



WP3

Development of curricula

Lead Organisations of WP3: **UBL – Bosnia and Herzegovina**

Participating Organisation: UB; UNI; UNS; UBL; UNSA; BOKU; UNSCM; UNIRC

Deliverable 3.2

Title: New master programme implemented

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



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Coordinator	University of Belgrade
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DOCUMENT CONTROL SHEET

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REPORT OF NEW MASTER PROGRAMME IMPLEMENTED

Name of the study program: **Soil Erosion and Flood Prevention**

Type and level of study: **joint study program of master's academic studies**

A joint study program of master academic studies "Soil Erosion and Torrential Flood Prevention" was developed under the Erasmus + K2 project "Soil Erosion and Flood Prevention: Curriculum Development at the universities of Western Balkan countries (SETOF)". Five universities are participating in the development and implementation of the study program: the University of Belgrade, the University of Novi Sad, the University of Nis (Program Holders) and the University of Banja Luka, and the University of Sarajevo (Partner Organizations), which comprise the Consortium of Study Program. The joint study program Soil Erosion and Torrential Flood Prevention enables students to address issues in different areas of design, defense against natural disasters, research, and analysis of soil degradation, as well as socio-economic and organizational aspects of natural resources protection.

According to the adopted structure (Table 1), the joint study program lasts one year, i.e., 2 semesters with a total of 60 ECTS credits. The joint study program of master's academic studies has four compulsory and two electives that students choose from a total of 13 courses offered. The teaching process takes place through lectures, exercises, seminar papers, exams, study-research work, professional practice, and a master's thesis. The curriculum of the study program with a list of compulsory and elective courses with outline content can be found on the project website. The credit value of each subject, as well as the master's thesis, is expressed by the European Credit Transfer System (ECTS).

During the first semester, students listen to compulsory and elective courses and master the pre-exam and exam activities provided by the syllabi of those courses. The activities envisaged by the master's study program during the second semester are study-research work, professional practice, and preparation and defense of a master's thesis.

All partners in the Consortium participate in holding teaching activities. Compulsory and elective courses are structured as joint courses in the development of syllabi and the implementation of teaching activities involves teachers from two or more universities (Table 2). Professional practice is also organized by teachers from partner institutions, and students perform study-research work and master's thesis with a selected mentor (professor from one of the universities).

Table 1. Structure of the joint master's program Soil erosion and torrential flood prevention

No	Code	Subjects	S	Number of classes	ECTS
1.	20.ER2101	Soil and water degradation	I	3+2	5
2.	20.ER2102	Soil erosion protection	I	3+2	6
3.	20.ER2103	Torrential flood protection	I	2+3	6
4.	20.ER2104	Integrative torrential watershed management	I	3+2	5
5.	20.ER2110	Elective subject I - Land melioration			



		- Conservation of karst terrain - Climate change adaptation - Project management for natural resources protection - Sustainable land management - Biomelioration of barelands	I	2+2	4
6.	20.ER2120	Elective subject II - Natural disasters risks management - Land degradation and ecosystem services - Torrent monitoring and early warning system - Decision-making in soil erosion and torrent control - Modeling of soil and water degradation - Melioration of degraded forests	I	2+2	4
7.	20.ER2201	Study -research work	II	10	7
8.	20.ER2202	Professional practice	II	6	3
9.	20.ER2203	Development of a master thesis	II	12	12
10.	20.ER2204	Master thesis	II	2	8
Total classes of active teaching				58	
Total ECTS					60

Table 2. Structure of a joint master's program with assigned professors and associates

Subjects	Offered by	Compulsory /elective	Semester	ECTS	Professors
Soil and water degradation	FOS-NI FF-BG FF-BL (joint course)	Compulsory	1st	5	Tatjana Golubović, Miodrag Zlatić, Marijana Kapović Solomun, Katarina Lazarević
Soil erosion protection	FF-BG FA-NS (joint course)	Compulsory	1st	6	Radovan Savic, Tijana Vulević, Siniša Polovina, Katarina Lazarević
Torrential flood protection	FF-BG FF-SA (joint course)	Compulsory	1st	6	Ratko Ristić, Muhamed Bajrić, Dejan Vasović, Siniša Polovina, Ranka Erić
Integrative torrential watershed management	FOS-NI FF-BG FF-SA (joint course)	Compulsory	1st	5	Miodrag Zlatić, Muhamed Bajrić, Ranka Erić
Elective subject I (List of subjects)					
Land melioration	FA-NS FF-BG (joint course)	Elective	1st	4	Radovan Savić, Atila Bezdan, Milica Vranešević, Aleksandar Baumgertel
Conservation of karst terrain	FF-SA	Elective	1st	4	Ćemal Višnjjić, Muhamed Bajrić, Emira Hukić



Climate change adaptation	FOS-NI	Elective	1st	4	Slobodan Milutinović
Project management for natural resources protection	FF-BG	Elective	1st	4	Nada Dragović, Tijana Vulević
Sustainable land management	FF-BL FF-BG (joint course)	Elective	1st	4	Marijana Kapović Solomun, Miodrag Zlatić, Mirjana Todosijević
Biomelioration of barelands	FF-BL	Elective	1st	4	Jugoslav Brujić, Branislav Cvjetković
Elective subject II (List of subjects)					
Natural disasters risks management	FOS-NI	Elective	1st	4	Slobodan Milutinović, Snežana Živković
Land degradation and ecosystem services	FF-BG FF-BL (joint course)	Elective	1st	4	Mirjana Todosijević, Marijana Kapović Solomun, Katarina Lazarević
Torrent monitoring and early warning system	FF-BG FF-SA FOS-NI (joint course)	Elective	1st	4	Muhamed Bajrić, Dejan Vasović, Siniša Polovina, Ranka Erić
Decision-making in soil erosion and torrent control	FA-NS FF-BG (joint course)	Elective	1st	4	Bosko Blagojević, Tijana Vulević
Modeling of soil and water degradation	FF-BG FA-NS (joint course)	Elective	1st	4	Mirjana Todosijević, Atila Bezdan, Katarina Lazarević, Ranka Erić
Melioration of degraded forests	FF-SA	Elective	1st	4	Ćemal Višnjić
Study -research work	FOS-NI FF-BG FF-BL FF-SA FA-NS	Compulsory	2nd	7	Work with mentor
Professional practice	FOS-NI FF-BG FF-BL FF-SA FA-NS	Compulsory	2nd	3	Teachers from all partner institutions
Masterwork	FOS-NI FF-BG FF-BL FF-SA FA-NS	Compulsory	2nd	20	Work with mentor



The certificate of accreditation of the joint study program of master academic studies in Soil Erosion and Torrential flood prevention was obtained by the decision of the Accreditation Commission of the National Body for Accreditation and Quality Assurance in Higher Education of the Republic of Serbia (NAT) on May 13th, 2021 (No. 612-00-00212/5/2020-03).

After obtaining the Certificate of Accreditation, the Competition for Student Enrollment for the 2021/2022 school year was published, which provided special conditions, measures for determining the order of candidates, tuition fees, and additional information.

Those who want to enroll in the first year of the joint master's academic study program, must:

- (1) be a person that has completed basic academic studies, achieving at least 240 ESPB credits
- (2) be a person who has completed integrated studies and a master's degree in academic studies, achieving at least 300 ESPB points.

Applicants for a joint master's program should have completed basic academic studies and integrated studies i.e., master's academic studies in the educational scientific field of technical-technological and natural-mathematical sciences.

The order of applicants for the first year of master's academic studies is determined by:

- general average grades from the previous level of education,
- length of study of the previous level of study, and
- additionally achieved results relevant to this study program.

Candidates can score 100 points based on the general average grade, length of study, and additionally achieved results.

The general average grade implies an average grade from basic academic studies multiplied by 7. Based on that, candidates can score a maximum of 70 points.

Candidates can achieve a maximum of 20 points based on the criteria for the length of study.

Additionally achieved results relevant to this master's study program (awards, additional professional development in the country and abroad, published papers, participation in the practical and field classes, membership in domestic and international student and professional organizations) carry a maximum of 10 points.

The Commission for Admission of Candidates consists of academic representatives of the universities – the holders of the study program participating in its realization. The Commission for admission of candidates for the 2021/2022 school year was adopted by the Academic Board and consisted of DSc Tijana Vulević (University of Belgrade), DSc Snežana Živković (University of Niš), and DSc Boško Blagojević (University of Novi Sad).

Students are enrolled based on a publicly available ranking list published at the Faculty of Forestry at the University of Belgrade. The ranking list is also published on the websites of the universities of the joint study program. Student enrollment is done at the University of Belgrade, Faculty of Forestry.

Students enrolled in a joint master's study program in the 2021/22 school year do not pay tuition. Tuition for this school year is funded from the budget of the ERASMUS + K2 project "Soil Erosion and Torrential Flood Prevention: Curriculum Development at the universities of Western Balkan countries (SETOF)".

When applying, candidates submit the following documentation: application, diploma, supplement to diploma, and CV. Candidates apply through the student service of the Faculty of Forestry, University of Belgrade. Candidates from Bosnia and Herzegovina submit applications through the student services of the Faculties of Forestry of the University of Banja Luka and the University of Sarajevo, which are forwarded to the Faculty of Forestry, University of Belgrade.

According to the announced competition, a total of 23 students applied for the joint master's program: 6 from the Universities from Bosnia & Herzegovina (4 students from the University of Banja Luka and 2 from the University of Sarajevo) and 17 students from the Universities from Serbia (8 students the University of Belgrade, 4 students from University of Niš and 5 students from University of Novi Sad). Candidate registration in the first enrollment period was from 14.09.2021. until 05.10.2021. The preliminary list was published on October 7th, 2021. and 16 students were enrolled in the joint master's



program. In the second enrollment period (student registration date 19-20. October 2021) 7 students were registered and enrolled.

According to the SETOF project, classes were planned to be held at the Teaching base of the Faculty of Forestry (University of Belgrade) at Goč. The first part of block classes was held from 01 – 05 November 2021, according to the class schedule (Table 3) adopted by the Academic Board of the Study Program and published on the website of the Faculty of Forestry of the University of Belgrade. All accredited teachers and associates participated in the maintenance of the classes, as did all students (Figure 1). The ceremonial reception for enrolled students was held on November 1st, 2021. at noon, where students were introduced to the structure of the study program, the rights, and obligations they have during the study, as well as with teachers and associates engaged in the master program.



Figure 1. Teachers, associates, and students during the maintenance of block classes at the Teaching base of the Faculty of Forestry at Goč, 01-05 November 2021.

Table 3. Class Schedule FOR

	Monday		Tuesday	Wednesday	Thursday	Friday	
8:00 – 8:45	Soil and water degradation		Soil erosion protection	Torrential flood protection	Integrative torrential watershed management	ES1	ES9
9:00 – 9:45						ES4	ES11
10:00 – 10:45							
11:00 – 11:45	ceremonial reception of enrolled students		ES10		ES5		
12:00 – 12:45							
Pauza							
14:00 – 14:45	ES3	ES12	Soil and water degradation	Soil erosion protection	Torrential flood protection	Integrative torrential watershed management	
15:00 – 15:45	ES8	ES2					
16:00 – 16:45							
17:00 – 17:45							
18:00 – 18:45	ES6						

Elective subjects: ES1: Torrent monitoring and early warning system, ES2: Conservation of karst terrain, ES3: Climate change adaptation, ES4: Project management for natural resources protection, ES5: Modeling of soil and water degradation, ES6: Melioration of degraded forests, ES7: Biomelioration of barelands, ES8: Sustainable land management, ES9: Decision-making in soil erosion and torrent control, ES10: Land melioration, ES11: Natural disasters risks management, ES12: Land degradation and ecosystem services

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The second part of block classes on a joint master study program, according to the project proposal, was planned to take place in Belgrade. Due to the successful first part of block classes held at Goč, teachers and students have proposed that the second part of block classes should be held also at Goč. Consent was requested and obtained by project officer Jessica Giampaolo, who's in charge of the SETOF project in front of the EACEA in Brussels. The second part of block classes was successfully held from 31.01.2022. until 04.02.2022. (Figure 2). The classes were held according to the schedule shown in Table 4.



Figure 2. Teachers, associates, and students during the maintenance of block classes at the Teaching base of the Faculty of Forestry at Goč, 31 January – 04 February 2022.

Table 4. Class Schedule

	Monday		Tuesday		Wednesday		Thursday		Friday
8:30 – 9:15	Soil and water degradation		Soil erosion protection		Torrential flood protection		Integrative torrential watershed management		Integrative torrential watershed management
9:25 – 10:10									
10:20 – 11:05									
11:15 – 12:00	ES1	ES2	ES7	ES8	ES9	ES10	ES11	ES12	ES
12:00 – 12:45	Pauza								
14:00 – 14:45	ES3	ES4	Soil and water degradation		Soil erosion protection		Torrential flood protection		
15.10 – 15:55									
16:05 – 16:50	ES5	ES6							
17:00 – 17:45									

Elective subjects: ES1: Torrent monitoring and early warning system, ES2: Conservation of karst terrain, ES3: Climate change adaptation, ES4: Project management for natural resources protection, ES5: Modeling of soil and water degradation, ES6: Melioration of degraded forests, ES7: Biomelioration of barelands, ES8: Sustainable land management, ES9: Decision-making in soil erosion and torrent control, ES10: Land melioration, ES11: Natural disasters risks management, ES12: Land degradation and ecosystem services



In addition to classes in compulsory and elective subjects, consultations were held with students regarding the development of seminar papers, preparation for exams, and application of the subject of master's work (Figure 3). Exam applications, records, and applications from the exam, as well as other administrative tasks, were performed through the University of Belgrade, Faculty of Forestry, which is the holder of the study program.



Figure 3. Student presentation of the seminar paper