SETOF Soil Erosion and TOrrential Flood Prevention: Curriculum Development at the Universities of Western Balkan Countries

Co-funded by the Erasmus+ Programme of the European Union

WP3

Development

Lead Organisations of WP2**: UBL – Republic of Srpska, BIH**

Participating Organisation: UB;UNI; UBL; UNSA; INSZASUM; BOKU; UNSCM; UNIRC;FRI-BAS

Deliverable 3.3

Title: Evaluation of syllabi

Participating Organisation: UBG; UNS; UNI; UBL; UNSA

Project number: 598403-EPP-1-2018-1-RS-EPPKA2-CBHE-JP (2018 – 2579 / 001 – 001)

PROJECT INFO

Project title	Soil Erosion and Torrential Flood Prevention: Curriculum Development at the Universities of Western Balkan Countries
Project acronym	SETOF
Project reference number	598403-EPP-1-2018-1-RS-EPPKA2-CBHE-JP(2018-2579/001-001)
Coordinator	University of Belgrade
Project start date	November 15, 2018
Project duration	36 months

DOCUMENT CONTROLSHEET

Ref. No and Title of Activity	**3.3. Evaluation of syllabi**
Title of Deliverable:	Report on evaluation of the syllabuses of the new and modernized subjects
Institutions:	University of Belgrade
Author/s of the deliverable	Mirjana Todosijević, Katarina Lazarević, Tijana Vulević, Nada Dragović, Ratko Ristić, Miodrag Zlatić, Aleksandar Baumgertel, Siniša Polovina, Vukašin Milčanović
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1. Introduction

Soil erosion and torrential floods are a destructive process, with serious consequences on the economy, society and environment. In the territory of the Republic of Serbia, torrential floods are the most common and most devastating natural disasters in terms of material damage and loss of human lives. Of the total territory of RS, 86.4% is endangered by erosion processes, which is also contributed by 11,500 registered torrents (Ristić et al., 2016). Damages that occur as a result of erosion and torrential floods are reflected in the loss of land (primarily fertile agricultural land), water loss, backfilling of reservoirs, mechanical and chemical pollution of water, damage to infrastructure, loss of human lives. In the period from 1915. by 2013., 848 torrential floods had been reported, causing enormous damage. The floods that occurred in May 2014 caused direct damage of about 1.7 billion dollars and took 51 human lives (24 drowned) (http://www.srbija.gov.rs/vesti/specijal.php? id = 209591). Based on long-term cooperation with BOKU University from Austria, the Czech Republic and Bulgaria, and in accordance with the rules of the Bologna Declaration, the University of Belgrade has accredited study programs of undergraduate and master studies for student education in field of Ecological engineering for soil and water resources protection. This programme involves the design and construction of sustainable systems in accordance with ecological and social principles.

The Department of Ecological engineering for soil and water resources protection has proposed changes and amendments to existing study programs in undergraduate and master's academic studies. In the basic studies at the study program: Ecological engineering for soil and water resources protection, 5 new subjects and 3 advanced subjects were proposed, while in the master's academic studies 2 new subjects and 2 advanced subjects were introduced.

Introduction, improvement and modernization of possible erosion/floods related subjects on Bachelor and Master studies at the Faculty of Forestry University of Belgarde, is evaluated by the students enrolled First and Second level of study, as well as teachers related to those subjects. Evaluation was done based on questionnaries prepared by UB and other project partners under Erasmus SETOF project. Report is given based on average values of questionnaries for each subject on Bachelor and Master level and average values of all subjects improved, for students. The teachers evaluation was given as average values of all subjects improved or newly introduced one.

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2. Overview of modernized/new syllabi on existing study programmes

Study program title: **Ecological engineering for soil and water resources protection**
Type and Level of Study: **Basic Academic Studies (Bachelor)**

List of **new** subjects included in the study program of basic academic studies Ecological engineering for soil and water resources protection:

1. Revitalization of Small Water Flows
2. Climate change and natural hazards management
3. Basics of forest hydrology
4. Hydraulics of open channel flow
5. Economics of the soil and water resources protection

The changes that will be made in the bachelor study programs will be within the so-called small changes (up to 20% ECTS):

1. Soil conservation
2. Organization of anti-erosion works
3. Management of soil and water resources in protected areas

Study program title: **Ecological engineering for soil and water resources protection**
Type and Level of Study**: Master Academic Studies (Master)**

List of **new** subjects included in the Master's Degree Program in Ecological engineering for soil and water resources protection:

1. Surface water resources
2. Stabilization of the terrain

List of advanced subjects incorporated in the Master's Degree Program in Ecological engineering in soil and water resources protection:

1. Quality management in the protection of soil and water resources
2. Valuation of natural resources

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3. Results of evaluation by students on:

- Bachelor study programe/s

Question	Poor	OK	Good	Very good	Excellent
How do you rate competencies of teaching staff regarding new/improved curricula?	0,00	0,00	17,86	21,43	47,62
Rate quality of teaching material.	0,00	0,00	14,29	35,71	33,33
How do you assess access to literature and database?	0,00	0,00	10,71	35,71	38,10
Rate learning obligations.	0,00	3,57	17,86	21,43	42,86
The overall rating of new/modernized curricula.	0,00	0,00	17,86	32,14	38,10
Tempo.	0,00	17,86	17,86	28,57	19,05
Laboratory and field equipment.	0,00	14,29	14,29	28,57	23,81
Practical exercises or field work (if any).	0,00	10,71	10,71	42,86	14,29
Do new subjects increase chance for employment of engineers?	3,57	3,57	3,57	25,00	52,38
Do new subjects improve competencies of engineers?	0,00	7,14	17,86	25,00	33,33
Final comment and recommendations:	The unstable climatic conditions have drawn attention to the problem of erosion and flood protection, which has given our profession a greater reputation.				

Total of 21 student are interviewed

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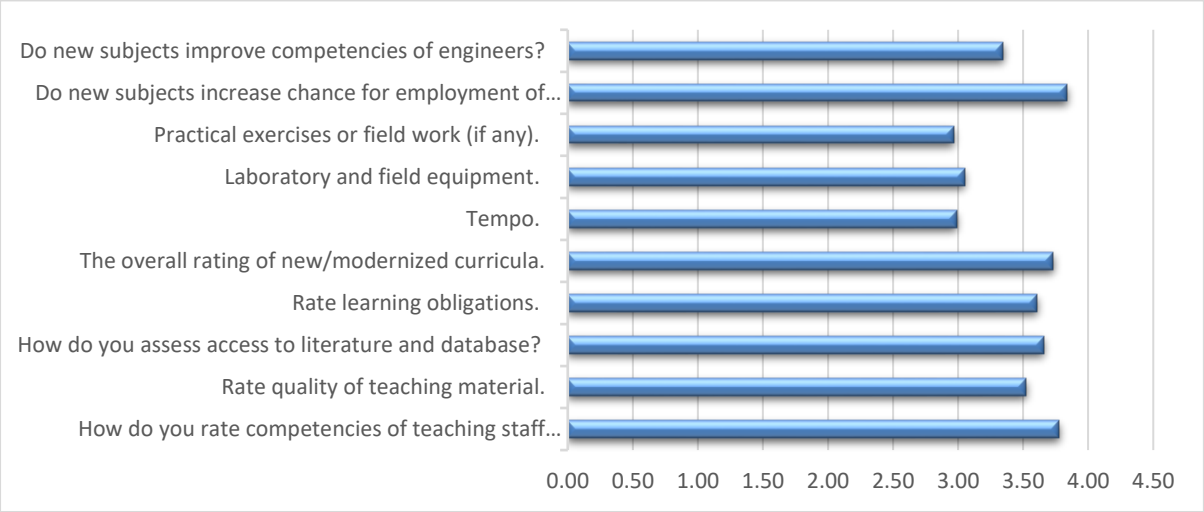

- **Master study programe/s**

Question	Poor	OK	Good	Very good	Excellent
How do you rate competencies of teaching staff regarding new/improved curricula?	0,00	0,00	28,57	28,57	33,33
Rate quality of teaching material.	0,00	0,00	35,71	35,71	16,67
How do you assess access to literature and database?	0,00	0,00	35,71	21,43	33,33
Rate learning obligations.	0,00	0,00	42,86	14,29	33,33
The overall rating of new/modernized curricula.	0,00	0,00	7,14	42,86	41,67
Tempo.	0,00	7,14	21,43	21,43	41,67
Laboratory and field equipment.	14,29	28,57	28,57	7,14	8,33
Practical exercises or field work (if any).	0,00	21,43	35,71	0,00	33,33
Do new subjects increase chance for employment of engineers?	0,00	28,57	21,43	21,43	16,67
Do new subjects improve competencies of engineers?	0,00	14,29	42,86	14,29	16,67
Final comment and recommendations:	Improve conditions for field and laboratory research.				

Total of 12 student has been interviewed.

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4. Conclusions

Bachelor and Master study - students

- Modernized study programs of Bachelor and Master studies of Environmental Ecological engineering for soil and water resources protectionas, well as the competence of the teaching staff, were evaluated with a very high grade, as before. Slightly lower grades are related to questions about database and available literature, employment opportunities for graduate engineers. This generation of students believes that it is necessary to modernize equipment, laboratory and improve field work. Therefore, the grades for that issue are lower. In addition, students believe that the new master course will increase interest in this issue.

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Ref. No and Title of Activity	**3.3. Evaluation of syllabi**
Title of Deliverable:	Report on evaluation of the syllabuses of the new and modernized subjects
Institutions:	University of Novi Sad
Author/s of the deliverable	Atila Bezdan, Radovan Savić, Boško Blagojević, Milica Vranešević, Radoš Zemunac
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1. Introduction

Improvement of existing curricula and subjects on the Bachelor and Master studies at the Faculty of Agriculture at the University of Novi Sad, is carried out in accordance with the Bologna Declaration and experiences of programme countries (Austria, Italy, Bulgaria, Nort Macedonia) within the SETOF project. Improvement and modernization of soil erosion and torrential floods related subjects on Bachelor and Master studies at the Faculty of Agriculture University of Novi Sad, is evaluated by the students enrolled in the Summer semester of the First and the Second level of study, as well as teachers related to those subjects. Evaluation was done based on questionnaries prepared by colegues from the University of Banja Luka and other SETOF project partners. Report is given based on average values of questionnaries for each subject on Bachelor level and average values of all subjects improved, for students. Then the same was done for the second level of study. Finnaly, teachers evaluation was given as average values of all subjects improved or newly introduced one.

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2. Overview of modernized/new syllabi on existing study programmes

Study program title: **Water Management**
Type and Level of Study: **Basic Academic Studies (Bachelor)**

1. Engineering Hydrology
2. River engineering
3. Bioregulation
4. Soil Conservation Structures

Total of 12 student are interviewed.

Question	Poor	OK	Good	Very good	Excellent
How do you rate competencies of teaching staff regarding new/improved curricula?	0.00	0.00	28.57	57.14	14.29
Rate quality of teaching material.	0.00	28.57	28.57	42.86	0.00
How do you assess access to literature and database?	0.00	14.29	42.86	42.86	0.00
Rate learning obligations.	0.00	0.00	57.14	42.86	0.00
The overall rating of new/modernized curricula.	0.00	0.00	42.86	57.14	0.00
Tempo.	0.00	0.00	42.86	57.14	0.00
Laboratory and field equipment.	0.00	0.00	14.29	28.57	57.14
Practical exercises or field work (if any).	0.00	0.00	57.14	42.86	0.00
Do new subjects increase chance for employment of engineers?	14.29	28.57	28.57	28.57	0.00
Do new subjects improve competencies of engineers?	0.00	0.00	28.57	57.14	14.29
Final comment and recommendations:	NO				

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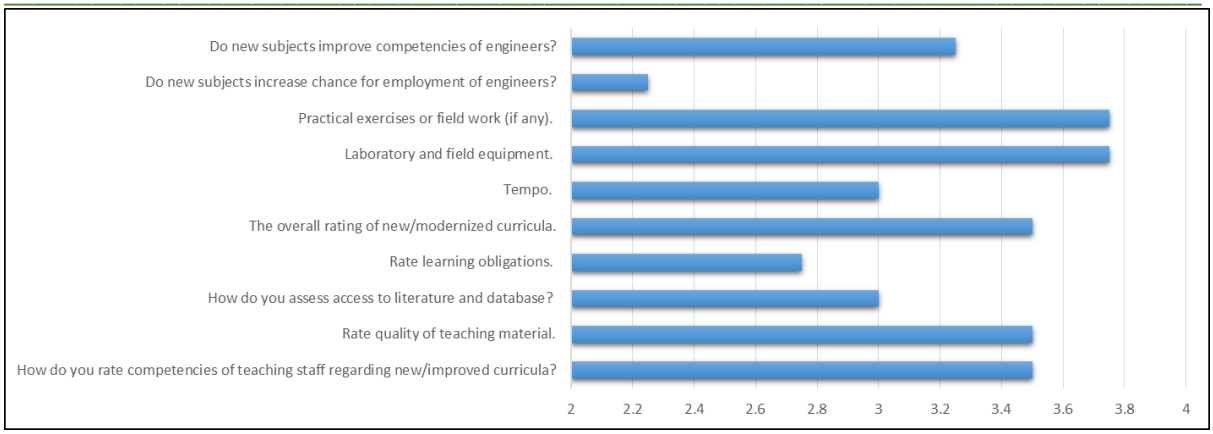

Study program title: **Water Management**
Type and Level of Study: **Master Academic Studies (Master)**

1. Soil and Water Conservation

Total of 5 student has been interviewed.

Question	**Poor**	**OK**	**Good**	**Very good**	**Excellent**
How do you rate competencies of teaching staff regarding new/improved curricula?	0.00	0.00	0.00	25.00	50.00
Rate quality of teaching material.	0.00	0.00	0.00	12.50	25.00
How do you assess access to literature and database?	0.00	0.00	12.50	12.50	12.50
Rate learning obligations.	0.00	0.00	12.50	25.00	0.00
The overall rating of new/modernized curricula.	0.00	0.00	0.00	12.50	25.00
Tempo.	0.00	0.00	0.00	37.50	0.00
Laboratory and field equipment.	0.00	0.00	0.00	0.00	37.50
Practical exercises or field work (if any).	0.00	0.00	0.00	0.00	37.50
Do new subjects increase chance for employment of engineers?	0.00	12.50	12.50	12.50	0.00
Do new subjects improve competencies of engineers?	0.00	0.00	0.00	25.00	12.50
Final comment and recommendations:	NO				

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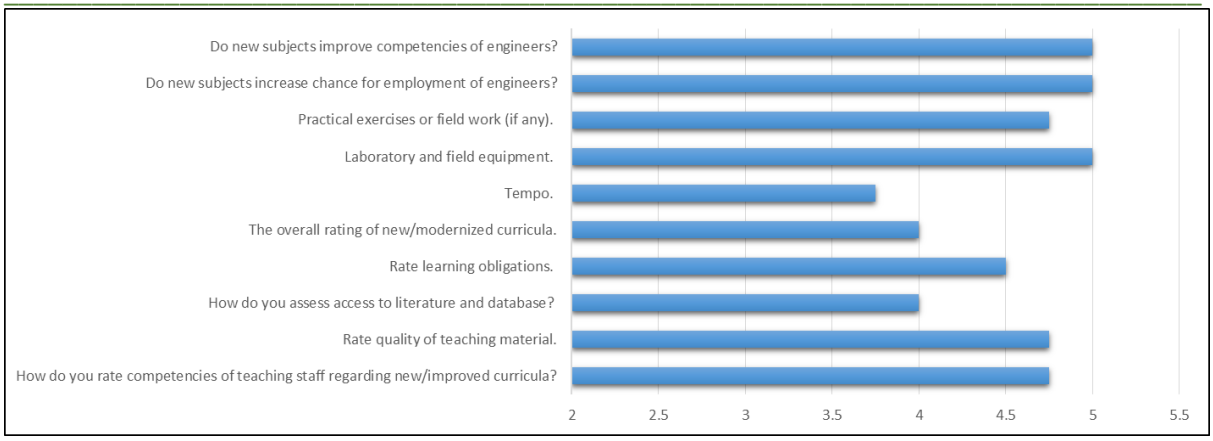

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3. Results of evaluation by teachers on Bachelor/Master study programe/s

Question	Poor	OK	Good	Very good	Excellent
How do you rate the quality of modernized study programe?	0.00	0.00	0.00	25.00	75.00
How do you rate competencies of teaching staff regarding improved study programme?	0.00	0.00	0.00	25.00	75.00
Are the new/modernized curricula attractive for students/engineers?	0.00	0.00	0.00	100.00	0.00
Rate quality of teaching material.	0.00	0.00	0.00	50.00	50.00
How do you assess access to literature and database?	0.00	0.00	0.00	100.00	0.00
Rate learning obligations.	0.00	0.00	25.00	75.00	0.00
The overall rating of modernized study programe.	0.00	0.00	0.00	0.00	100.00
Rate modernized subjects compared to old ones.	0.00	0.00	0.00	25.00	75.00
Rate laboratory and field equipment.	0.00	0.00	0.00	0.00	100.00
Rate practical exercises or field work (if any).	0.00	0.00	0.00	0.00	100.00
Do new/modernized subjects increase chance for employment of engineers?	0.00	0.00	0.00	100.00	0.00
Do new/modernized subjects improve competencies of engineers?	0.00	0.00	0.00	100.00	0.00
Final comment and recommendations:	NO				

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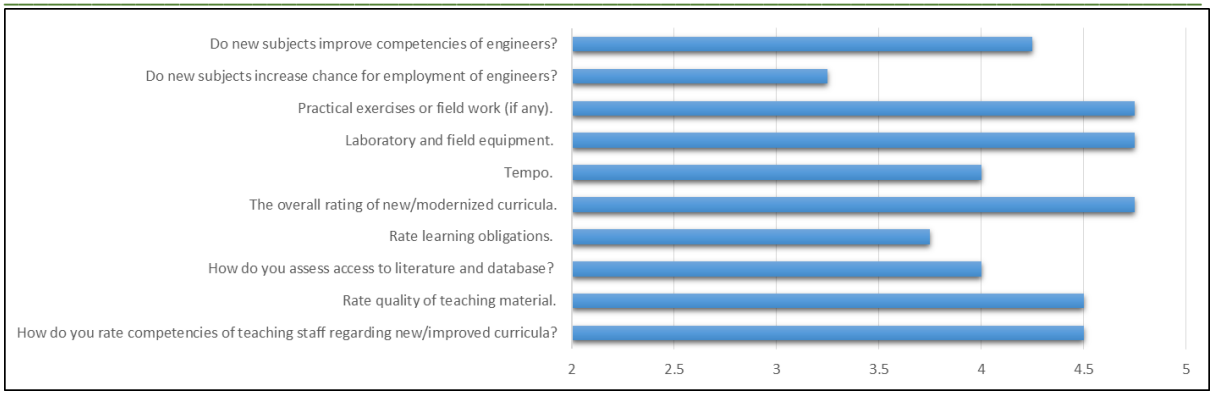

4. Conclusions

Bachelor and Master study - students

- Overall rate of modernized subjects on Bachelor and Master study is high (very good and excellent). The weakest rate was given for the question Do new subjects increase chance for employment of engineers? Students opinion is that they are not confident that the improvement of curricula will significally improved chances for employment, which could be related to the socio economic situation in Serbia. Students are satisfied with capacities of laboratories and equipment and aloso with the overall rating of the modernized curricula.

Teachers

Teacher are satisfied with with the overall rating of the modernized curricula, but mostly with laboratory and field equipment and practical exercises or field work. Teachers are also not confident that the improvement of curricula will significally improved chances for employment of students after graduation. Improved study programmes are evaluated as very good.

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