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## 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:**INSZASUM; BOKU;  
UNSCM; UNIRC;FRI-BAS

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

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## 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	<b>3.3. Evaluation of syllabi</b>
Title of Deliverable:	Report on evaluation of the syllabuses of the new and modernized subjects
Institutions:	University of Natural Resources and Life Sciences, Vienna Department of Civil Engineering and Natural Hazards  Peter-Jordan-Straße 82, A-1190 Vienna, Austria  Institute for Structural Engineering, Institute of Mountain Risk Management
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Status of the document:	draft

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

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## CONTENT

### 1. Introduction

All participating Universities (UBL, UNS, UNI, UNSA, UB) delivered fact sheets about courses at Bachelor and Master level, either with the intention to enhance or update the existing courses or to set up totally new courses. All the information is summarized in a table at the end of the draft.

In total 20 courses are listed in Bachelor programs, and 17 courses are dedicated to Master programs. Out of these courses 15 are compulsory, 18 elective and 4 are not yet defined.

The student's workload covers a broad range between 3 and 8 ECTS.

- 4 courses are specified with 3 ECTS
- 8 courses are specified with 4 ECTS
- 10 courses are specified with 5 ECTS
- 13 courses are specified with 6 ECTS
- 1 course is specified with 8 ECTS
- 1 course is not yet defined

More or less all courses belong to well established study programs, mainly Forestry, Water Management and Environmental (ecological-) Engineering. The new and enhanced courses seem to enlarge the portfolio of the existing programs and can prepare the way to a better understanding of environmental issues and to better tackle the huge problem of land degradation, soil erosion and water management under the impact of global change.

### 2. Evaluation of modernized/new syllabi on existing study programmes for each partner

The observations below are based on the material related to the bachelor and master programs that have been provided by the individual universities. The observations are made more or less for each of the submitted programs, therefore the report is structured in a general format, with no differentiation between universities.

First of all, we would like to address that the provided programs are ambitious, structured and based on a very good expertise and knowledge, and coherent and understandable from an expert point of view. The programs also strongly correspond to the international sustainability goals.

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There are the following points or shortcomings that are detected by the reviewing process and that should be clarified:

- Learning objectives and learning outcomes do not fully match the levels formulated in European learning outcome frameworks (<https://www.bmbwf.gv.at/Themen/Hochschule-und-Universit%C3%A4t/Studium/NQR.html>)
- Program documents provided for the evaluation do not allow a distinction between existing, new or adjusted parts.
- The content and difference of classes with same title or offered in bachelor and master programs is not clear. Which of these classes are mandatory or selectable? Student requirements and skills for these classes should be defined.
- In the proposed programs/classes the students and their gradual development of their skills should be in the center. The programs seem to be structured with respect to the skills, expertise and specialist knowledge of the teachers. There might be the requirement to include for some parts of the classes additional experts e.g. via the Erasmus teaching Program.
- It was not possible to evaluate the link and interaction of the adjusted classes to the other existing classes in the bachelor or master programs, also it was not possible to find out the prerequisite of classes.
- It was also not possible to evaluate/detect the link and interaction of the adjusted classes to the classes of the other Universities and a possible exchange program of students and teachers.
- It is important to highlight which modules and interactions are there at each university and between universities, this would provide a significant advantageous for students but also for teachers.
- Some of the programs of each university and between the universities offer similar courses, some of them are at different levels (bachelor and masters). It would be important for the student to formulate associated with overlapping classes the focus or pursue profiles of the universities and to formulate which modules are suitable for an exchange.
- The use of e-learning platforms and blended learning concepts is not mentioned in the documents, it is also not formulated if these platforms are used to provide documents for students and between teachers. It is also not clear whether such platforms are used for organization, exam management and for exams. In newly established courses, these platforms, including partial distance learning concepts, are an essential element. It is also important to run these platforms in English to enable international students to access information. Most documents do not indicate which type of lecture are used, are blended learning concepts already used?

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- It was not possible to reveal from the documents in what form a research-based teaching is carried out and whether if it is an objective to support education concepts for teachers (life-long learning) as in the Erasmus Teaching Exchange Program.
- It is not clear in some courses whether the course is offered 100% in English because the course material is mainly presented as national literature. The including of international literature would be recommended, in order to attract international students for the new adjusted program.
- According to the documents, some of the courses can only be taken in the form of an oral exam. For such courses, it would be important for the students offering partial exams to allow a step by step knowledge increase and passing of the course, or at least to offer a written exam in addition to the oral exam.
- The evaluation of the workload of the teaching staff need the information of the teaching commitment of the teachers to other courses at the university or at another universities - this information was not provided. An important indicator for the assessment of the quality of classes is also the ratio teacher/student.
- Overall class ECTS do not match with the ECTS sum indicated for parts of the classes. The reason for this gap as well as the determination procedure for obtaining the ECTS with respect to the types of teaching should be clearly communicated and shown.
- Taken as a simple rule of thumb that 1 teaching hour corresponds to 1.5 ECTS, the workload of 12 compulsory and 9 elective courses seems to be too high.
- A large number of ECTS (>6) usually corresponds with a course covering a broad range of topics, so this workload should be restricted to interdisciplinary courses.
- In the programs and courses different terms are used for the same content and methods. Uniform names and definitions would be important for exchange programs and for students.

### **3. Evaluation of modernized/new syllabi on existing study programmes on the level of project**

- Overall teaching objectives between the universities are not formulated and are not clear.
- With respect to the long-term coordination of the proposed classes and program between the universities there is the need for a masterplan including periodical control and adjustment circles for the content as well as for the teaching concepts, etc.

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- The use of e-learning platforms and blended learning concepts organized between the Universities is important in this kind of projects. It should also be clarified if these platforms will be used to provide documents for students and between teachers and Universities. These platforms should be used for organization, exam management and for exams for the exchanging students.
- The interaction of the teaching staff in the joint master project should be defined according to a project management plan.

#### **4. Recommendations**

- Revision of Learning objectives and learning outcomes according to the European learning outcome frameworks.
- Revision of program documentation in order to allow a distinction between existing, new or adjusted class parts.
- Formulate the Student requirements and skills for classes and provide a differentiation in case classes are offered multiple with the same title or content.
- Revise proposed programs/classes so that the students and their gradual development of their skills stands in the center of the programs. Proof if there is perhaps the requirement to include for some parts of the classes additional experts e.g. via the Erasmus teaching program.
- Indicate links and interactions of the adjusted classes to the other existing classes in the bachelor or master programs.
- Indicate links and interactions of the adjusted classes to classes of the program to other Universities and a possible exchange program of students and teachers.
- Show or install e-learning platforms and blended learning concepts for instance to provide documents for students and between teachers and for organization, exam management and for exams. Consider also partial distance learning concepts. Make sure that these platforms are in English to enable international students to access information.
- Consider in your program and classes also research-based teaching and support education concepts for teachers (life-long learning) as in the Erasmus Teaching Exchange Program.
- Please make clear for international programs, if only parts or all parts of the course are offered 100% in English.
- Make sure for the students a step by step knowledge increase and passing of the courses by not offering only oral exams.
- Consider by planning of teaching duties the ratio teacher/student in order to guaranty a high quality of classes.

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- Show and homogenize the determination procedure for obtaining the ECTS with respect to types of teaching and between Universities.
  - Uniform definitions and wordings used in the program, it is very important for such exchange programs and for students.

## 5. Conclusions

All the suggestions of updated, enhanced or new developed courses are worth to be discussed and afterwards implemented into the study programs. It is a chance to take advantage of the improvement of the programs and courses from a broader perspective. Which competence can be found at which University? There is no sense to build a small group of researchers and teachers if they cannot ensure a critical mass which is able to generate innovation. Only the combination of research and teaching can assure the long-lasting success of the basic intention of this ERASMUS project.



Table of all cited courses at the contributing Universities

University	B/M	Program	Course subject name	Status	ECTS	Theory (h)	Practice (h)	Course
UBL Banja Luka	B	Forestry	Forest eco-climatology	c	4	2	2	enhanced (?)
UBL Banja Luka	B	Forestry	Forest soils	c	4	2	2	enhanced (?)
UBL Banja Luka	B	Forestry	Land degradation	e	4	2	2	enhanced (?)
UBL Banja Luka	B	Forestry	Forest utilization 2	e	5	2	2	enhanced (?)
UBL Banja Luka	M	Forestry - Forest ecology and forest establishment	Sustainable land management and global trends	c	6	3	2	new
UBL Banja Luka	M	Forestry - Forest ecology and forest establishment	Syndinamics of forest phytocaenosis	c	6	3	2	enhanced
UNS Novi Sad	B	Water Management	Engineering Hydrology	c	6	3	4	enhanced
UNS Novi Sad	B	Water Management	River engineering	c	5	4	4	enhanced
UNS Novi Sad	B	Water Management	Bioregulation	e	6	2	2	enhanced
UNS Novi Sad	B	Water Management	Soil Conservation Structures	c	5	3	3	enhanced
UNS Novi Sad	M	Water Management	Soil and Water Conservation	e	6	2	2	enhanced
UNS Novi Sad	M	Water Management	Decision making in soil erosion and torrent control	e	6	2	2	new
UNS Novi Sad	M	Water Management	Application of GIS in protection against torrential floods	e	6	2	2	new
UNI Nis	B	Environment	Soil protection	c	6	2	2	enhanced
UNI Nis	M	Emergency management	Soil erosion and torrential floods protection	e	6	2	2	new
UNI Nis	M	Environmental management	Climate change adaptation	e	4	2	2	enhanced
UNSA Sarajewo	B	Forestry, Horticulture (?)	Torrent control	c	5	2	2	enhanced
UNSA Sarajewo	B	Forestry, Horticulture (?)	Methods of rehabilitation of eroded terrains	e	3	1	1	enhanced

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UNSA Sarajewo	B	Forestry, Horticulture	Pedology (Soil science) 2	c	5	2	2	enhanced
UNSA Sarajewo	M	Landscape Architecture	Degradation and remediation of soil	e	3	2	0	enhanced
UNSA Sarajewo	M	Landscape Architecture	Sustainable land management in space planning	c	3	2	0	enhanced
UNSA Sarajewo	M	Sustainable Forest Ecosystem Management	Soil protection	e	3	1	1	enhanced
UNSA Sarajewo	M	Sustainable Forest Ecosystem Management	Melioration of degraded forests	e	4	1	2	enhanced
UNSA Sarajewo	M	Sustainable Forest Ecosystem Management	Reforestation of bare karst land	e	4	1	2	enhanced
UNSA Sarajewo	M	Sustainable Forest Ecosystem Management	Conservation of karst terrains	e	4	2	0	new
UB Belgrade	B	Ecological engineering for soil and water resources protection	Revitalization of Small Water Flows	e	5	2	2	new
UB Belgrade	B	Ecological engineering for soil and water resources protection	Climate change and natural hazards management	e	5	2	2	new
UB Belgrade	B	Ecological engineering for soil and water resources protection	Basics of forest hydrology	e	5	2	2	new
UB Belgrade	B	Ecological engineering for soil and water resources protection	Hydraulics of open channel flow	c	5	2	2	new
UB Belgrade	B	Ecological engineering for soil and water resources protection	Economics of the soil and water resources protection	c	6	2	2	new
UB Belgrade	B	Ecological engineering for soil and water resources protection	Soil conservation	c	?	2	3	new
UB Belgrade	B	Ecological engineering for soil and water resources protection	Organization of erosion control works	c	6	3	3	new
UB Belgrade	B	Ecological engineering for soil and water resources protection	Management of soil and water resources in protected areas	e	5	2	2	new
UB Belgrade	M	Ecological engineering for soil and water resources protection	Surface water resources	?	6	2	2	new

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UB Belgrade	M	Ecological engineering for soil and water resources protection	Stabilization of terrain	?	4	?	?	new
UB Belgrade	M	Ecological engineering for soil and water resources protection	Quality management in the protection of soil and water resources	?	8	2	2	enhanced

Abbreviations:

B/M Bachelor, Master  
c/e compulsory, elective  
? not defined

