



# Erasmus+

## Cooperation for innovation and the exchange of good practices sub-programme

### TECHNICAL REPORT form

|                                    |   |
|------------------------------------|---|
| Programme                          | Erasmus+  |
| Sub-Programme                      | Cooperation for innovation and the exchange of good practices                               |
| Action                             | Capacity Building in higher education   |
| Sub-Action                         | Joint Projects  |
| Call for Proposal                  | EAC-A05-2017  |
| Project number                     | 598434-EPP-1-2018-1-RS-EPPKA2-CBHE-JP   |
| Agreement/decision number          | 20182467  |
| Project Title                      | Strengthening Teaching Competences in Higher Education in Natural and Mathematical Sciences |
| Language used to complete the form | English   |

# Contractual Data

## Dates and Beneficiaries

### Dates

|                              |                         |
|------------------------------|-------------------------|
| Project Start: 15/11/2018    | Project End: 14/11/2021 |
| Activities Start:            | Activities End:         |
| Project Duration(months): 36 |                         |

### Beneficiary Data

| Role                                    | PIC       | Name                                      | Country        |
|---|-----------|---|----------------|
| Co-Beneficiary / Partner                | 998850323 | UNIVERZITET U KRAGUJEVCU                  | Serbia         |
| Co-Beneficiary / Partner                | 998833833 | UNIVERZITET U NOVOM SADU                  | Serbia         |
| Co-Beneficiary / Partner                | 999641843 | UNIVERZITET U BEOGRADU                    | Serbia         |
| Coordinating Organization / Beneficiary | 998833736 | UNIVERZITET U NISU                        | Serbia         |
| Management Contact Person               | 998833736 | UNIVERZITET U NISU                        | Serbia         |
| Co-Beneficiary / Partner                | 999986096 | UNIVERSITEIT GENT                         | Belgium        |
| Co-Beneficiary / Partner                | 999882015 | UNIVERSIDAD DE GRANADA                    | Spain          |
| Co-Beneficiary / Partner                | 999848647 | UNIVERSIDAD DE OVIEDO                     | Spain          |
| Co-Beneficiary / Partner                | 998738870 | OSTRAVSKA UNIVERZITA                      | Czech Republic |
| Co-Beneficiary / Partner                | 973496366 | UNIVERSITETI FAN S NOLI KORCE             | Albania        |
| Co-Beneficiary / Partner                | 949104067 | UNIVERSITETI "EQREM ÇABEJ" I GJIROKASTRËS | Albania        |
| Co-Beneficiary / Partner                | 998462517 | UNIVERZITA MATEJA BELA V BANSKEJ BYSTRICI | Slovakia       |

## Legal Representative

### Organisation Legal Address

|                          |
|--------------------------|
| Name: UNIVERZITET U NISU |
|--------------------------|

Street: UNIVERZITETSKI TRG 2  
Post Code: 18000 City: NIS  
Country: Serbia

## Department

Name:  
Street: UNIVERZITETSKI TRG 2  
Post Code: 18000 City: NIS  
Country: Serbia  
Local Address:  
Internet site: <http://www.ni.ac.yu>

## Contact

|   |                                    |
|---|------------------------------------|
| Title: Prof.  | Function: Rector of the University |
| Name Dragan   | Last Name: Antic                   |
| Phone Number 1: +38118257970                                | Phone Number 2:                    |
| Fax Number:   | Mobile Number:                     |
| Email: <a href="mailto:rektor@ni.ac.rs">rektor@ni.ac.rs</a> |                                    |

## Contact Person

### Organisation Legal Address

Name: UNIVERZITET U NISU  
Street: UNIVERZITETSKI TRG 2  
Post Code: 18000 City: NIS  
Country: Serbia

## Department

Name: Faculty of Sciences and Mathematics  
Street: UNIVERZITETSKI TRG 2  
Post Code: 18000 City: NIS  
Country: Serbia  
Local Address:  
Internet site: <http://www.ni.ac.yu>

## Contact

Title: Prof.

Function: Full Professor

Name: Jelena

Last Name: Ignjatovic

Phone Number 1: +381631045170

Phone Number 2:

Fax Number:

Mobile Number:

Email: [jekaignjatovic73@gmail.com](mailto:jekaignjatovic73@gmail.com)

# Project Summary and Horizontal Issues

## Project Description

|             |  |
|-------------|--|
| English - 1 | <p>Dramatical changes in all fields of modern society, which were a result of the expansion of contemporary technology have had a huge impact on the higher education systems. In the field of natural sciences and mathematics Serbia and Albania have been creating and adopting modern study programs following the European standards for about a dozen years. However, those changes are not adequately accompanied by modernisation and alterations to the methods used in teaching and learning. The main objective of TeComp project is to improve the quality of higher education in the field of natural sciences and mathematics, through greater integration of modern pedagogical approaches, methodologies and technologies in teaching and learning in the PC HEIs. To achieve this goal, it is necessary to enhance professional competences and skills of teaching staff in order to enable them the usage of the full arsenal of available teaching tools in the field of natural sciences and mathematics. Consequently, continual professional development of teaching personnel must become the imperative across all higher education institutions. In order to achieve this goal, the serious of training courses for teaching staff in the areas of teaching methodology in higher education, modern pedagogical approaches and technology enhanced teaching and learning will be implemented as outcomes expected to be accomplished during the project realisation. To stimulate internationalisation, the training of teachers for teaching and academic writing in English will be organised. Additional objective of the project is to rise general awareness of all stakeholders of the necessity of improving the quality of teaching and learning by adopting modern pedagogical approaches and using the latest technological achievements and to encourage them for active involvement in the realisation of these improvements. The benefits it brings both to teachers and students will be demonstrated through the launch of pilot projects for the integration of online technologies and pedagogies within courses, with special emphasis on their integration into laboratory classes. Final aim is implementation of new/modified courses in line with modern European standards. The training courses organised in the framework of the project activities will grow into regular courses of continuing professional development of teaching staff. These courses will be verified by the Academic Councils of the faculties, accredited by the national accreditation body and realised by the center for career guidance what is predicted by the Law on Higher Education in Serbia. Several new/modified elective master study courses in psychology, pedagogy, teaching methodology and technology enhanced education, specially designed for master students who plan to become university teachers, will be introduced, approved/ accredited and implemented in educational process.</p> <p>Although, the main target group of the project is the teaching staff in the field of natural and mathematical sciences, our activities will target a broader group of teachers and teaching assistants in all other fields. To ensure that the target groups are available even after the competition of the project we will prepare and adopt two documents. The first of them is the Rulebook on continuing professional development of teaching staff and the second is Strategy for the support and on-going improvement of the quality of teaching and learning.</p> |
|-------------|--|

## Horizontal Issues

Previous recommendations/follow-up

Since this is the first interim report since the beginning of project implementation, this section is based on comments and recommendations from the Evaluation report attached to the Selection results letter.

The recommendations given in the Expert's assessment of the project application are taken into account through the project implementation in the following way:

The evaluation committee stated that clear target groups for the Master programme and the related activities are not provided in the application.

The project foresees modernization of Master programmes by developing and implementing new/ modified elective courses in psychology, pedagogy, methodology of teaching, and technology enhanced education aimed at students of mathematics, computer science, physics, chemistry, biology and ecology, geography and tourism. The choice of these subjects will be especially recommended for those students who have the ambition to be involved in the teaching process at the faculty as teaching assistants after graduation.

The evaluation committee had a remark that the key actions of the project are relatively generic and do not explicitly focus on mathematical and natural sciences.

The main goal of the project is to improve the quality of teaching and learning in the field of natural sciences and mathematics at PC HEIs. The need for modernization of teaching is present in all areas of higher education in Serbia and Albania and therefore the project objectives are not explicitly focused on mathematical and natural sciences. The only reason why we have restricted on these areas is the fear that the planned activities may not be implemented in all faculties because of the insufficiently developed awareness and motivation of teachers to strengthen the teaching competences of young teachers.

One more remark from the selection committee was that there is no substantive mention of all the approaches in respect of the curriculum areas being considered – and in fact psychology is the only specific discipline mentioned in detail as the focus for new course development.

According to the project plan and proposal, psychology is not the only discipline that is in focus for new course development, but that soon in the planning phase the team was not able to specify the content of new/modernized courses in detail, because of the logical order of steps. Namely, we planned the development of these courses that would enable (future) young teachers to acquire their knowledge and skills in the field of contemporary pedagogy, psychology and methodology of teaching and learning as well as in the integration of modern ICT in teaching, but for the detailed and specific content of the courses we needed the assistance of experts from the EU partner universities, that would happen during the project activities. Essentially, the most important role of EU partners is to help other partners prepare training materials and to give trainings in the afore mentioned fields to young teachers. From that perspective, their expertise is crucial for creating courses in accordance with modern standards, and for specifying the new courses content. After the implementation of preparatory activities, the courses are being specified in detail.

The evaluation committee states the range of themes covered by the objectives of the proposal is extensive but highly linked to curriculum development initiative, and there is some danger that the focus on curriculum development might potentially be deflected or diffused as a result. Also, the committee fears the planned high number of new courses is not likely to be achieved. For achieving this goal we plan to utilize the National Council of HE of Serbia recommendation that all new teachers need to be certified in PPM

## Transversal issues

Since the main goal of the project is improvement of the quality of higher education in the field of natural and mathematical sciences at higher education institutions in Serbia and Albania in line with advance EU practices, its results directly contribute to Sustainable Development Goal number 4: Quality education (SDG4: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all).

The project activities aim to upgrade educational infrastructure as a basis for wider integration of modern pedagogical principles and technologies in teaching and learning, and as well to strengthen personnel infrastructure through the introduction of continuous professional development (lifelong learning) in the system of higher education, it is directly linked to this Sustainable Development Goal.

The project also enhances professional competences and skills of teaching staff through training courses in contemporary pedagogical approaches, methodologies and educational technologies, deliver new/modified courses in psychology, pedagogy, methodology of teaching, and technology enhanced learning at the PC HEIs in line with the modern European strategies, and thus supports individual approach to learners and usage of new teaching methods which highly benefit sensitive student groups. In this aspect, the project activities directly contribute to the Sustainable Development Goal number 10: Reduced inequalities. Also, in line with this goal, the communication equipment that has been purchased and installed at all participating Serbian universities is easily accessible for students with moving disabilities. In the continuation of the project implementation, with the implementation of new/modernized courses, students with fewer opportunities will benefit from the possibility to follow lectures from home more easily.

In line with Sustainable Development Goal 5, gender balance in all aspects of the project implementation is strongly represented, with special focus on direct involvement of female teachers in STEM subjects and their direct contribution to the project activities, as well as supported involvement of female students in project dissemination workshops.

#### **Involvement of people with fewer opportunities**

Involvement of people with fewer opportunities was not directly foreseen in the project application. However, there are several aspects in which the project contributes to the involvement of those people. Namely, the communication equipment has been purchased and installed at all participating Serbian universities and it would be very convenient for students with moving disabilities. In the third year of project life and, hopefully, in the future, with the implementation of new/modernised courses, students with fewer opportunities will benefit from the possibility to follow lectures from home more easily. Therefore, their learning potential would increase dramatically compared to traditional ways. Furthermore, courses about the education of young people with special needs are planned to be launched at the PC HEIs. Their goal is to enhance professional competences and skills of teachers and teaching assistants when working with such people. We hope that it will encourage a wider audience of people with special needs to enroll the studies and make them feel like they are on the same ground as everyone else, as we want them to be.

# Award Criteria

## Assessment Criteria

### Relevance of the project

#### Relevance to the objectives

The main objective of the project is improvement of the quality of higher education in the field of natural and mathematical sciences at higher education institutions in Serbia and Albania in line with advance EU practices, thereby enhancing their comparability and competitiveness in Europe and beyond. This wider aim will be achieved through completion of the set of specific objectives concerned with the areas where the measures should be applied:

- to enhance professional competences and skills of teaching staff through training courses in contemporary pedagogical approaches, methodologies and educational technologies;
  - to upgrade educational infrastructure as a basis for wider integration of modern pedagogical principles and technologies in teaching and learning;
  - to deliver new/modified courses in psychology, pedagogy, methodology of teaching, and technology enhanced learning at the PC HEIs in line with the modern European strategies;
  - to strengthen personnel infrastructure through the introduction of continuous professional development in the system of higher education.
- According to these objectives, the proposed project is expected to achieve the following outcomes:
- Identifying and adopting the necessary measures and actions required for quality enhancement of teaching and learning processes;
  - Upgrading educational infrastructure;
  - Training of teaching staff for harnessing pedagogical and methodological principles and new modes of teaching and learning;
  - Development of methodology and platforms for wider integration of ICT in teaching and learning.

The project particularly focuses on the transition from a teaching-oriented to learning-oriented approach to the learning process, a flexible approach and individualization, as well as better communication and interaction between teachers and students.

The implemented activities so far have directly contributed to some of the project objectives, while others served as first steps of preparatory measures for reaching project objectives until the end of project implementation. Purchased equipment and its installation and active usage at the universities in Serbia and Albania directly relates to the specific objective upgrading educational infrastructure.

Most of the activities implemented so far directly contribute to the overall objective of the project, which is improvement of the quality of higher education in the field of natural and mathematical sciences at higher education institutions in Serbia and Albania: implemented quantitative analysis of teaching competences of young, newly hired university teachers at the PC HEIs, implemented detailed analysis of the use of modern educational technologies in T&L at the PC HEIs, implemented experiences reviews in the use of PMT in T&L at the EU HEIs, performed comparative analysis of all the collected data, defining necessary measures and actions for the modernization of T&L.

In global, all the activities implemented in the framework of the project so far are directly linked to the proposed projects goals and objectives and contribute to their achievement.

#### EU Education, Cooperation & Development policies

The project activities are in line and objectives directly correspond to the Renewed EU agenda for higher education, adopted by the Commission in May 2017. The project was built to respond to the two of the identified four key goals for European cooperation in higher education:

- Tackling future skills mismatches and promoting excellence in skills development
- Ensuring higher education institutions contribute to innovation

The project corresponds to the above-mentioned key goals by interdisciplinary activities that directly and indirectly involve a large number of teachers and teaching assistants (around 500) and learners (around 1.500).

Project objectives are in line with the Strategic framework for European cooperation in education and training (ET 2020), which stimulates lifelong learning and mobility of learners and teachers and aims to improve the quality and efficiency of education and training and enhance creativity and innovation, including entrepreneurship, at all levels of education and training.

Education institutions, such as universities, have to evolve and adapt to achieve their core mission: to educate students to be successful in a complex and interconnected world that faces rapid technological, cultural, economic and demographic change. With project activities structured to inspire a higher individualization of the learning process, putting the learner in the spotlight and adapting to various learning styles and promotion of lifelong learning, they directly contribute to improving students' and teachers' competences in the field.

Also, project activities directly contribute to three Sustainable Development Goals: Quality education, Gender Equality and Reducing Inequalities. Indirectly, project activities tackle a few more SDGs.

### Quality of the project implementation

#### Description of the implemented activities

In order to achieve the set objectives, the project is divided into seven work packages and almost all activities and deliverables before March 2020 were performed according to project application plan and schedule. There have been some time shifts in project implementation in relation to the period that was foreseen for certain activities in the project plan. Two months delay in organising the Kick-off meeting was caused by the first instalment of money being realized in December 2020, followed by the series of holidays. Nevertheless, communication between the members of the consortium, via e-mails and Skype, started from the very beginning of the project.

All the activities of WP1 (Preparatory phase) are fulfilled and completed so far (with 3 months delay, each). Some delayed starts were caused by the fact that the staff engaged in this project is simultaneously engaged in many other activities, and some delayed starts were caused by the need to ensure the optimal preparation for the particular activity, which will make its realization more effective and efficient. There were five main preparatory activities devoted to:

- Quantitative analysis of teaching competences of young, newly hired university teachers at the PC HEIs;
- Detailed analysis of the use of modern educational technologies in T&L at the PC HEIs;
- Reviewing experiences in the use of PMT in T&L at the EU HEIs;
- Performing a comparative analysis based on collected data;
- Defining necessary measures and actions for the modernisation of T&L

All partners from Serbia and Albania were involved in developing a comprehensive, tailor-made questionnaire, which served as the basis for a quantitative analysis of the current state of teaching and learning. Related survey of EU practice was undertaken during visits, of staff from Serbia and Albania, to three European universities and later, through the reports provided by EU partners. Based on aforementioned surveys and reports we performed the comparative analysis on the state of teaching and learning at the PC and EU HEIs. The first steps in defining necessary measures and actions for the modernisation of T&L were suggested at the CMT meeting in Granada, and draft action plan was adopted at the second LCT meeting.

At the same time, the procedures for purchasing of the equipment are successfully ended. The equipment is purchased and installed at the universities in Serbia with 3 months delay in comparing to application because of the problems with postal services (the tender documentation was lost twice on its way between Serbian universities). Compared to the proposal there have been minor modifications in equipment specifications and replacements of items for the purpose of rising the efficiency of project implementation (allowed by the project officer). The reason for reducing the number of video-conferencing items is that, since the time of the application, similar equipment has been obtained from various sources. But for the corona virus outbreak, in Albania, the paying to suppliers would be in procedure at the moment of writing this report. The delay was mostly caused by the legal and administrative rules and procedures.

### Quality assurance

The proposed project is envisaged as a regional-scale project in Serbia and Albania, and the main goal is to improve the quality of teaching and learning (T&L) in the field of natural and mathematical sciences at PC HEIs in line with advance EU practices. The project goal will be achieved through activities grouped into seven work packages.

The project quality framework was mainly targeted to project activities and the resulting outputs. The project coordinator and the Central Management Team which consists of representatives of each partner of the consortium implemented regular evaluations of the project outputs and processes. The project management was not subject to a quality evaluation process, although no conflicts have arisen, and a proper number of videoconference and face-to-face meetings were held during the project lifetime, among the project coordinators and CMT members.

The project team developed and adopted the document "Internal work quality standards and procedures" which is used by all partner institutions in the activity implementation. All procedures in the document are in full compliance with the Grant agreement and Partnership agreements, and is in line with the Guidelines for the use of the Grant. The document defines in details the organizations, responsibilities and interfaces for project implementation, quality of project deliverables and evaluation methods, quality of documents and tools, quality of events. The document predicts internal and external evaluation of the project activities and outcomes, and defines the individual roles in maintaining quality standards. The document is strictly followed by all partner institutions in project implementation.

All of the project activities involving mobilities of participants (teachers and learners) included multiple evaluation methods: visual evaluation using visual tools (Dixit cards, pie charts, visual boards), narrative evaluation - preceded by guided meditation of the previous program by the facilitator, and evaluation questionnaires - implemented after the activity by all the participants. All of the evaluation outcomes and suggestions were taken into consideration by the project team and the future activities were designed relying on the evaluation experience.

Almost all activities and deliverables before March 2020 were performed according to project application plan and schedule, with some minor time shifts in project implementation in relation to the period that was foreseen for certain activities in the project plan.

### Visibility

At the very beginning of the project implementation, the CMT has created and adopted the dissemination plan for the project activities. The plan predicts various visibility tools and channels, in order for the project activities to reach different target groups and general public.

The project website is one of the most important visibility tool for both partner institutions, project users and general public. The project website <http://www.tecomp.ni.ac.rs/> contains information about the project: summary, activities, goals and objectives, work packages.

Financial support of the Erasmus plus program is clearly visible on the website, in accordance to the visibility guidelines. The project website also contains all the relevant documents created during the project implementation, information about partner institutions, general information about the events and outcomes and the news section which is regularly updated. The gallery part contains photos and presentations of the project milestones and important events.

Media coverage of the project is planned in the continuation of the activities, when the project team has more visible outcomes and outputs to present to the general public. The team has planned live media coverage of important events, and also articles and interviews with partners and participants in online media portals. A number of popularisation lectures will be organised during the second half of the project implementation. An important activity that will contribute to the project visibility will be the organization of the Workshop, promoted through the media and through prepared printed and electronic promo material.

As a part of the project dissemination plan, various project promotional materials have been designed and distributed (the project leaflets in English, TeComp Planner, TeComp bags and pens with the TeComp logo, posters (standard size), a project roll poster and project folders).

They were primarily distributed during the project Kick-off Meeting, and all the partner institutions have used these materials in their dissemination events, and also non-project-related activities which provide a good opportunity for project dissemination and visibility of the project results.

The TeComp team plans to go ahead with carrying out the dissemination-related activities to the end of the project (making various types of project-related information available on the project website and elsewhere, designing and distributing project promotional materials, giving information about the project given at various dissemination gatherings and media, etc.) with prediction that there would be no major problems in doing this.

### Equipment

The purchasing of the equipment in Serbia is finalized. The initial specification for the equipment was slightly modified, mostly in the number of items and equipment specifications due to the purpose of rising the efficiency of project implementation and due to the fact that, since the application, some partners have obtained some particular pieces of equipment. EACEA was informed about the new specification before the start of the tender procedure and their confirmation was received. The equipment is installed at 4 HEIs in Serbia and 2 new TeComp IT classrooms, at UNI and UNIKG, are established to enable the use of teaching and learning methodologies. Video-conferencing systems are installed at each of the partner institutions in Serbia for the purpose of exchanging experiences in the real time. The project supported the acquisition of the following equipment, distributed by Universities:

UNI-Life Size Icon 600-10xoptical PTZ camera, Phone HD; Interactive monitor LASER SKY 55"; Konica Minolta Bizhub 227 1xDF-628 printer BW; Konica Minolta Bizhub C227 1xDF-628 printer Color; Desktop Ryzen 7 2700/16GB/A320 /512GB+ Philips 23,8 monitor(20 items); Video projector VIVITEK DH976-WT(2 items); Document camera Epson ELP DC21(8 items); Lenovo Yoga C940-14 i7-1065G7, 16GB, 1TB 14"; Lenovo Yoga C940-15 i7-9750; PC Gygabite AMD 16GB SSD 500 GB Win10Pro+ Philips LCD 23.8"+ MS Domino Wireless set(3 items), HP LAsErJet ProMF M130a(3 items)

UB- LifeSize Icon 600-10xoptical PTZ; VIVITEK DH268; Document Camera Epson; Desktop computer including software; HP LaserJet Pro M521dn; Router Mikrotik RB3011UiAS-RM; MAXTOR eks.HOD M3 Portable; SSD SATA3 480GB Kingston A400; SONY 105-LUMEN WVGA OLP PICO; Epson Europe WXGA Portable; EPSON Projektor Ultra Short; MacBook Pro 13" Touch Bar/QC 15; Apple USB-C DigitalAV Multiport; Apple USB-C VGA Multiport Adapter; Apple iPad mini 5 Wi-Fi 256GB; Apple Pencil; Apple iPad mini 4 Smart Cover; HPE Aruba 2530 48G PoE+ Switch; APC SMT3000RM12U, SMART RM; APC, Back UPS 1400VA/700W; SYNOLOGY NAS DiskStation 05118; HDD WD 4TB SATA III,64MB,3.5"; HP 290 G2 Microtower PC IC i7-8700; Dell U2518D UltraSharp,IPS,16:9; Jabra SPEAK™ 510MS; WEB CAM LOGITECH C920 15Mpix; STAR 63 Foto video state with bag; PANASONIC Eneloop battery AA; Samsung T830 Galaxy Tab S4 WiFi; Galaxy Tab S 10.5" Book Cover; LOGITECH MX Anywhere 2 Meteorite; Knomo SOUTHAMPTON Backpack; NIKON ECLIPSE E100 LED MV R; HARD DISK HD SAS 12G 1.2TB 10K; HARD DISK 4TB 3.5" SATA LFF 7.2K; Moshi USB-C to Gigabit Ethernet

UNS- Video conferencing system Life Size Icon 600-10xoptical,phone HD; PTZ camera; Video projector VIVITEK DH976-WT(4 items); Printer HP Color Laserjet Pro MFP M479fdn; Printer Laser A4 Xerox Phaser 3610v DN; Desktop computer WBP i5-7400/16GB/H110/512GB(6 items); Monitor Acer LCD 23.8(6 items); Laptop Hp EliteBook 830 G5; Printer HP Color LaserJet Pro MFP M479fdn; Apple Smart Cover 10.5"(3 items); Samsung SSD 512GB; Desktop computer Ryzen 7 2700/16GB/A320/512x15; Monitor Philips 23.8"(15 items); Laptop Lenovo YOGA C940-14(3 items); Tablet SAMSUNG Galaxy Tab S4 10.5 64GB

UNIKG- LifeSize Icon 600/10xoptical PTZ camera, Phone HD; Desktop Ryzen 7 2700/16GB/A320/512GB sa Philips monitorom 23,8"(35 items); Video projector VITEK DH976-WT(2 items); Document Camera EpsonELP DC21(2 items)

The installation of all the purchased equipment was performed with the assistance of the technical staff, and all equipment is fully operational and is being actively used for the purpose of project activities.

## The project includes activities relating to curriculum development

Yes

### **HIGHER EDUCATION: Promoting internationalisation, recognition and mobility, supporting changes in line with Bologna principles and tools.**

Updated curriculums through TeComp project, that will be delivered at HEIs in Albania and Serbia, will completely follow the Bologna principles and the accreditation process in accordance with the European standards and Guidelines.

All curriculums are integrated into 3 cycle schemes (either 3+2+3 or 4+1+3).

Around 35 new/modified courses will be introduced and implemented and one generation of students will be trained during the project life. A number of new/modified bachelor and master courses, as well as short cycle program courses are planned to be verified by the Academic Council of the faculties or accredited depending on the institution's accreditation cycle.

Fortunately, the reform of study programs and regular UNI accreditation process will take place during the project implementation.

Learning outcomes for each Study Program, as well as upgraded courses, are set in accordance with a national and European Qualification Framework. Learning-oriented approaches will put students in the center of the teaching-learning process. The credits to each course will be assigned to keep the compatibility with European Credit Transfer System- ECTS. The European Standards and Guidelines for Quality Assurance will be applied to all updated Study Programs through TeComp Project. Especially, the standard regarding the usage of relevant information for the effective management of study programs and other activities will be established and reliable data will have been collected by the end of the project life.

The activities relating to curriculum development are yet to be implemented in the continuation of the project. So far, all the activities from the Preparatory phase have been implemented successfully, namely:

- Quantitative analysis of teaching competences of young, newly hired university teachers at the PC HEIs;
- Detailed analysis of the use of modern educational technologies in T&L at the PC HEIs;
- Reviewing experiences in the use of PMT in T&L at the EU HEIs;
- Performing a comparative analysis based on collected data;
- Defining necessary measures and actions for the modernization of T&L

Based on the outcomes of the preparatory activities, project partners will implement activities relating to curriculum development in the continuation of the project.

### **New/updated courses**

The new/updated courses for students and young teaching staff will be developed and delivered in accordance to work plan set in the application. Within the project realisation structure and content of 33 new/modified courses at the PC universities, in the field of natural and mathematical sciences, will be introduced with the aim of strengthening competences of young university teaching staff in pedagogy, psychology, methodology and technology enhanced education. The courses will be based on new knowledge and skills acquired through the training courses instructed by EU experts. The courses' contents will be oriented to:

- specific needs of inclusive students;
- development of techniques and motivation for successful learning from the point of view of pedagogical psychology;
- transition from teaching-oriented to learning-oriented approach to the educational process;
- new flexible methods and individualization of T&L in the field of sciences and mathematics;
- preparation and usage of the "active literature" in teaching and learning;
- active involvement of students in the educational process: collaborative learning, learning objectives and exploring the interactive potential of video in higher education and designing, developing and implementing a specific new interactive learning approaches, importance of feedback;
- foster the implementation of on-line and blended learning in existing courses which can be considered as the corner stone of the teaching and learning approach
- technology enhanced learning including courses in Virtual Campus (both basic and advanced level, as well as a course about adapted resources for students with special needs on the virtual campus), corporative software, image processing software, audiovisual resources for teaching
- learning management systems (LMS): MOOCs, MOODLE, etc.;
- the better English language proficiency of teaching staff which will result in new courses in English in the field of natural and mathematical sciences.

Supervision of syllabus and structure of all courses will be made by EU experts during the first and second series of training courses. This activity will last about five months and after that approval/accreditation process will start. The project will promote wider integration of IT in teaching and learning through the launch of pilot projects into a certain number of traditional courses at the universities in Serbia and Albania. For that purpose several on-line learning platforms will be developed by redesign the existing free platforms to specific needs of the courses.

The completely new courses targeting MSc students will be delivered in the 3rd project year during summer/winter semester. The continuing education courses for HE teaching staff and professional practice will be delivered during the same period. At the end-of-term, evaluation question items will help to ensure informative feedback that can be used for strengthening teaching competences and evaluation of improving T&L.

No

## Teaching / Training Activities

Yes

### Mobility for Teaching, Training and/or project research activities

In the preparatory phase, a group of representatives from all four Serbian and two Albanian universities visited colleagues at three EU universities UNIOVI, UO and UMB. The objective of these visits was to insight their expertise in usage of contemporary methods in higher education and continuing professional development of teaching staff. The visits related to preparation of printed and electronic material were planned for the period from March to June, but their implementation was impossible, because of these unpredicted and extraordinary circumstances with Covid-19 outbreak. The bulk of mobility for Teaching, Training and/or project research activities haven't been planned in the phase of the project covered by this report. These activities will be implemented in the continuation of the project.

No

## Quality of cooperation

### Project management

In order to ensure the quality of the project implementation, the coordinating partner had first and foremost made sure the project is implemented by individuals with both the required experience but also enthusiasms for the work ahead. The coordinator strongly utilized on the human resources with all the partners by constantly involving the consortium in relevant decision making and planning and organization of project activities. Agreements have been signed at the very beginning of project implementation by all the partners, defining and more closely explaining tasks and obligations, deadlines, quality standards, as well as processes to be implemented.

As the main coordinator, UNI is directly responsible for the overall management and coordination of the project, financial administration, financial and narrative reporting. Individual partner institutions (including the main coordinator) have leading roles in specific project activities, and they have been agreed upon in the project preparation phase. The main coordinator is indirectly involved in project activities implemented by partner institutions, from the role of monitoring and supporting implementation and making sure financial administration is in line with project agreements and guidelines.

For the purpose of quality implementation, two project management bodies have been constituted: Central Management Team (CMT) and Local Coordinating Team (LCT). CMT has 12 members – the main project coordinator and one more person from UNI, and 10 contact persons from other institutions involved. CMT deals with general issues of project management and makes decisions that are of vital interest to all institutions involved in the project. CMT decisions are agreed upon by consensus of all of its members.

Five CMT meetings have been planed in project proposal, and so far two meeting have taken place (kick-off meeting and one more).

## Involvement of partners and stakeholders

All partners had been actively involved in preparation of the project proposal, and when the project had been approved, the next steps have already been agreed upon.

Each partner institution delegated a person responsible for project and activities coordination and mutual communication between partners. For the most important issues (agreements, documents, dates etc) partners communicate via email. For operational issues and activity planning that doesn't require all participating institutions involvement, partners staff communicates via emails and project management platform.

Most important issues and decisions are communicated between members of Central Management Team. Each team member is in charge of internal communication and gathering data from the delegated project staff from their institution. This way, the coordinating team minimized the chance for gaps in communication during project implementation.

Besides the live CMT team meetings, the project staff is regularly communicating via online meeting platforms, at least once every 6 weeks, updating the rest of the team of implemented activities and discussing project flow, challenges, quality of implementation, eventual issues and minor changes in relation of the original plan.

The project administration platform (PAP) was set up during the first months of project implementation and is being actively used by all the project partners. The platform serves as the basis both for project implementation and financial administration. It is being used for internal documents – those that need not appear on the official project website, such as:

- internal reports, recommendations, etc. which are considered project outputs and outcomes;
- the documents gathered during the training visits to EU partners (presentations and other documents, which are considered to be their property, provided to the project partners from Serbia and Albania and the project consortium);
- similar internal documents;
- financial management documents.

As the Covid-19 pandemic influenced mobility and delayed or cancelled organized activities globally, in the last few months of project implementation there have been challenges and delays in activities. The main coordinator has communicated the changes and delays with the project officer and all partner institutions, and the activities will be rescheduled and implemented as soon as possible, according to the situation and safety measures in participating countries.

## Management of the grant

The grant management procedures are fully described in the Partnership Agreements, and as agreed on these, each partner institutions received their first portion of the grant. There have been minor changes in grant distribution, as some of the partners required a larger portion of funds for necessary purchases, in order for all activities to be implemented timely and in a quality manner. The request has been made to relocate the funds and distribute a portion of the second part of the grant to these partners from the coordinator in advance, and this has been communicated with and approved by the project officer.

Also, there has been minor changes in equipment purchase, and this change has also been approved by the project officer. Four partners purchased video conference equipment in smaller amounts than planned, as they substituted additional video conference equipment to personal computers they needed more in order to implement the project activities.

The procedures for grant management and supporting documents was presented by project coordinator and thoroughly discussed via emails after signing the grant agreement, and also during the Kick-Off meeting, which happened on January, 15th – 17th 2019 in Niš, Serbia. All the institutions representatives got familiar with the financial and other reporting procedures and supporting documents. The consortium agreed that all partners should receive a part of their budget as soon as possible after the coordinator got each instalment from the EU. The amounts of each transfer were adjusted to allow the partners with equipment purchases to get a larger percentage of the budget on the first instalment, to cope with the larger initial expenses.

The administrative part of the project management and most of the grant transfers are implemented by UNI. To ensure that the project fulfils the work plan in terms of finances, regular financial administration and bookkeeping is done for each partner institution and the project overall. Reports on the financial administration and bookkeeping are submitted and posted on the Project Administration Platform.

International purchases from partner countries required payments in different currencies and therefore variable procedure and exchange rates, depending on supplier and partner.

## IMPACT AND SUSTAINABILITY

### Awareness raising, dissemination, sustainability and exploitation of the project results

One of the main ways to ensure the proper dissemination and exploitation of the project results is the size of the projects target group. The project activities directly and indirectly involve around 1500 teachers and teaching assistants, and over 15.000 students in the field of natural and mathematical sciences at the PC HEI. With these many people involved in the project activities, we have utilized strong visual identity, clear donor support in all the activities and relevant information about the project available to all the participants via different platforms.

One of the main dissemination tool is the projects website [www.tecomp.ni.ac.rs](http://www.tecomp.ni.ac.rs) which is designed and created by the project coordinator UNI at the very beginning of implementation. The website contains all relevant information for project partners, users and participants, and as well the general public.

All information about the project activities and financial support of the Erasmus plus program of the EU is clearly indicated in accordance to the visibility guidelines of the program. Project activities are thoroughly explained, and all relevant documents are regularly published and updated. The project coordinator UNI has taken the responsibility to coordinate this activity, and all the other partner institutions are regularly sending materials and publications for the purpose of the website.

The website also contains information of implemented mobility activities, as well as agendas, materials and presentations useful for the participants and visitors.

The dissemination activities also predict printed materials which are distributed during the events and in relevant occasions, and media reports which are organized and coordinated by project partners.

## Statistics and Indicators

### Type of equipment:

- books and pedagogic material
- audio-visual equipment
- Computers and software
- lab material
- Other

**For Curriculum Development projects**

Yes

**Level of new/updated courses:**

- Short cycle
- 1st Cycle (e.g. Bachelor)
- 2nd Cycle (e.g. Master)
- 3rd Cycle (e.g. Doctoral)
- Vocational Education and Training

**Type of recognition:**

- HEI Degree
- National degree
- Multiple Degree
- Joint Degree

Volume (in ECTS) of new/updated courses

250

**The new study programme includes:**

- Placements/internships for students
- Career orientation service
- Career development measures

Number of learners / trainees enrolled (per intake / course delivery)

980

**Type of skills/competence developed:**

- Transversal/behavioural skills
- Technical /academic /scientific / research skills
- Linguistic competences

% of the new curriculum taught in foreign language of the the total of new curriculum developed by the project

40

**For Training/Mobility Activities**

Number of partner country "HEIs' students" trained

680

Number of partner country "HEIs' academic staff" trained

300

Number of partner country "HEIs' administrative staff" trained

0

Number of partner country "non-HEI individuals" trained (priv. sector, NGOs, civil servants, etc.)

0

**IMPACT AND SUSTAINABILITY**

**Impact at individual level**

Extent of attention given to vulnerable groups

not applicable

Number of direct beneficiaries in the Partner country(ies) per year: academic staff from HEIs

300

Number of direct beneficiaries in the PCs (/year): administrative staff from HEIs

0

Number of direct beneficiaries in the PCs (/year): HE students

680

Number of direct beneficiaries in the PCs (/year): non HE individuals

0

**Impact at institutional level**

Extent of impact at institutional level: for instance new courses / strategies (policies, regulations) / services (units, centres )

to a very small extent

Potential of planned project measures to contribute to new national cooperation activities in the Partner countries HEIs as a result of the project (Memorandum of Understanding /research projects / joint publications /participation in networks or associations etc.)

to a high extent

Potential of project to contribute to new international cooperation activities in the Partner countries HEIs as a result of the project (international agreements / Memorandum of Understanding / research projects / joint publications / participation in networks or associations, etc.)

to a high extent

### Impact on the HE Sector

Potential of project to contribute to new (/updated) national or regional policies / laws / regulations in HE

to a very small extent

Potential of project to contribute to the establishment (/ further development) of external bodies (/associations /agencies)

not applicable

Potential of project to contribute to improve the excellence / competitiveness / attractiveness of the Higher Education institutions

totally accomplished

Innovative character of the planned results (i.e. the courses developed; the new tools, services, procedures delivered; the strategies implemented for reaching the target groups; etc.)

to a very high extent

### Impact on the society as a whole

Potential of the project to pay particular attention to least developed countries

to a high extent

Potential of the project to engage Partner Countries HEIs in new means of cooperation with employers and other stakeholders (e.g. NGOs, associations, etc.)

not applicable

Measures contributing to improving lifelong learning approaches in the Partner Country HEIs

totally accomplished

## Sustainability

Institutional support for Partner Country HEIs to sustain project results

totally accomplished

**Measures to collect Sources of financial (/logistic) support for sustaining the project results from:**

- Partner HEIs
- Public authorities in Partner countries
- NGOs
- Private sector
- European Union
- Other

## QUALITY OF PARTNERSHIP & COOPERATION

Involvement of students in the project implementation

to a small extent

Involvement of non-educational stakeholders in the project implementation

to a small extent

## RELEVANCE in relation to project objectives

To what extent the project contributes to the policy objectives of the Partner Countries

totally accomplished

**Project potential to promote EU's horizontal policies**

- Agriculture, fisheries and foods
- Business
- Climate action
- Cross-cutting policies
- Culture, education and youth
- Economy, finance and tax
- Employment and social rights

Energy and natural resources

- Environment, consumers and health
- External relations and foreign affairs
- Justice, home affairs and citizens' rights
- Regions and local development
- Science and technology
- Transport and travel

## Meetings, Training and Mobilities

### Meetings, Trainings and Mobilities

#### Estimated dates of consortium meetings until the end of the projects

| Venue country  | Venue city  | Date of Meeting |
|----------------|-------------|-----------------|
| Czech Republic | Ostrava     | 16/10/2020      |
| Serbia         | Kragujevac  | 05/02/2021      |
| Belgium        | Ghent       | 22/06/2021      |
| Albania        | Gjirokaster | 04/10/2021      |
| Spain          | Granada     | 06/12/2021      |
| Albania        | Korce       | 01/03/2022      |

#### Training and Mobilities

| Event | Purpose  | Type of participants            | Gender        | Number | Country of Origin | Country of destination | Duration (in weeks) | %compared to objectives |
|-------|----------|---------------------------------|---------------|--------|-------------------|------------------------|---------------------|-------------------------|
| 1     | Training | Academic staff – teaching       | Number Male   | 2      | Serbia            | Belgium                | 1                   | 100                     |
| 1     | Training | Academic staff – teaching       | Number Female | 8      | Serbia            | Belgium                | 1                   | 100                     |
| 1     | Training | Academic staff – teaching       | Number Male   | 2      | Albania           | Belgium                | 1                   | 100                     |
| 1     | Training | Academic staff – administrative | Number Female | 2      | Albania           | Belgium                | 1                   | 100                     |
| 2     | Training | Academic staff – teaching       | Number Male   | 4      | Serbia            | Spain                  | 1                   | 100                     |

|   |          |                                 |               |   |          |          |   |     |
|---|----------|---------------------------------|---------------|---|----------|----------|---|-----|
| 2 | Training | Academic staff – teaching       | Number Female | 6 | Serbia   | Spain    | 1 | 100 |
| 2 | Training | Academic staff – teaching       | Number Male   | 4 | Albania  | Spain    | 1 | 100 |
| 3 | Training | Academic staff – administrative | Number Male   | 6 | Serbia   | Spain    | 1 | 100 |
| 3 | Training | Academic staff – teaching       | Number Female | 4 | Serbia   | Spain    | 1 | 100 |
| 3 | Training | Academic staff – teaching       | Number Male   | 4 | Albania  | Spain    | 1 | 100 |
| 4 | Training | Academic staff – teaching       | Number Male   | 4 | Serbia   | Slovakia | 1 | 100 |
| 4 | Training | Academic staff – teaching       | Number Female | 7 | Serbia   | Slovakia | 1 | 100 |
| 4 | Training | Academic staff – teaching       | Number Male   | 3 | Albania  | Slovakia | 1 | 100 |
| 5 | Workshop | Academic staff – teaching       | Number Male   | 3 | Serbia   | Serbia   | 1 | 100 |
| 5 | Workshop | Academic staff – teaching       | Number Female | 6 | Serbia   | Serbia   | 1 | 100 |
| 5 | Workshop | Academic staff – teaching       | Number Male   | 4 | Albania  | Serbia   | 1 | 100 |
| 5 | Workshop | Academic staff – teaching       | Number Female | 2 | Albania  | Serbia   | 1 | 100 |
| 5 | Workshop | Academic staff – teaching       | Number Male   | 1 | Slovakia | Serbia   | 1 | 100 |
| 5 | Workshop | Academic staff – teaching       | Number Female | 2 | Slovakia | Serbia   | 1 | 100 |
| 5 | Workshop | Academic staff – teaching       | Number Male   | 1 | Spain    | Serbia   | 1 | 100 |
| 5 | Workshop | Academic staff – teaching       | Number Female | 2 | Spain    | Serbia   | 1 | 100 |
| 5 | Workshop | Academic staff – teaching       | Number Male   | 2 | Spain    | Serbia   | 1 | 100 |
| 5 | Workshop | Academic staff – teaching       | Number Female | 1 | Spain    | Serbia   | 1 | 100 |
| 5 | Workshop | Academic staff – teaching       | Number Male   | 2 | Belgium  | Serbia   | 1 | 100 |
| 5 | Workshop | Academic staff – teaching       | Number Female | 1 | Belgium  | Serbia   | 1 | 100 |

|    |          |                           |               |   |                |         |   |     |
|----|----------|---------------------------|---------------|---|----------------|---------|---|-----|
| 5  | Workshop | Academic staff – teaching | Number Male   | 1 | Czech Republic | Serbia  | 1 | 100 |
| 5  | Workshop | Academic staff – teaching | Number Female | 2 | Czech Republic | Serbia  | 1 | 100 |
| 6  | Training | Academic staff – teaching | Number Male   | 1 | Belgium        | Serbia  | 1 | 100 |
| 6  | Training | Academic staff – teaching | Number Female | 1 | Belgium        | Serbia  | 1 | 100 |
| 7  | Training | Academic staff – teaching | Number Male   | 1 | Spain          | Serbia  | 1 | 100 |
| 7  | Training | Academic staff – teaching | Number Female | 1 | Spain          | Serbia  | 1 | 100 |
| 8  | Training | Academic staff – teaching | Number Male   | 1 | Belgium        | Albania | 1 | 100 |
| 8  | Training | Academic staff – teaching | Number Female | 1 | Belgium        | Albania | 1 | 100 |
| 9  | Training | Academic staff – teaching | Number Male   | 1 | Spain          | Albania | 1 | 100 |
| 9  | Training | Academic staff – teaching | Number Female | 1 | Spain          | Albania | 1 | 100 |
| 10 | Training | Academic staff – teaching | Number Male   | 1 | Spain          | Serbia  | 1 | 100 |
| 10 | Training | Academic staff – teaching | Number Female | 1 | Spain          | Serbia  | 1 | 100 |
| 11 | Training | Academic staff – teaching | Number Male   | 1 | Slovakia       | Serbia  | 1 | 100 |
| 11 | Training | Academic staff – teaching | Number Female | 1 | Slovakia       | Serbia  | 1 | 100 |
| 12 | Training | Academic staff – teaching | Number Male   | 1 | Spain          | Albania | 1 | 100 |
| 12 | Training | Academic staff – teaching | Number Female | 1 | Spain          | Albania | 1 | 100 |
| 13 | Training | Academic staff – teaching | Number Male   | 1 | Slovakia       | Albania | 1 | 100 |
| 13 | Training | Academic staff – teaching | Number Female | 1 | Slovakia       | Albania | 1 | 100 |
| 14 | Training | Academic staff – teaching | Number Female | 2 | Czech Republic | Serbia  | 1 | 100 |
| 15 | Training | Academic staff – teaching | Number Male   | 8 | Serbia         | Spain   | 1 | 100 |
| 15 | Training | Academic staff – teaching | Number Female | 9 | Serbia         | Spain   | 1 | 100 |

|    |          |                           |               |   |         |       |   |     |
|----|----------|---------------------------|---------------|---|---------|-------|---|-----|
| 15 | Training | Academic staff – teaching | Number Male   | 3 | Albania | Spain | 1 | 100 |
| 15 | Training | Academic staff – teaching | Number Female | 3 | Albania | Spain | 1 | 100 |
| 16 | Training | Academic staff – teaching | Number Male   | 9 | Serbia  | Spain | 1 | 100 |
| 16 | Training | Academic staff – teaching | Number Female | 8 | Serbia  | Spain | 1 | 100 |
| 16 | Training | Academic staff – teaching | Number Male   | 4 | Albania | Spain | 1 | 100 |

## Attachments

| Type of File                    | Name of the File                                     |
|---------------------------------|--|
| Budget Table                    | TeComp-Financial_statements_final.xlsx               |
| Declaration of Honour           | TeComp_Declaration_of_honour.pdf                     |
| Table of achieved results       | TeComp_annex_c_table_of_achieved_planned_results.pdf |
| Dissemination/Exploitation Plan | Dissamination_plan_Final.pdf                         |
| Quality Assurance Plan          | Internal_quality_standards_Final.pdf                 |
| Request for Payment             | TeComp_Financial_statements_UNI.pdf                  |