activities.



Enjoy your reading and visit the SWARM website (www.swarm.ni.ac.rs) to find more information.

With the best regards,

SWARM project team

REGISTER OF COMPANIES IN THE FIELD OF WATER RESOURCES MANAGEMENT IN THE WESTERN BALKAN COUNTRIES

This *Register of companies in the field of water resources management (WRM) in the Western Balkan (WB) countries* is part of work package (WP) 3 “Development of trainings for professionals in water sector” and activity A3.2 “Analyze of water sector needs for LLL courses in WB” of the Erasmus+ Capacity Building in the Field of Higher Education project „Strengthening of master curricula in water resources management for the Western Balkans HEIs and stakeholders” (SWARM).

All WB partners have taken part into creation of these register that will be freely available on the SWARM website (www.swarm.ni.ac.rs).

The final version of this report was adopted on 29th of March, 2019. The complete report is available on the project official website and on the following link:

<http://www.swarm.ni.ac.rs/activities?id=12>

REPORT ON LLL COURSES FOR PROFESSIONALS IN EU WATER SECTOR

This *Report* is a part of work package (WP) 3 “Development of trainings for professionals in water sector” and activity 3.1 “Introduction with LLL courses for professionals in water sector in EU” of the Erasmus+ Capacity Building in the Field of Higher Education project „Strengthening of master curricula in water resources management for the Western Balkans HEIs and stakeholders” (SWARM). This Report has been prepared by the EU (plus NOR) Partners HEIs.

This report highlights the topics covered in these LLL courses so far, as well as the equipment of the institutions used in the implementation of these courses. The report also contains some examples of designs of public calls for these courses, as well as the

structure of individual courses organized by some of EU Partners HEIs.



The final version of this report was adopted on 30th of April, 2019. The complete report is available on the project official website and on the following link:

<http://www.swarm.ni.ac.rs/activities?id=18>

REPORT ON MASTER CURRICULA RELATED TO WRM IN EU AND WB PARTNER COUNTRIES

This *Report* is a part of work package (WP) 1 “Analysis of water resources management in the Western Balkan region - Preparation” and activity 1.3 “Analyze of existing curricula related to WRM in both EU and WB partner countries” of the Erasmus+ Capacity Building in the Field of Higher Education project „Strengthening of master curricula in water resources management for the Western Balkans HEIs and stakeholders“ (SWARM). This Report has been prepared by both the EU (plus NOR) and the WB Partners HEIs.

Water resources management requires well-developed professionals with appropriate knowledge. It is the responsibility of national institutions including universities to educate the mentioned specialists. In some European states special master curricula dealing with water resources management have been established. Other member states in turn have included appropriate courses in existing master curricula. Information about the education of well-developed professionals in EU as well as WB partner countries and a list of relevant curricula or courses are outlined.

Information about existing master curricula in EU are a useful basis for developing and strengthening master curricula for water resource management in Western Balkan regions. In work package 1.3 (WP 1.3) collaboration between BOKU and all EU partners (including Norway) is foreseen to close the knowledge gap concerning master curricula.

In the Report was stated that is from fundamental importance to gain knowledge about existing master curricula related to water resource management in WB for strengthening them. In work package 1.3 (WP 1.3) a collaboration between BOKU and all WB partners is foreseen to get a good overview about existing curricula and courses.

The final version of this report was adopted on 14th of May, 2019. The complete report is

available on the project official website and on the following link:

<http://www.swarm.ni.ac.rs/activities?id=22>

REPORT ON ANALYSE OF WATER SECTOR NEEDS FOR LLL COURSES IN WB

This *Report* is a part of work package (WP) 3 “Development of trainings for professionals in water sector - Development” and activity 3.2 “Analyze of water sector needs for LLL courses in WB” of the Erasmus+ Capacity Building in the Field of Higher Education project „Strengthening of master curricula in water resources management for the Western Balkans HEIs and stakeholders“ (SWARM). This Report has been prepared by the WB Partners HEIs.

The analysis of water sector needs in WB partner countries is done with the aim to identify knowledge and organizational gaps and develop effective training programs for professionals in water sector. Within the WP3 the list of existing LLL courses for professionals in water sector in EU partner countries is created in order to help WB partners to develop efficiently trainings for professionals in water sector.

The results of analysis will serve to decide which specific areas in the field of water resources management will be covered by training programs, considering specificity of each WB partner country. Conducted survey of water sector needs in WB will tailor to meet the needs of each WB partner country regarding water-dependent jobs. UPKM in cooperation with other partners prepared questionnaire, conducted survey and processed data on 150 subjects per WB partner HEI.

The final version of this report was adopted on 14th of June, 2019. The complete report is available on the project official website and on the following link:

<http://www.swarm.ni.ac.rs/activities?id=12>

THE SECOND THEME-BASED TRAINING OF TEACHING STAFF IN ÅS (NMBU)

Norwegian University of Life Sciences (NMBU) organized the second theme-based training of teaching staff for acquiring new teaching and learning methods for Western Balkan partner HEIs, 17th -19th June, 2019 in Ås.

The first day was related to Special theme training on Sustainable Urban Drainage Solutions with participation of multiple stakeholders co-organized with the European Water Association (EWA) and co-funded by NMBU for SWARM members.

The second day was dedicate to Teaching methods and tools, followed by an educational tour to the underground Wastewater Treatment Plant managed by NRV-NRA.

The third day of the theme-based training of teaching staff at NMBU had a focus on Harmonization of water-related higher education and internationalization of universities.

The event was concluded with positive impressions. It was everyone's opinion that the training was very beneficial.



Presentations from the event can be downloaded from:

<http://www.swarm.ni.ac.rs/activities?id=37>

THE THIRD THEME-BASED TRAINING OF TEACHING STAFF IN RIJEKA (UNIRIFCE)

The third theme based training of teaching staff for acquiring new teaching and learning methods of the Erasmus+ CBHE project “Strengthening of master curricula in water resources management for the Western Balkans HEIs and stakeholders” (SWARM) was held at the University of Rijeka, Faculty of Civil Engineering (UNIRIFCE) from 18th to 20th September 2019.

All WB project partners took part at this training. Seventeen representatives from 8 partner institutions were present at the training (15 out of 23 were from WB partner HEIs – UNI, UNS, UNSA, UNMO, UPKM, TCASU and UoM).

The first day of the training was dedicated to presentation of the hosting institution, study programs, spatial capacities and quality assurance and monitoring procedures. The second day was related to Water Resources Management in Croatia and WRM as scientific and research topic of the faculty staff. On the third day the trainees took the tour to the laboratories and were introduced with the equipment in the labs.

The event was concluded with positive impressions. It was everyone's opinion that the training was very beneficial.



Presentations from the event can be downloaded from:

<http://www.swarm.ni.ac.rs/activities?id=42>

REPORT ON DEVELOPMENT OF SPECIFIC COMPETENCIES AND LEARNING OUTCOMES OF CURRICULA

This *Report* is a part of activity WP2.1 Development of specific competencies and learning outcomes of curricula in WB created under the project SWARM “Strengthening of master curricula in water resources management for the Western Balkans HEIs and stakeholders” (Project number 597888-EPP-1-2018-1-RS-EPPKA2-CBHE-JP). This Report has been prepared by AUTH (EU partner) and the WB Partners HEIs.

It summarizes and offers ideas for new courses that will be developed or modernized under activity WP2.2 Development of courses content and syllabi.

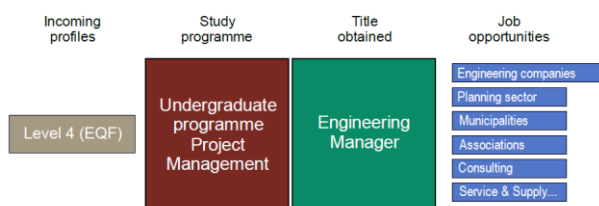
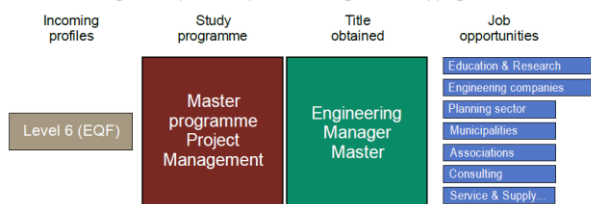


Figure 1.1 Input and output of the undergraduate study programme



The final version of this report was adopted on 7th of October, 2019. The complete report is available on the project official website and on the following link:

<http://www.swarm.ni.ac.rs/activities?id=43>

CATALOGUE OF COMPETENCIES

In order to improve existing curricula or to develop new competence-based master curricula in WB partner HEIs in line with Framework for Qualification of the EHEA for the second cycle and European Qualification Framework (EQF) level 7 the Bologna Process requirements, the specific students' competences and learning outcomes are defined in the catalogue of competencies. Specification of necessary competencies for professional practice is based on recognized deficiencies of professional knowledge, skills and attitudes that arise from previous considerations given in project reports.

Holistic approach to Water Resources Management (WRM) requires professionals with multiple competencies. The catalogue summarizes two types of competencies:

- 1) generic (key, cross-curricular, core or transferable competencies across study areas) and
- 2) subject-specific competencies (i.e. competencies specific to a subject area).

There is global demand for effective water resources managers and consultants with an appreciation of the challenges of effective environmental management within a range of sectors. Successful water management is dependent on the development of integrated solutions. This requires social, political, institutional, legal and financial, as well as scientific, technical and environmental awareness and understanding.

Students interested in environmental or water resources management may have a range of backgrounds, including engineering, agriculture, environmental science or physical geography.

The final version of this report was adopted on 7th of October, 2019. The complete report is available on the project official website and on the following link:

<http://www.swarm.ni.ac.rs/activities?id=43>

THE FOURTH THEME-BASED TRAINING OF TEACHING STAFF IN THESSALONIKI (AUTH)

The fourth theme based training of teaching staff for acquiring new teaching and learning methods of the Erasmus+ CBHE project “Strengthening of master curricula in water resources management for the Western Balkans HEIs and stakeholders” (SWARM) was held at the Aristotle University of Thessaloniki, Department of Civil Engineering (AUTH) from 30th October to 01st November 2019. All WB project partners took part at this training.

Nineteen representatives from 8 partner institutions were present at the training (15 out of 19 were from WB partner HEIs – UNI, UNS, UNSA, UNMO, UPKM, TCASU and UoM).

The first day of the training was dedicated to presentation of Education and Research in WRM at the hosting institution. The second day was related to WRM-Practice and Innovation in Greece and within the University, Master Programs and research in WRM were presented. On the third day the trainees were taken to the visit to the Water treatment plant (close to Thessaloniki).

The general organization of the training was evaluated with very high marks. The event was organized totally in line with the previous defined agenda.



Presentations from the event can be downloaded from:

<http://www.swarm.ni.ac.rs/activities?id=44>



For further information about the project please refer to the website www.swarm.ni.ac.rs, and feel free to get in touch with us also via swarmuni@gmail.com or on one of our other social media channels.



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