

EU-CONEXUS Guidebook on the **development** of the European Education Area”



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Since the beginning of the development of its strategic cooperation in 2019, EU-CONEXUS has contributed to the establishment of the European Education Area and beyond through the implementation of activities that respond to several aspects of the five strategic priorities set out in the *Council Resolution on a strategic framework for European cooperation in education and training towards the European Education Area and beyond (2021-2030)*¹:

1. Improving quality, equity, inclusion and success for all in education and training
2. Making lifelong learning and mobility a reality for all
3. Enhancing competences and motivation in the education profession
4. Reinforcing European higher education
5. Supporting the green and digital transitions in and through education and training

I. Improving quality, equity, inclusion and success for all in education and training

1. Mastering of key competences, including basic skills

EU-CONEXUS vision and ambition for providing quality education includes the mastering of both basic and transversal skills on all three study cycles (Bachelor, Master, PhD) and in complementary educational offers. Critical thinking, entrepreneurship, creativity, civic engagement are promoted through transdisciplinary, learner-centred and challenge-based approaches applied across all EU-CONEXUS academic offers, which are:

EU-CONEXUS Minor programmes for Bachelor students

The promotion of basic skills, including digital competences, has been a central objective for the development and implementation of the two EU-CONEXUS Minor programmes in « Coastal Development and Sustainable Maritime Tourism » and « Blue Economy and Growth ». Through elective specialization courses offered at the Bachelor level, EU-CONEXUS students acquire interdisciplinary competencies and technical skills by participating in virtual classes and using various software packages. EU-CONEXUS Minor programmes offer students the opportunity to acquire up to date competences that are in high demand in the labour market.

Joint Master Programme in Marine Biotechnology

The EU-CONEXUS Joint Master Programme in Marine Biotechnology starting in September 2022 has been conceived as a multi- and interdisciplinary curriculum that includes research-based learning and courses taught by professionals. Students will be integrated into a multicultural study group and a professional network, offering an immersive system of project-based learning in the 'real world' economy.

¹ See <https://op.europa.eu/en/publication-detail/-/publication/b004d247-77d4-11eb-9ac9-01aa75ed71a1>

Joint PhD Programme

The Joint EU-CONEXUS PhD programme – which will be developed further in the EU-CONEXUS follow-up phase - offers opportunities to gain transversal soft skills such as critical thinking, language competencies and entrepreneurial skills.

EU-CONEXUS complementary educational offers and projects

- The **EU-CONEXUS Strategic Partnership "Students Civic Engagement European project"** n° 2020-1-FR01-KA203-080652 launched in 2021 focuses on the development of critical thinking skills and equips young people with tools that help them to take initiatives in public life. Key aspects of the developed training programme are the use of entertaining tools to facilitate debates, the know-how about best bringing forward arguments and competencies for event organization.
- The **EU-CONEXUS Social Entrepreneurship programme for Smart and Sustainable coastal areas** launched in January 2022 emphasises on leadership initiative and entrepreneurial spirit. The programme gives the students the ability to find and analyze information from various sources, to work effectively as part of a multidisciplinary team, to innovate by creating new ideas, services, products or organizational patterns, to act with social responsibility and civic awareness, to communicate effectively and to use basic software packages.
- **EU-CONEXUS PhD Summer school** which is organized on an annual basis (topics: "Professional and scientific communication and networking in multidisciplinary environment" (2021) and "Open Science" (2022)) equips PhD students with skills for the development of interdisciplinary research projects, practice for scientific and professional communication as well as efficient scientific networking but also application of integrated concepts, techniques, tools from various research fields.
- A pilot EU-CONEXUS short term course « **English for Sustainability** » was held in spring 2022. Based on individual learning and on personalised and student-centred curricula, this course give the students the ability to practice English speaking skills and engage in thematic discussions on sustainability, social aspects of sustainability, economy and equality, sustainability and environment and international cooperation and sustainability.

2. Ensuring inclusive education and equal opportunities for all learners

As stated in the EU-CONEXUS Mission Statement, EU-CONEXUS partners commit to a common set of values and ethical principles that are guiding their actions. Among them is the promotion of diversity, inclusiveness, gender equality and non-discrimination of any kind, as a basic principle of EU-CONEXUS organizational behaviour.

EU-CONEXUS strictly promotes equal treatment and equal representation of men and women at all participating institutions and at all levels. In accordance with the EU Charter of Fundamental Rights, EU-CONEXUS and its project *Research for Society* (RFS) promote gender equality as well as its diversity and shall not tolerate '*any discrimination based on any ground such as sex, race, colour, ethnic or social origin, genetic features, language, religion or belief, political or any other opinion, membership of a national minority, property, birth, disability, age or sexual orientation*'.

The EU-CONEXUS Gender Equality Plan (GEP)² is available on EU-CONEXUS website.

https://www.eu-conexus.eu/wp-content/uploads/2022/03/RFS_Policy-document_GEP.pdf

EU-CONEXUS has also focused over the last three years on the challenges encountered by students with disabilities and their special needs in order to provide them with appropriate institutional infrastructures and services. An initial mapping exercise showed great differences between partners and the need to harmonise practices and services in order to best serve them. The inclusion of students and staff with disabilities is therefore taken into consideration in a transversal manner across project activities in order to create an accessible environment at all levels.

<https://www.eu-conexus.eu/en/introduction/support-and-orientation/>

The Erasmus+ project "Sports Handicap Inclusive Experience (SHIE) n° 2021-1-FR01-KA220-HED-000023532 has strengthened the EU-CONEXUS vision for an inclusive European University.

3. Focussing on digital technologies

- With the implementation of EU-CONEXUS Moodle for the launch of Minor Programmes in January 2021 and the deployment of virtual classrooms utilising common tools (Moodle, Big Blue Button), students have acquired technical skills with the use of various software packages whereas teaching staff have had to operate within a new virtual learning environment and were pushed to complete their teaching competences with technical aspects.
- Through three teaching staff training sessions but also monthly virtual teachers café, teachers were introduced to innovative ways of doing synchronous and asynchronous teaching to a virtual classroom and to a variety of modern pedagogical instruments to be applied (research-based, problem-based, e-portfolio, etc.). These innovative methodologies have been used in the teaching of the courses in Minor programmes, in extra curricula such as the Social Entrepreneurship Programme and included in the Joint Master programme in Marine Biotechnology.

² Developed under the « EU-CONEXUS Research For Society" project funded by H2020-IBE-SwafS-Support-1-2020, GA No. 101017436.

II. Making lifelong learning and mobility a reality for all

1. Ensuring flexible, resilient and future-proof education and training systems

- Most of EU-CONEXUS academic offers have been conceived in such a way that students can tailor their curricula according to their professional aspirations: EU-CONEXUS Minor programmes offer specialisations that students can choose freely and combine with disciplinary study tracks from all study areas. In EU-CONEXUS Joint Master Programme, the students build their professional competences via individual professional practice (internship), individual research (academic research integration) and thesis work.
- In April 2022, the “English for sustainability” short term course (3 hours in total) was launched based on individual learning, personalised and student-centred curricula, accompanied by five synchronous classes. This course should test the students’ willingness to take short-term courses (e.g. micro-credential) which are planned to be developed further in the EU-CONEXUS follow-up phase.
- Indeed, the portability of short courses leading to micro-credentials will be developed and implemented in EU-CONEXUS follow-up phase by two Work Packages: a WP dedicated to increasing employability and expertise in SmUCS of Bachelor graduates through micro-credentials and a WP working on flexible learning opportunities and alternative pathways through micro-credentials at Master level and for Life Long Learners.

2. Automatic mutual recognition of qualifications and study periods abroad and quality assurance

- Through the implementation of the two EU-CONEXUS Minor programmes in January 2021, EU-CONEXUS has been applying the principle of automatic recognition of its courses by recognizing the qualifications gained by the students attending courses at other partner universities. This principle is included into their diploma supplement.
- In the framework of the Joint Master programme in Marine Biotechnology launched in September 2022, EU-CONEXUS partners have agreed to automatically recognize mobility periods and grades. This Joint Master was submitted in 2021 to the accreditation procedure following the European Approach in order to be in line with the transformation agenda in relation to joint programmes of the European Education Area.
- More generally, EU-CONEXUS partners have explored a wider application of automatic recognition through a joint WP2/WP3 Task Force and the draft of a Charter and code of conduct for automatic recognition. The Task Force has worked on how to align study programme development with the physical/virtual mobility frameworks (recognition, learning agreements, equivalence, access, registration, etc.) for opening a set of online courses across the Alliances to the whole EU-CONEXUS student community.

3. More mobility for learners, teachers, teacher trainers and staff

Learners

Even though the available mobility schemes were not fully deployed and exploited due to the COVID-19 pandemic, and taking into account sustainability aspects of travelling, the idea of « more mobility for more Europe », is fully in line with EU-CONEXUS philosophy.

- While virtual mobility, relying on a EU-CONEXUS digital platform, has successfully replaced physical exchanges at the beginning of the pandemic, the value of getting to know each other in real life is undisputedly the basis for any sustainable strategic cooperation.
- Therefore, in order to facilitate students physical mobilities, the EU-CONEXUS Mobility Office implemented a mobility information package with descriptions and recommendations for each mobility destination within the Alliance.
- A Buddy System has been established to improve the connections among students of partner institutions.
- Some partners have made available specific funds from national co-funding to support and promote intra EU-CONEXUS mobility.
- The EU-CONEXUS Minor programmes offer to learners virtual and blended mobilities (« Underwater archaeology » course at the University of Zadar (Croatia), « effects of climate change » at the Technical University of Civil Engineering Bucharest (Romania), « Aquaculture » at the Catholic University of Valencia (Spain). More of these blended mobilities will be developed in autumn 2022 and in the EU-CONEXUS follow-up phase.
- The students enrolled in the EU-CONEXUS Joint Master Programme in Marine Biotechnology have a mandatory mobility among the universities of the Alliance with a full academic acknowledgement of the credits acquired. During the two years of the programme, the students must study at, at least, two universities (different than the country of residence at the enrolment stage) of the Alliance.
- EU-CONEXUS cultural activities within the framework of two festivals (Klaipeda in 2021 and Bucharest in 2022) and sport activities (Basket Ball games in September 2021 and Final Sport Games in May 2022 at the University of Zadar) have been organized physically as soon as the pandemic has allowed it.

Teachers

- EU-CONEXUS Minor programmes offer physical and virtual mobility opportunities for teachers, as well as teaching collaboration for teachers of the same field and monthly virtual teachers café for sharing experiences on pedagogical topics (interaction between students, assessment, teaching methodologies, ...).
- In parallel, three international staff training weeks, two online (« Developing Innovative Study Programmes and Courses » & « Virtual and blended teaching ») and one physical at La Rochelle Université (“Methodology to teach in English in a multicultural and online environment”) have been organized for giving teachers the opportunity to exchange on best practices and methodology.

- Individual or collective job shadowing have pursued the same goals allowing also immersion in classes at the host partner institution.

Non-academic staff

Non-academic staff also benefit from mobility schemes through their participation in joint committees and working groups combined with job shadowing experiences and participation in cultural activities. These have strengthened their cooperation, increased their know-how and improved administration processes for collaboration as well as internal procedures.

4. Promoting multilingualism

Learners

- Multilingualism has been promoted through multicultural classes implemented in the framework of the Minor programmes launched in January 2021 and taught in English. The classes gather students from various countries and geographical areas and study backgrounds. Students are exposed to viewpoints, approaches, understandings coming from different angles, and this facilitates a first glimpse of what European identity and European values are.
- In 2022, EU-CONEXUS has implemented an advanced level course 'English for Sustainability' so that students improve their English language proficiency related to the theynamics of Sustainable Development Goals³. The course is based on 4 topics (1. social aspects of sustainability, 2. sustainability, economy and equality, 3. sustainability and environment, 4. international cooperation and sustainability) and addresses 4 language competence skills (listening, writing, speaking, reading).
- A pilot for virtual "languages tandems" between students of two partners of EU-CONEXUS Alliance (Catholic University of Valencia and University of Zadar) has taken place over Summer 2022 in order to raise interest for learning EU-CONEXUS languages.

Teachers

- Teachers have developed language skills by participating in and developing the multilingual cooperation environment as well as having to teach in English. Online meetings and written communication have contributed to the strengthening of language skills, but also introduced techniques of dealing with difficulties of understanding each other's accent (English being the second language for most of the collaborators) and with manners of communication in general in a mostly virtual setting (without the support of body language).
- Different targeted actions were also held such as job shadowing for language teachers (Spanish) organized by the Catholic University of Valencia in 2021, with exchange on best practices, methodology as well as class immersion.
- In 2022, the University of Zadar (Department of English Studies) implemented for their teachers a very successful course on "methodology to teach in English", consisting of 30 hours focusing mostly on the development of language and communication skills, and a small part on grammar exercises. This proved to be successful and could be extended to the Alliance.

³ See United Nations, 2015, <https://sdgs.un.org/goals>

- The 3rd EU-CONEXUS International Staff training Week held in June 2022 at La Rochelle Université focused on “Methodology to teach in English in a multicultural and online environment” with training session focusing on lesson plan, learning outcomes and assessment.

III. Enhancing competences and motivation in the education profession

Supporting high qualified and motivated teachers and trainers is a basic EU-CONEXUS value. Response to the need for highly competent, enthusiastic and committed professional workforce as well as to the need for continuous opportunities for professional development has been made through various actions:

EU-CONEXUS international staff weeks

Two international staff training weeks have been organized online during the COVID-19 pandemic. The first was entitled ‘Developing Innovative Study Programmes and Courses’ in June 2020 and focused on new teaching methodologies (including for online teaching) and the development of innovative and interdisciplinary programmes and courses, adapted to the current trends such as student-centred learning and teaching. The second staff training week tackled « Virtual and blended teaching » and was held in November/December 2020. Experts presented best practices on the transition from physical to virtual classes, active student engagement in a virtual setting and efficient use of an online learning environment.

A third international staff training week has been organized physically at La Rochelle Université in June 2022 and focused on “methodology to teach in English in a multicultural and online environment”. Indeed, teachers asked for support in managing linguistic and cultural diversity in order to enlarge their skills in teaching in multilingual and multicultural classrooms.

Recruitment of an EU-CONEXUS engineer in digital technologies

Recruiting an EU-CONEXUS engineer in digital technologies for education appeared to be necessary after few months of having implemented EU-CONEXUS Moodle, the common learning platform. This pedagogical engineer is responsible for supporting university actors and students in the design, implementation and evaluation of e-learning devices and projects, according to the strategy defined within the EU-CONEXUS community.

Welcome days/training for teachers

The welcome days/training for teachers on EU-CONEXUS Moodle are part of EU-CONEXUS Minor programmes and are available at each start of the semester.

Monthly virtual teachers’ café

Virtual teachers’ cafés were organized monthly, very soon after the launch of EU-CONEXUS Minor Programme. They offer a framework for continuous opportunities for professional development of teachers by sharing experiences and best practices on pedagogical topics (interaction between students, assessment, teaching methodologies, ...) and support teachers in their teaching process.

Job shadowing

Job shadowings (collective and individual) are organized physically for academic staff focusing on exchanges of best practices, processes and methodologies, as well as immersion into the host partners structures and procedures.

Teaching Academy (follow-up phase)

On the basis of conducted pilots and experiences made, the teachers and trainers professional development will be further intensified and streamlined in the coming years. The work programme of the follow-up phase includes the implementation of EU-CONEXUS Teaching Academy which will serve the development and implementation of innovative trainings available to all EU-CONEXUS academic community and based on methodologies such as problem-based, project-based, challenge-based, research-based, inquiry-based learning.

IV. Reinforcing European higher education

1. Creating new forms of cooperation, pooling knowledge and resources together

At a general level, EU-CONEXUS results have been achieved by a close coordination and contribution of all full partners and, where appropriate, also of associated partners.

The choice of a thematic framework for strategic institutional cooperation has allowed for a most efficient pooling and sharing of competences on the teaching and research ends of higher education. The combined students and staff numbers help the medium-sized EU-CONEXUS partner universities to achieve collectively more impact across all university missions than it is possible to achieve individually. The attractiveness for students (international and regional/local) has been strengthened. The visibility of research results has increased. The socio-economic environment has benefited from a comprehensive pool of expertise and societal challenges can be tackled in a holistic manner by the combined forces of all partners.

EU-CONEXUS actively participates in the coordinators' group of the 17 'first generation' Alliances (FOREU) where monthly meetings are held for an exchange of experiences and best practices at all levels (from project management to the definition of the Research and Innovation Agenda) and development of joint positions. Also, on a bilateral level, exchange of practices has taken place with other alliances such as CHARM-EU (Joint Master programme), SEA-EU (H2020-SwafS project, scientific conferences), UNA Europa (legal entity, Joint PhD programme), UNITE! (Virtual Campus), ECIU (Joint Research Institutes).

Best practices are also shared with other universities which are not part of European University Alliances as part of the framework of national and international rectors' conferences.

2. Generating mobilities opportunities for student and staff

As stated in EU-CONEXUS mission statement, "EU-CONEXUS is committed to creating a new institutional framework for higher education in Europe that allows for a truly European way of studying and carrying out research through institutional alignment and **seamless mobility for all** ».

Students

- In the pilot phase, EU-CONEXUS has offered embedded mobilities in every new design of joint academic offers (Minor Programmes, Social Entrepreneurship Programme, Joint Master Programme in Marine Biotechnology, PhD Summer School). This offer will be enlarged in EU-CONEXUS follow-up phase by courses in English but also in national languages.
- EU-CONEXUS campus life activities (two festivals, cultural and sports challenges) have allowed EU-CONEXUS students to gain multicultural experiences by meeting colleagues from all partner universities and getting in touch with different languages.
- Students' language skills and ability to study and work together in an international and multicultural environment have increased, as well as their sense of what European citizenship means. Their European identity has strengthened as well as the development of common European values.

Staff

- Academic and non-academic staff have also benefited from physical and virtual mobility opportunities. Academic staff through teaching collaboration in the development of EU-CONEXUS academic programmes, job shadowing for exchange of best practices and methodologies and international staff training weeks.
- Administrative staff through their participation in various joint committees and working groups combined with job shadowing experiences have strengthened their cooperation for continuous improvement of administration processes. Generally speaking, mobility actions for staff have aimed at better developing mutual knowledge and acknowledgement, adherence to the projects' ambitions and vision as well as developing an increased sense of what European cooperation and European citizenship means.

3. Boosting research and innovation

- Over the pilot phase, **four Joint Research Institutes** (1. Life Sciences and Biotechnology Institute, 2. Environmental Sciences and Biodiversity Institute, 3. Coastal Engineering Institute, 4. Social, Culture and Human Sciences Institute) have been created to bring together researchers and students from the different partner institutions, around common fields of interest. By enhancing international cooperation in joint research activities, EU-CONEXUS Joint Institutes and research teams represent a multicultural, multilingual and multidisciplinary environment for conducting excellent research and innovation projects. Researchers and students from the different partner institutions collaborate on interdisciplinary research challenges, sharing common equipment, research outputs and methodology.
- An **online Research Portal** based on a comprehensive scientific mapping enable the users (researchers) to look up scientific interests, research projects and researcher contacts. This complete overview of the research and teaching potential of the Alliance is expected to facilitate

the formation of consortia for future joint project proposals, researcher and student mobility, as well as cooperation with socio-economic stakeholders and other interested parties (public sector, NGOs). Researchers have already benefited from the broad EU-CONEXUS network by submitting joint proposals to the HORIZON 2020 calls (RISE, Green Deal), COST Actions and others.

- **Joint Standard Operating Procedures (JSOPs)** have been developed, unifying and harmonising common research protocols and processes between laboratories. Researchers and students in JRLs are invited to apply these protocols whenever they are related to their research activities. The application of harmonised procedures allows them to produce reliable, reproducible, and high-quality research results.
- To gain the desired status of excellence and also to become able to offer high quality external services, **one EU-CONEXUS laboratory has already been accredited** and other three are in the process of Accreditation (according to ISO/IEC 17025) for performing specific analyses by the respective recognized National Accreditation Systems.
- Also, to support the development of the EU-CONEXUS Joint Research Area, a **Call for Research Staff Mobility** among the Alliance has been launched. Research staff can visit another partner or associated partner university, its research units/laboratories or participate in a research conference in-situ. The Call for Research Staff Mobility gives researchers the opportunity for scientific knowledge exchange, life-long training and job shadowing on SUCS topics.
- EU-CONEXUS also supports the development of joint research and innovation projects by offering a **Project Development Fund** with specific eligibility and funding criteria and selection rules. A common procedure for collection and dissemination of Calls for Proposals and partner searches has been implemented.
- Last but not least, the **EU-CONEXUS-RESEARCH FOR SOCIETY project** funded by Horizon 2020 is an ambitious 3-years project aiming at the strengthening, modernisation and internationalisation of the research dimension of the European University with corresponding institutional transformation. EU-CONEXUS RESEARCH FOR SOCIETY complements the ongoing activities of the European University that are financed under the Erasmus+ programme which is more focused on the higher education dimension of a university. The project will demonstrate how to develop a joint science and innovation agenda within a transnational research and funding environment and aims to establish the research focus SUCS at the European and international level.
- The RFS project will contribute to a more comprehensive and socially responsible management system for researchers and other staff contributing to research activities. Joint research infrastructure and resources will be explored, and a common access policy will lead to more efficient management of these assets. An innovation management strategy will open up new ways of interaction with the innovation eco-system and establish an entrepreneurial mind-set within the researcher community. Finally, methods of open and participatory science will nurture more responsive and impactful research practices.

V. Supporting the green and digital transitions in and through education and training

1. Changing individuals' behaviour and skills through education

EU-CONEXUS educational offers have been designed in line with a Skills Map developed together with stakeholders from relevant sectors in the public and private socio-economic environment. Thus, it matches the needs of the labour market to support the green and digital transitions by offering to students personalized and pluridisciplinary based training programs « shaping » open minded euro-citizens, able to tackle complex problems with discernment and best prepared for future jobs that are unknown at this date.

At a general level, EU-CONEXUS academic offer (Minor Programme in « Blue economy and growth » and « Coastal development and sustainable maritime tourism », Joint Master in Marine Biotechnology) is therefore dedicated to train future professionals to be prepared, with high qualifications, in covering societal challenges faced by urbanized coastal areas and sustainable development.

In parallel, EU-CONEXUS complementary educational offer with its Social Entrepreneurship Programme for smart and sustainable coastal areas aims at empowering students to become social entrepreneurs and to come up with innovative, sustainable solutions and projects to confront coastal challenges.

For high school students, EU-CONEXUS has implemented within its « University to School » programme an international school contest entitled « Think Smart, Create Green » which boosts the cooperation between EU-CONEXUS universities and secondary schools. The school contest aims at raising awareness on smart urban coastal sustainability challenges and at motivating teenagers to contribute to a real change in the development of their region by proposing creative and innovative solutions to societal challenges.

Workshops for high school students have also been launched on SmUCS topics bringing into discussion coastal challenges, scientific development and sustainable solutions.

2. Including the green and digital dimensions in organizational development

Sustainability Strategy

The EU-CONEXUS Green Campus is already part of the Sustainability Strategy established by the Alliance with the implementation of institutional policies for “greening” physical infrastructure, reducing the carbon footprint and establishing an emission compensation plan. This aim at developing good practices of environmental management systems as well as changing personal mindsets and behavior of students and staff will be further intensified in a dedicated work package included in the follow-up proposal.

3. External relations

With partners distributed along diverse coastlines (Atlantic, Mediterranean, Adriatic, Ionian, North Sea, Black Sea, Baltic sea), EU-CONEXUS can cover societal challenges across Europe related to its thematic framework focused on Smart Urban Coastal Sustainability. Building on similar socioeconomic environments, converging research activities, complementarities and opportunities of territorial innovation, EU-CONEXUS aims at creating an expert pool specialized in integrated coastal management. Subjects such as climate neutral cities and resource efficient (blue) economy and growth are addressed in a holistic manner meaning from an interdisciplinary viewpoint, respectful of the ethical concern and in a dynamic search for excellence.

For private socio-economic actors, EU-CONEXUS offer the space for getting in contact more easily with prospective partners concerned with similar problems (tourism, port activities, nautic industry, ...) and engage in co-innovation processes. In parallel, EU-CONEXUS is engaged in informing public policies with scientific evidence and in developing innovative policies, actions towards citizens in order to raise their awareness of the global changes and the necessity to change their behaviors.

During the last three years, stakeholder engagement (conferences, workshops, roundtables) have aimed in particular at city and port authorities but the developed Network Action Plan will roll-out stakeholder activities more strategically in the follow-up phase.

Annexes

Annexe 1: Recommendations on creating Joint Minor Programmes

Annexe 2: Recommendations on creating Joint Master Programme

Annexe 3: Recommendations on creating Joint PhD Programme

Annexe 4: Recommendations on creating an inter-university "Smart Campus"

Annexe 1

Recommendations on creating Joint Minor Programmes

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Introduction: General objectives of EU-CONEXUS Joint Minor Programmes

In January 2021, EU-CONEXUS partners, as a result of their joint academic actions, launched two Joint Minor Programmes in "Blue Economy and Growth" and "Coastal development and Maritime Sustainable Tourism".

These two new programmes addressing undergraduate students offer the opportunity of an internationalisation of their curricula in a multilingual & multicultural environment right from the first year of studies. They are also prominent examples of the personalised approach and study track system that EU-CONEXUS has chosen as a guiding principle of its university services. The Minor programmes offer a flexible and interdisciplinary study path oriented at employability principles, in a stimulating multicultural environment.

I. Getting started

The Programme Committee Bachelor in the Work Package 2 "Joint Study Programmes and Educational Training Offers" worked on the development and implementation of this academic offer within the EU-CONEXUS Alliance.

First, in order to identify national and cross-border professional and soft skills required in the sector of Smart Urban Coastal Sustainability an industry-skills map meeting actual and future industry and society requirements was elaborated. In coordination with WP 5 « External and international relations », PC BSc developed a questionnaire to be distributed to the industrial partners, meetings with national stakeholders were organised and relevant stakeholders were included in the PC as associated members.

Based on the development of this skills map on the needs of the industry and other relevant stakeholders, the two Minor Programmes were elaborated consisting of up to 20 courses, offered by the six EU-CONEXUS partners.

As a second step, the PC BSc cooperated closely with the Smart Campus unit (WP7) for the creation of a virtual campus including the deployment of virtual classroom or the use of multilingual support services (see "Recommendations on creating an inter-university Smart Campus").

Structure and content of the Joint Minor programmes

Each of the two Minor programmes focuses on five thematic areas (sectors).

The EU-CONEXUS Minor in *Blue Economy and Growth* provides the competences and professional skills related to the main industrial and service sectors of the blue economy, which are among the main established and emerging economic maritime sectors : 1) Aquaculture and Fisheries, 2) Marine Biotechnology, 3) Ocean Energy, 4) Transport and Shipbuilding, 5) Coastal and Maritime Tourism

The EU-CONEXUS Minor in *Coastal Development and Sustainable Maritime Tourism* provides the competences and professional skills in 1) Biodiversity and Coastal Zone Management, 2) Environmental Education, 3) Human Geography, 4) Sustainable Tourism, 5) Coastal Engineering.

EU-CONEXUS Joint Minor Programmes offer, for each sector, a number of courses. Each course lasts one semester and consists of 6 ECTS. The partner, who offers a course belonging to one of the Minor programmes, is responsible for the course learning outcomes, teaching and quality assurance based on relevant institutional practices.

In order to complete a Minor programme, students must have chosen five courses (30 ECTS), from minimum two sectors, and at least from three different universities (a maximum of two courses can be selected from their home institution) by the end of their undergraduate studies. If all the prerequisites are accomplished, a special reference shall be included in the Diploma Supplement.

Students can follow Minors as part of or additionally to their study curricula. Besides, they are allowed to take courses without accomplishing completely the 30 ECTS Minor programme.

Students can choose freely the sectors of their interest or the ones most relevant to their undergraduate studies.

General financial management

The partners committed to use their existing institutional resources to create and maintain the Minor programmes. They agreed that the teaching costs of a course would be covered by the 'host' institution which offered the course.

Tuition fees

The partners agreed that no additional tuition fees would be imposed for any student at the host university.

Students that obtain Bachelor ECTS through the recognition of EU-CONEXUS Minor courses will not pay additional fees for their Bachelor programme at their home university.

If a Minor programme is additional to the ECTS load of a Bachelor or 'one-cycle' degree programme, the additional courses of the Minor programme are free of charge to all students regardless of the fees of their main study programme at their home university.

EU-CONEXUS Joint Minor Programmes Agreement

In November 2020, a first EU-CONEXUS Joint Minor Programmes Agreement – valid until 31st August 2022 – was signed by all six partners of the Alliance in order to concur with the implementation and management of the two EU-CONEXUS Minor Programmes (structure and content of the programmes, coordination of the programmes, language of teaching, student administration, mobility and credit recognition, etc). A second Agreement valid until 31st of August 2026 was signed by all partners including the future full partners.

II. Getting harmonized; A way towards academic integration

a. Minor Officers

Each partner has appointed a Minor Officer for the coordination within and between the nine universities of EU-CONEXUS. The Minor Officer has an administrative role in fulfilling tasks related to outgoing and incoming students.

They perform administrative work related to the coordination of the Minor programmes and communication among the partners, the general coordinators, the teaching staff and the students.

b. Guidelines for teachers

For the academic year 2021/2022, EU-CONEXUS Academic Council developed "Guidelines for Professors of Minor Programmes" to harmonise the teaching standards and practices for the Minor courses.

A strong emphasis was made on the teaching mode with the objective to offer Minor courses synchronously with live classes on MS Teams or Big Blue Button every week, following an established timetable.

Teachers were asked to record classes so that the students who could not attend the class could review the recordings at a later stage. The students were, however, encouraged – but not obliged – to attend all classes synchronously, attendance rules being established by the professor and his/her university's regulation.

At EU-CONEXUS level, at least one class during a month must require synchronous participation of all students ("obligatory synchronous session") to ensure internationalization and intercultural exchange embedded in the Minor Course.

Main challenges

Even with this « obligatory synchronous session », the teachers regularly connect to **empty classes** which makes difficult:

- the organization of work in groups.
- the evaluation of the students work through assignments
- Some efforts were made by teachers (e.g. activation of an online forum with student topics) to motivate students participation in classes, but without success.

Recommendations:

At this time of writing, recommendations are difficult to make. Some proposals – to be implemented and tested - were made to increase the participation of the students through:

- More collaborative work;
- The award of extra points in the students grades to underline their collaborative skills during synchronous classes;
- Limiting the synchronous classes to the minimum (1 hour) and 3 hours of self-study per week.

c. Automatic recognition of academic qualifications and learning periods abroad

With the implementation of the two EU-CONEXUS Minor programmes in January 2021, EU-CONEXUS has adopted, based on the European Credit Transfer and Accumulation System (ECTS) of the European Higher Education Area, the automatic recognition of the qualifications gained by the students attending some courses at other partner universities.

Main challenges

As stated in EU-CONEXUS Joint Minor Programmes Agreement, each EU-CONEXUS course given by partner university is considered as a learning mobility exchange (similar to Erasmus+), and is subject to academic recognition and transfer of credits. This is to be included in the Diploma Supplement to prove an international curriculum.

The delivery of such a Diploma Supplement was not obvious for those partners for which EU-CONEXUS Minor Programme was optional. The implementation of it has taken some time but is now implemented at Technical University of Civil Engineering Bucharest for instance.

Recommendations:

The international certificate needs better acknowledgement at the labor market. Universities and students must be sure that the certificate proving that a graduate has followed an international curriculum will increase her/his profile when applying for jobs.

d. Academic Calendars

For the academic year 2020/2021, individual institutional calendars were introduced and incoming students were to follow the academic calendar of the hosting university. The attempt to make a unified academic calendar had failed facing the diversity of the academic calendars existing within the Alliance. For example, Romania has an academic year starting in October finishing in September, whereas in Spain it runs from September to August and in France, from September to June. In Germany lectures start in mid-October and finish at the end of January and diverge even more in spring semester where lectures start at the beginning of April and finish in mid-July.

Main challenges

During the first semester of implementation of the Minor programmes, some universities did not always receive on time the Transcript of Records of their students. In the specific case of La Rochelle Université, some students who had their EU-CONEXUS mark missing were obliged to re-sit their exams.

Recommendations:

For the academic year 2021/2022, the partners sought for a synchronisation of the academic calendar for EU-CONEXUS Minor courses. For some partners, this harmonization helped a lot in internal procedures (La Rochelle Université, Technical University of Civil Engineering Bucharest). There were no more confused students looking for the date of the beginning of the Minor semester. The

synchronized calendar made it generally easier among partner institutions to organize the timeline around the exam sessions and the exchange of Learning Agreements and Transcript of Records. However, some adjustments have been needed internally in some universities.

On the other hand, harmonized calendars might also lead to legal and administrative problems for partners where lecture periods diverge very much (e.g. Germany).

Unsolved points remain the national holidays which remain different (Easter period is a tricky period). In some cases, some students have practical learning periods in companies or internships or other activities specific to their universities that do not fit in the harmonized academic calendars.

In other cases (Technical University of Civil Engineering Bucharest, La Rochelle Université), the EU-CONEXUS synchronized academic calendar reveals to be shorter than their national academic calendars. For those universities, some hours had to be redistributed and the time slots dedicated to the Minor courses therefore densified. Some professors complained about this aspect.

EU-CONEXUS Minor courses	
Academic Calendar	
Autumn semester	
Lectures period	1 Oct -23 Dec
Exam session	10 - 17 Jan
Supplementary exam session	25 Jan – 1 Feb
Winter holidays	24 Dec - 7 Jan
Spring semester	
Lectures period	28 Feb - 27 May
Exam session	30 May – 7 June
Supplementary exam session	13 June – 21 June
Summer holidays	1 July - 31 Aug

EU-CONEXUS harmonized academic calendar 2021/2022

e. Grading scale system

The grading scales of the nine universities of EU-CONEXUS Alliance and their translation into the ECTS grading system was established as follows:

ECTS description	Exceptional	Excellent	Very good	Good	Sufficient	Fail
ECTS Grade	A	B	C	D	E	F
<i>Success rate</i>	10%	25%	30%	25%	10%	--
LRUniv (France)	20-18	17.9-16	15.9-13	12.9-11.0	10.9-10	<10
AUA (Greece)	10-9.0	8	7	6	5	<5
UTCB (Romania)	10	9	8-7.0	6	5	<5
KU (Lithuania)	10	9	8-7.0	6	5	<5
UCV (Spain)	10	9.9-9	8.9-7	6.9-6	5.9-5	<5
UNIZD (Croatia)	5	4	3	2	2	<2
UROS (Germany)	1.0-1.3	1.7-2.3	2.7-3.3	3.7-4.0	3.7-4.0	5.0
SETU (Ireland)	80-100	70-80	60-70	50-60	40-50	<40
FredU (Cyprus)	10 (86-100)	8 (76-85)	7 (66-75)	6 (56-65)	5 (50-55)	0 (0-49)

Main challenges

However, some students complained of this equivalence. For example, a student complained that a 7/10 given in Spain was transformed into a 13/20 in France and not a 14/20. One point can make a real difference in the diploma « mention » awarded. The student saw this as a lack of acknowledgement of her studies in Spain.

Recommendations:

- More communication about the equivalence of grades should be provided to the students by the studies administration of each partner so they are aware of the general rules when they enroll the Minor programmes.
- Better harmonizing the grading scale system could be done. However, in some countries (Romania), the rules for this grading scale system between countries are fixed by their Ministry. On the contrary, in other countries, such as in Germany, there are no binding rules to fix the equivalence of grades.

- The student's home university could have the possibility to adjust grades communicated to the students by the Minor programme teachers.

f. Online learning environment

The objective set was to provide EU-CONEXUS Minor students with a shared digital learning environment.

EU-CONEXUS Moodle was implemented in cooperation with the Smart Campus Unit (WP7) and all Minor courses were taught via this platform with

- all pedagogical material (documents, links for the classes, etc.) uploaded on the Moodle platform;
- the use of Big Blue Button or Microsoft Teams for virtual synchronous classes;
- the use of streaming platform POD to upload recordings of the classes.

Main challenges

Students complained that EU-CONEXUS Moodle was not easy to use and was not interactive enough to communicate with other students.

They also found that the number of tools available were confusing because some teachers delivered their classes on MS Teams, others on BBB and others on Zoom.

Some students mention that since the study platform is not easy to use, and not interactive enough for communication with other students, they drop out of the course.

Recommendations:

As expressed by some students, there is a need for a more collaborative platform. Students working in groups use MS Drive, Sharepoint and meet on MS Teams or WhatsApp.

g. Courses taught in English

When the Minor courses were launched in January 2021, it was decided that courses will be taught in English during the spring semester 2020/2021. The autumn semester of 2021/2022, was foreseen to be the transitional period for introducing multilingual courses and courses in national languages of the partners in the teaching process of Minor programmes.

Applicants were asked to demonstrate a B2 English level, which had to be verified by the home institution during the selection procedure (counting 10% of the selection criteria).

Teaching staff were also to demonstrate a minimum B2 English level with the objective to raise it to C1 with support and training being made available by EU-CONEXUS Alliance.

Main challenges

Students / English language

On one hand, some students mentioned that their level of English was insufficient to attend the Minor classes which is one of the reasons they dropped out of the classes.

As a response, an "English for sustainability" test was implemented in April 2021 for Minor Students to identify their needs and in February 2022, an "English for sustainability course" was implemented primarily for Minor Students to address 4 language competence skills (listening, writing, speaking, reading). This 30-hours course was organized around 5 synchronous classes to tackle 4 topics (1. social aspects of sustainability, 2. sustainability, economy and equality, 3. sustainability and environment, 4. international cooperation and sustainability).

On the other hand, some students mentioned that the level of English of the Teachers was not good enough and also discouraged them to attend the class.

Teachers / English language

On their side, some teachers acknowledged the fact that their level of English was insufficient and that they needed to increase methodological competencies. Indeed, apart from the new partner SETU, all EU-CONEXUS partners are non-native English speakers.

This issue was tackled during the 3rd International Staff Training Week focused on "Methodology to teach in English in a multicultural and online environment" which was held from 28 to 30th June 2022. 15 teachers attended the training session focusing on a lesson plan, learning outcomes and assessment.

The University of Zadar (Department of English Studies) also implemented for their teachers a very successful course on "methodology to teach in English", consisting of 30 hours focusing mostly on the development of language and communication skills, and a small part on grammar exercises. This proved to be successful and could be extended to the Alliance.

Recommendations:

Students and teachers need to be accompanied to fully benefit from a multicultural environment and classes taught in English.

- Students with vocabulary related to sustainability and in the development of all four language competence skills.
- Teachers with methodology to teach in English in a multicultural environment.

Multilingualism

Student Board members were consulted in June 2020 on the inclusion of multilingualism as part of teaching in EU-CONEXUS. Despite the diversity of opinions gathered, a clear result of this consultation was that the English language was the preferred teaching language for students. It was proposed to promote multilingualism through informal ways such as buddy system, cooperation with the ESN language section or a package of courses that offer multilingual experience for students on mobility.

In parallel, tests to enable teaching and studying in a multilingual environment were conducted on two tools: 'Authôt' for English subtitling of courses and BlackBoard Ally plug-in for documents translation and conversion in various formats.

The results of the tests did not prove to be satisfactory (see "Final Recommendations on creating an inter-university Smart Campus") and the implementation of multilingualism in a learning environment was not developed further.

A multilingual course glossary was also set up to include multilingualism component in the teaching of the Minor courses, the professor providing the list of the most used words in English and the students filling it in with the equivalents in their native language. This glossary did not prove either to be successful and was not completed neither by the teachers nor by the students.

h. Blended mobility

As the Pandemia was stepping back, the opportunity to travel to partners university in the frame of blended mobility was offered to some students in three Minor courses.

First pilot was conducted within the frame of the "Underwater archaeology" course held physically at the University of Zadar in Autumn 2021.

In Spring 2022, it was followed by one physical week in the frame of "Effects of Climate change" course at the Technical University of Civil Engineering Bucharest and then by an "Aquaculture" physical week at the Catholic University of Valencia.

Main challenges

- A main challenge is the budget to fund those physical mobilities and their organization.

Recommendations:

The students motivation and interest for learning online is decreasing. Part of it is linked to the fact that they do not feel a sense of belonging to the group, they regret not knowing their group mates and not being able to build a stronger networking and friendships.

Possibilities for offering three-days or one physical week courses at partner universities over the semester are therefore stronger developed.

For autumn 2022, the Catholic University of Valencia has confirmed the possibility to organize blended mobility for the three courses "protected areas and recovery of species", "environmental education" and "environmental impact assessment". The University of Zadar will do it again for the "Underwater archaeology" course. Another partner (La Rochelle Université) is also studying the feasibility of offering an "Entrepreneurship" course in spring 2023.

III. How to solve remaining issues?

EU-CONEXUS Minor Programmes have achieved the following goals:

- Improvement of English language proficiency
- The gain of new experiences, knowledge and acquaintances, meeting with new people and cultures;
- The experience with international lecturers and other educational systems; contact with other cultures and colleagues from other parts of the world, from different universities and fields;
- The possibility for the students to attend courses which are not related to their field of study which gives them an opportunity to expand their knowledge outside their original disciplines;
- Some flexibility in the student learning process with a possibility to attend classes in an asynchronous mode.
- Blended mobility opportunities

However, some issues remain unsolved and various scenarios are being looked at to tackle them in the right way.

a. Overlapping of classes/participation of students in a synchronous mode

- Even with the harmonization of the academic calendar, the overlapping of classes (and sometime exams) as well as the non-participation of students in a synchronous mode remain unsolved.
- Time zone difference between the nine partners of the Alliance is also problematic.
- The issue of national holidays is also mentioned (Easter period is a tricky period).
- Setting up the exam dates a long time in advance is difficult for some partners.

Main challenges

This issue is mentioned by many students as being their main obstacle in keeping track of the courses and among the reasons why they drop out in the middle of the course.

Recommendations:

- To agree on a common time slot at EU-CONEXUS level. The EU-CONEXUS Academic Council recommended to allocate at least 2 timeslots per week for Minor courses, not earlier than from 3.30 pm CET, preferably on Wednesday and Friday, and, if more teaching hours would be needed, on Monday.
- To schedule the call for selection of Minor courses later than what has been done so far so that the students choose their course knowing the planning, dates of exam, etc.
- This will be experimented over the 4th semester (autumn semester 2022) for which the deadline of the call has been fixed for mid-September instead of previously May/June.
- To give extra points to the students for collaborative skills;
- To inform the students of the timetable of the courses well in advance;
- To transform the regular Minor courses in modules (smaller period to deliver the course – one or two weeks, over week-ends, or holidays)

b. Keeping on the motivation of teachers to teach in EU-CONEXUS Minor Programmes

Main challenges

Teachers engaged in the Minor Programmes expressed also their concern when it comes to regularly connect to empty classes or having a need for methodology to teach in English in order to feel more at ease when they face students whose level of English is sometimes higher than theirs.

Having the students participate during online classes is also sometimes difficult as they use more the chat than they actually speak aloud in the interactive part.

Recommendations

Special acknowledgments or rewards for « best teachers » of EU-CONEXUS programmes as recognising their engagement in international teaching.

At the University of Zadar, teachers who participate in EU-CONEXUS Minor Programme are given extra points when applying for mobility programmes and when applying for funds to attend conferences. This model could be duplicated at the Alliance level.

Also, specific trainings can be organized for them as a recognition of the teachers involvement.

c. Course selection / prerequisite of the courses

EU-CONEXUS Minor programmes give the students new perspective on SmUCS topics. With a selection of courses not always related to the student's field of study, Minor Programmes give the students a great opportunity to expand their knowledge outside the discipline. However,...

Main challenges

To make a course accessible to students from various backgrounds means to lower the prerequisites to enter the course with an impact on the quality of the teaching. Some students were disappointed by the level of the scientific courses offered.

On the other hand, some Minor Programmes courses reveal to be too specific for students e.g. from the Technical University of Civil Engineering Bucharest. Those students go for general topic courses (with no prerequisites) and have therefore fewer choices than other students from the Alliance.

On a more general aspect, how much choice students have in their course selection, once the overlapping issue and the existence of prerequisites have been discarded. The student choice appears to be more a choice by default.

Recommendations

In order to maintain the quality of the teaching it is however important to keep up with the prerequisites of a course - whenever they exist - and not to adapt the content to all students.

EU-CONEXUS course catalogue will be updated in a close collaboration with the teachers for a redefinition of the prerequisites.

Conclusion

The recommendations of this paper are based on experiences made during three (out of five) full semesters of implementation of the EU-CONEXUS Minor Programmes as from January 2021.

The statistics of these first three semesters of experimentation of the Minor Programmes show a decrease of nominations per university. It was also noticed that many students drop out in the middle of the course or do not take the exams.

A diversity of reasons were mentioned:

- The **level of English was too high** which made challenging the following of the Minor courses ;
- The **overlapping of Minor courses** made it difficult for the students to attend.
- The difficulties to keep the track between the physical courses in their Major and the online courses of the Minor Programmes
- The **online mode** revealed to be an issue for some students
 - The **lack of** personal involvement or **sense of belonging to the group** (not being able to meet their peers)
 - The **lack of connection student-teacher** through the recording of the classes.
 - The **pedagogical platform was not easy to use**, interactive enough to communicate with other students. There was also a confusion in the tools used as some teachers delivered their classes on Teams, others on BBB and others on Zoom.
- The **content of some courses was not interesting enough** or high enough for some students.

It is also to be noticed that some students can follow EU-CONEXUS Minor programmes as part of their study curricula (La Rochelle Université) or additionally to them (Catholic University of Valencia, Technical University of Civil Engineering Bucharest). There is a clear difference between the students for which it is mandatory and the others for which it is not in their participation and involvement.

Some questions remain pending on the concept itself of the Minor Programmes. It is a good idea as long as we keep them different from traditional distance learning.

Should we be more flexible on the synchronous/asynchronous issue?

Should we transform the modules in order to offer to the students small teaching units and more time for independent studies?

Should we review the offer of courses as some appear to be more popular than others? The Minor programme on "Coastal Development and sustainable maritime tourism" could offer more social sciences topics whereas the Minor programme on "Blue Economy and Growth" could include more natural sciences.

Some transversal courses (civic engagement, academic writing, job interviews, entrepreneurship), in relation with EU-CONEXUS career center, could be introduced.

A focus and promotion of the SDGs could be more developed.

For the academic year 2023/2024, it has been agreed that no major changes will be done to EU-CONEXUS Minor programmes. Some (re)adjustments are to be found on the issues above mentioned.

What has been undoubtedly achieved are:

- The intercultural groups
- The EU-CONEXUS Joint Minor Programme Agreement.
- The academic synchronised calendar
- The guidelines for teachers applied by all partners of the Alliance.

However, some improvement still needs to be done in order to:

1. increase the motivation of the students
2. motivate the teachers
3. communicate better between teachers – students
4. offer more collaborative work to the students
5. offer more blended mobility
6. solve the overlapping of the classes

Annexe 2

Recommendations on creating Joint Master Programme

General Presentation of EU-CONEXUS Joint Master Programme(s)

EU-CONEXUS partners during the first three years evaluated the tendencies of the Master programmes in the European Higher Education Area, implementation of Bologna tools⁴ and started to create joint Master programme in Marine Biotechnology, at the same time paving the road to another joint Master programme in Smart Urban Coastal Sustainability which is aimed to be multidisciplinary, or at least interdisciplinary.

Joint Master programme in Marine Biotechnology (JMPMB)⁵, accredited via European Approach for Quality Assurance of Joint Programmes in July 2021, has been designed as a 2-year (120 ECTS) transnationally integrated multidisciplinary programme that will provide high-quality academic education and hands-on training to generate highly specialised professionals for the marine biotechnology sector. The JMPMB is a true international joint programme, created and delivered jointly by six universities and two associated partners merging their strengths and know-how, providing plethora of views, study styles, interactions and experiences in an international inter-campus European University. The programme relies on a strong institutional support and long-term commitment within the framework of the European Universities initiative. Jointness of the JMPMB is primarily embedded in the joint curriculum, teaching, quality assurance, internships, and research activities, followed by joint management, joint admission, marketing and student services. It is also a student-centred learning programme which offers the possibility to choose from four study tracks after a global overview (thematical specialisations) while providing with excellent students support services such as cultural, academic and career mentoring, a student toolkit and a buddy system, among others. JMPMB also received Erasmus Mundus Joint Masters funding for 2022 – 2027.

Joint Master programme in Smart Urban Coastal Sustainability (JMP in SmUCS) is foreseen to be multidisciplinary, 120 ECTS, designed jointly and having similar jointness features as JMPMB. The design of the programme is foreseen in the second phase of Erasmus+ funding for EU-CONEXUS (2022 – 2026) and will aim to include the European criteria for the joint transnational programmes with a joint European degree label (to be confirmed by the European Commission in 2022-2023).

Based on the accumulated experience through the analysis of legal framework of EU-CONEXUS partners, design of JMPMB and discussions to prepare the background for JMP in SmUCS as well as transnational exchange of best practices and challenges via informal subgroup on European Degree (cooperation platform FOR-EU, uniting the first 17 alliances of European universities Initiative), **the following main obstacles were identified to design, accredit and implement new joint and flexible curricula of Master cycle**, based on cross-disciplinary/multi-disciplinary and cross-sectoral approaches, integrating innovative pedagogies, including the use of the latest digital technologies:

⁴ [The Bologna tools](#): instruments that have been developed, adopted and implemented at the European, national, regional and institutional level: the ENIC and NARIC networks, the European Credit Transfer and Accumulation System (ECTS), the Diploma Supplement (DS), the overarching and national qualifications frameworks (QFs), the European Standards and Guidelines for Quality Assurance of Higher Education (ESG), the Database of External Quality Assurance Results (DEQAR), etc.

⁵ <https://www.eu-conexus.eu/en/marine-biotechnology/>

External quality assurance

The EU policy instrument, the “European Approach for Quality Assurance of Joint Programmes” (hereinafter European Approach), adopted by European Ministers responsible for higher education within the Bologna Process in 2015, allows higher education institutions to use one single integrated procedure in accrediting their joint programme, and thus removes the burden of multiple accreditations.

This instrument was chosen to accredit JMPMB through French quality assurance agency HCERES registered in the European Quality Assurance Register (EQAR) and to avoid simultaneous accreditation processes in five degree awarding countries (Croatia, France, Greece, Lithuania and Spain). It must be noted that in the beginning of the accreditation process in the second half of 2020, European Approach was available only Lithuania, but positive signals of law change were coming from other countries.

The following EU-CONEXUS countries apply European Approach (specific conditions may apply to the programmes of the third cycle):

[Cyprus](#) (even though, EQAR indicates that European Approach available to some higher education institutions or only under specific conditions⁶)

[Ireland](#) (even though, EQAR indicates that European Approach available to some higher education institutions or only under specific conditions)

[Lithuania](#) (university must have accredited study field the joint programme belongs to)

[Germany](#) (even though, EQAR indicates that European Approach available to some higher education institutions or only under specific conditions)

[Romania](#)

[Spain](#)

The countries that have not implemented European Approach yet:

[Croatia](#) (European Approach is foreseen in new law on Higher Education and Science. It is expected to be approved in autumn 2022)

[France](#) (even though, EQAR indicates that European Approach available to some higher education institutions or only under specific conditions)

[Greece](#) (it may be applied in theory, though)

Recommendations

The European Approach is designed to overcome the differences between national requirements for Master programmes for the accreditation, which are often identified as the main obstacle to accredit a truly joint international programme. The national regulations towards number of ECTS, internships, the ratio of core and optional courses, number of Master thesis jury, etc. often relate to structural criteria which are required for national accreditation of programmes, but which are not affecting the quality (The Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG)).

⁶ European Approach available to some higher education institutions or only under specific conditions

Commonly, integrated international joint programmes are developed to complement the competitive aspects of participating higher education institutions, to benefit from unique infrastructure each partner has, to offer several pathways to students within the programme. Usually, the more innovative programme is, the more difficult to adjust to numerous national structural procedures and to simultaneously accredit in all participating countries. Resistance to implement European Approach may result unintentional exclusion of the universities from these countries to design joint inter-campus programmes.

We urge the Member States to:

- Finally implement the European Approach thus facilitating national higher education institutions to co-create innovative and integrated international joint programmes which may lead to European Degree label in all EHEA.
- If the above not possible in short-term, to offer a maximum flexibility - or at least the possibility of a short-term experimentation - to the alliances of European Universities Initiative in the process of development, accreditation and implementation of joint inter-campus study programmes. This flexibility offers a more realistic approach at this stage rather than achieving changes through a soft harmonization of national laws.
- Make sure that the European Approach for Quality Assurance of Joint Programmes is not only formally available, but also possible to use in practice without any additional requirements (to remove remaining specific conditions, e.g. applicable to only public universities, applicable only if university has accredited study field, etc.).
- Truly apply an automatic recognition accepting the documentation prepared for Self-Evaluation Report with European Approach in English (especially Course Catalogue, description of the facilities/infrastructures, teaching staff, etc.) and avoid its translation in national language, finalising the automatic recognition of third agency's accreditation at national or regional level.
- Follow ISCED field of studies for the registration of the joint Master programmes in the corresponding country as it is in European Approach, including interdisciplinarity and multidisciplinarity.
- Where applicable, avoid the duplication of regional and national procedures for accreditation and validation of international joint programme, leaving it either to regional or national authority.
- Adjust the period of validity of the accreditation to the agreed 6-year validity of the European approach thus avoiding constantly undergoing (re-) accreditation procedures.
- Reach more flexible national legislation and room to experiment when it comes to high-quality transnational collaboration.

Also, EU-CONEXUS members are looking further to more in-depth discussion with other alliances and Member States on the use and application of European Approach related to (re-) accreditation of already accredited programme when there are minor curricula changes, change of partner, etc. Institutional based external quality assurance which would allow the universities to self-accredit their programmes is expected to bring more flexibility and agility in the higher education area.

Programme structure and ECTS requirements for joint programmes

National requirements such as a minimum number of ECTS to be reached by the end of the second cycle programme are applied in all the countries of EU-CONEXUS.

Designing EU-CONEXUS joint programmes it was agreed to meet the recommendations of Bologna process and stick to 3+2 (300 ECTS) length accumulated in 2 cycles. Since the minimum length of Bachelor programmes in all countries is 3 years (180 ECTS), a 2-year joint Master programme is reasonable and meets a requirement of some countries to have minimum 300 ECTS at the end of Bachelor and Master cycles. However, these differences may create confusions and consequences/restrictions to individual students studying different level programmes in different countries (e.g., to enter PhD programme, for example, or to meet formal requirement to have Master's degree).

A variety of minimum ECTS requirements within EU-CONEXUS partners:

Country	Bachelor	Master	Minimum* - maximum
Croatia	180	120	300
Cyprus	240	90-120	330-360
Germany	180-240	60-120	300-360
Greece	240	60-120	300-360
France	180	120	300
Ireland	180-240	60-120	240-360
Lithuania	180-240	90-120	330-360
Romania	180-240	90-120	300-360
Spain	240 ⁷	60-120	300-360

* The condition that total number of ECTS gathered in the first and second cycle is a minimum of 300 ECTS

There are several further areas where national requirements are contradictory when establishing joint programmes and may limit efficient functioning of joint programmes, for instance, regulations on recognition of prior learning, which is one part of joint rules of the implementation of study programme.

E.g., [Cyprus](#), [Spain](#) may recognise the least percentage of credits obtained in other institutions/programmes: Spanish HEI is allowed to recognise 40% of prior learning (24 ECTS in case of 60 ECTS length programme, but only 48 ECTS in a 2-year programme), [Cyprus](#) – 30 ECTS (25-33% of curricula, depending on the length of the programme). Meanwhile [France](#), [Ireland](#) has not limitation, [Croatian](#) and [Romanian](#) HEIs have an autonomy to decide.

Other specific regulations may include restrictions on the language of instruction (limits in [Greece](#)); minimum number of contact hours (from full autonomy in [Ireland](#), from 40% contact hours in [France](#) and [Spain](#) to 75% in [Greece](#)), restrictions to online elements in the study programme (e.g. the methods and modes of teaching have to be identified at the moment of registering/accrediting the programme, the changes implies re-accreditation – [Croatia](#) and [Spain](#)); national requirements for internships; required procedures for assessment of students; requirements related to employment and working conditions for teaching staff, composition of Master thesis jury, etc.

⁷ It is allowed to Bachelor programmes developed within the Alliances of European Universities Initiative to create a 3-year (180 ECTS) Bachelor programmes

Recommendations:

ECTS requirements for joint Master allows the flexibility for joint Master programmes duration unless it is agreed to have one-year programme. Therefore EU-CONEXUS would insist not to limit the programmes with minimum ECTS requirement, and to rely only on the ECTS Users' Guide as the only basis for transnational joint programmes, without additional rules or limitations.

Regarding other components the programme curriculum, EU-CONEXUS recommends allowing maximum flexibility and encourage Member States as well as higher education institutions, when they have an autonomy to do the changes) to use the joint programme agreement, designed beforehand and to apply these agreements for joint actions.

Inter-/Multidisciplinarity of the programme

The EU-CONEXUS believes that new innovative international study programmes shall be student-centred, flexible and meeting the future requirements of labour market. Therefore, the possibility to create and implement inter-/multidisciplinary Master programme was explored in the framework of existing national law.

Traditionally, the study programmes have to be linked to registered study fields and have to lead to a qualification certified by a diploma.

The programme may have **interdisciplinary components**, but the qualification will be "single". This is the only option available in [Germany](#), [Romania](#).

Other countries such as [Cyprus](#), [Ireland](#), [Spain](#) included interdisciplinary study field in the list of qualifications, while [Croatia](#) introduced interdisciplinary field in each science area (except for biomedicine and health science), and allows interdisciplinarity between different science areas on case by case decision.

In [Greece](#), there is no restriction as far as the programme is in accordance with the Master Programme Board prerequisites and qualifications. Interdisciplinarity is allowed between different science areas according to the Programme Board decisions and allow up to three specialisations to choose from. The awarded qualification is in the field of the chosen specialisation.

[Lithuania](#) offers a possibility of Double degree diploma in case of interdisciplinary study programme (e.g. informatics + health sciences).

Multidisciplinary study programmes do not have any legal conditions in any of EU-CONEXUS countries.

Recommendations

Interdisciplinarity and multidisciplinarity is embedded in the vision of EU-CONEXUS joint academic offers, backed-up with complementarity based inter-campus cooperation. The Alliance recommends that flexibility in thematic interdisciplinarity and accreditation of, firstly, interdisciplinary, and in medium-term multidisciplinary study programmes should be offered in the national classifiers of qualifications by all national legislators for universities of Member States.

Joint admission procedure

EU-CONEXUS JMPMB has a joint admission criteria and procedure. Nevertheless, this creates 2 challenges:

- Recognition of foreign qualifications for access to Master cycle programmes, where officially the applicant must undergo similar procedures in all degree awarding countries.
- Joint programmes often restrict or limit the use of national funding schemes to finance the studies (state funded places, specific institutional grants, etc.) due to joint commissions, different admission calendar and other than national procedures, etc. . This discourages the students to enter joint programmes which are mostly paid.

Recommendations

Having joint programme agreement and defined general and specific requirements for integrated international Master programme, we argue that all Higher Education Institutions can

- 1) authorise one partner to evaluate if a foreign qualification grants an access to Master cycle, this decision shall be accepted by all partners concerned (both their national QA/ENIC-NARIC agencies, and the institutions themselves).
- 2) enable the joint admission commission to evaluate if the applicant meets specific requirement to study the programme. This aspect most commonly is fully implemented.

Study fees

Each country has various regulations related to study fees and financial incentives to the students, depending on the study cycle, field of study, quotas, language of instruction, etc. Developing and implementing a joint and highly integrated study programme with unified tuition fee, EU-CONEXUS has identified various fees and costs that influence the cost of study programme, e.g. application, registration, tuition, administration of various processes and documents, etc.

Many countries and sometimes regions have so called **state-funded places** when a student, after passing entrance competition, do not pay any (e.g., [Croatia](#), [France](#), [Lithuania](#), [Germany](#)) or only partial (e.g. [Spain](#)) study fees but other fees remain (e.g. [France](#), [Germany](#), etc.). The **competition for these state-funded places** may be either at national, regional or university's level (university gets external funding from government to cover study costs). Additionally, students may receive incentive, social, for outstanding study results scholarships.

All students at [Irish](#) higher institutions pay a significant tuition fee which is regulated by law.

Private universities have cost-based tuition fees and mostly are exempted in competing for state-funded places or scholarships (JMPMB consortium has 1 private university – UCV, and EU-CONEXUS consists of 2 private universities from the 2nd phase of EU financial framework).

EU-CONEXUS members presented their fees and scholarships framework for comparative analysis in autumn 2020:

FEES per YEAR			SCHOLARSHIPS		
	FREE	Min (EUR)	Max (EUR)	Min (EUR)	Max (EUR)
LRU	YES, regulated by national law	170	170	100.90	555.10
AUA	YES, regulated by national law	0	0	-	-
UCV	NO, regulated by law	1,800	30,000 (MBA, etc.)	-	-
UTCB	YES, regulated by national law	890	960,00	180	280
UNIZD	YES, regulated by national law	738	1,610	1,070	1,610
KU	YES, regulated by national law	0	3,737	39	228

Therefore, all joint programmes are implied to charge the students the tuition fee which makes the study programmes compete with national or double/dual degree programmes, especially in the countries with lower GDP or where studies have always been free of charge.

Additionally, the students of joint programmes have to have mobility periods which imply additional costs (short term rents are higher, visa and residence fees, etc.).

Recommendations

Erasmus Mundus Joint Programmes or Marie Curie Joint Doctorate financial instruments are competitive and does not reflect actual needs, especially not covering Bachelor's programmes.

EU-CONEXUS together with other Alliances insist on a European Commission financing mechanism with the support of national authorities for joint programmes implementation.

The students, applying for joint programmes shall be allowed to participate in state-funded places at national level, e.g. specific budget allocation shall be paid to the university, participating in a joint programme. In this case the programme shall be recognised in quality terms, e.g. having European Degree label.

Erasmus+ mobility scholarships shall not be limited by duration of 12 months during the cycle.

Awarding a Joint Degree

EU-CONEXUS partners except for France can award joint degree and issue one joint diploma.

Nevertheless, awarding and registering of joint degree is assigned to the joint programme coordinator. Therefore, the design must include the text (phrasing and language) and visual characteristics of particular country. This results different template for different EU-CONEXUS joint programmes.

Recommendations

EU-CONEXUS

- Insists the remaining Member States to enable the issue of joint diploma.
- Recommends the European Commission in cooperation with Member States to offer a common template for joint programmes, delivered by the alliances of European higher education institutions (not limited to the alliances of European universities Initiative). Diploma Supplement design could be a good example of such initiative but lacks some recommendations of adaptation of it to joint programmes (mostly for the used languages and education systems).

Joint programme degree template may be associated with European Degree label (to be designed): a clear and attractive label and certificate for awarding a joint degree at European level.

Annexe 3

Recommendations on creating Joint PhD Programme

General Presentation of EU-CONEXUS Joint PhD Programme

EU-CONEXUS partners have evaluated possibilities for a joint and multidisciplinary PhD Programme on Smart Urban Coastal Sustainability. Despite the common desire to implement this joint programme, difficulties were identified within the legal environment of some partners that made impossible to set up the joint programme for the six partner universities.

The joint PhD programme of **180 ECTS** (courses and thesis) can be achieved, depending on the institutions and the students background, on a full-time basis within minimum of 3 years (4 years without a Master's degree in Greece) and a maximum of 4 years (5 years for engineering background) and also on a part-time basis within a minimum of 3 years and a maximum of 6 years.

The programme includes a joint admission procedure and would be taught on a physical, virtual and blended mode.

However, the following barriers for collaboration and implementation of a joint PhD programme were encountered:

Multidisciplinarity of the programme

The EU-CONEXUS joint PhD programme was designed as **multidisciplinary (thesis subject)** with four major research topics:

- Life Sciences and Biotechnology
- Environmental Sciences and Biodiversity
- Coastal Engineering
- Social, Culture and Human Sciences

Although multidisciplinary PhD thesis are possible under accredited PhD programmes in various scientific fields, the accreditation of multidisciplinary PhD programme is not possible in Lithuania and Spain.

Recommendations

Multidisciplinarity and interdisciplinarity is at the core of EU-CONEXUS joint academic offer. The Alliance recommends that flexibility in thematic interdisciplinarity and accreditation of multidisciplinary programmes should be offered by all national legislators for universities of European Alliances in Member States.

Alternative approaches have been considered by the Alliance to tackle in a different way the multidisciplinarity aspects in the Joint PhD programme but this will remain a second option, unsatisfactory.

Accreditation of the Joint PhD programme

The rules and procedures for national accreditation of joint PhD programmes differ in EU-CONEXUS partners countries.

No national accreditation is required for offering a joint PhD programme in the following countries:

Croatia

There is no procedure at national level for joint PhD programmes. If there are such programmes, they are accredited in each partner university's country. According to the latest document of Croatian Quality Assurance Agency (December 2020), in accreditation of joint study programmes European Approach for Quality Assurance of Joint Programmes is applied, which could be valid for joint PhD programmes although the procedures are not adapted to doctoral programmes.

Romania

Doctoral programmes are grouped by fields of study that are subject to the evaluation procedure for accreditation. Accreditation of a field of doctoral studies leads to accreditation of all programmes in the field. In addition to the accreditation of fields of study, study programmes (bachelor, master, doctorate) offered by two or more universities, which lead to joint diploma are called in the Romanian legislation "integrated study programmes" and need accreditation according to the standards and criteria established by the European Approach for Quality Assurance of Joint programmes.

In the case of EU-CONEXUS, the Romanian partner lacks the accreditation of the fields of study integrated in the joint PhD programme.

France

Doctoral Schools are accredited through the normal procedure of the University accreditation. Joint PhD programmes can be included in the programmes of Doctoral Schools.

Ireland

Technological universities have no statutory obligation to seek accreditation for a joint PhD programme once they can validate their offering and show it meets QCI Level 10 descriptors and criteria.

There is an **obligatory national accreditation** for the Joint PhD Programme for some countries:

Lithuania

Joint PhD programmes can be accredited on national level and include foreign partners, but the diploma can only be issued by one partner institution. (As mentioned above, accreditation of multidisciplinary PhD programmes are, however, not possible.) The accreditation of international joint PhD programme (which has joint admission and joint diploma) is not possible in Lithuania. However, combined PhD programmes under a co-tutelle agreement or with involvement of an international institution in the execution of accredited national PhD programme is allowed.

Greece

Greek legislation provides the accreditation of joint PhD programmes by HAHE (Hellenic Authority for Higher Education) within a six months procedure from the submission of the self-assessment report. Accreditation criteria are rather detailed and refer to the teaching and research quality, the learning outcomes, the quality of teaching staff, the adequacy of infrastructure, equipment and services as well as the conduct of an annual internal evaluation procedure.

Spain

A joint accreditation ex-ante application needs to be submitted. This must be accompanied by the corresponding joint agreement in force, specifying: the university(s) responsible for the custody of student records, for issuing the degree, the enrolment system in place, the responsibilities of each of the participating universities within the consortium, etc.

Cyprus

There is not yet a decision from the Cyprus Agency for Quality Assurance and Accreditation of Higher Education (DIPAE) regarding the issue of accrediting joint PhD programmes from different EU countries. Frederick University has submitted a request to DIPAE to get clarification.

European Approach for Quality Assurance of Joint Programmes

Accreditation through the European Approach for Quality Assurance of Joint Programmes has been studied by the Alliance. However, it appears to be mostly oriented to the accreditation of joint Bachelor and joint Master programmes with standards not adapted to joint PhD programmes (e.g. learning outcomes of the programme, faculty staff background and facilities requirements regarding research).

Also, EU-CONEXUS partners show marked differences between theory and practice. In theory, the European Approach for Quality Assurance of Joint Programmes is available in all countries of the Alliance but in practice, it is not included in all national legislative frameworks (e.g. [Croatia](#), [France](#), [Greece](#)). Also, the European Approach for Quality Assurance of Joint Programmes is explicitly not applicable for PhD programmes in [Lithuania](#).

Recommendations

- To introduce a specific Self-Evaluation Report (SER) procedure for the accreditation of international joint PhD programmes aligned to the European Approach for Quality Assurance of Joint Programmes that should be developed and defined by the national authorities (EHEA ministers and QA agencies).
- To provide for automatic recognition of the European Approach procedure by all national legislative frameworks.
- To offer a maximum of flexibility - or at least the possibility of a short-term experimentation - to the Alliances by all national legislators in the European Higher Education Area in order to develop joint programmes. This flexibility offers a more realistic approach at this stage rather than achieving changes through a soft harmonization of national laws.
- To intensify the cooperation between European universities and national ministries in charge of Higher Education for establishing a common framework for joint PhD programmes between partner universities in European Alliances.

Awarding a Joint Degree

EU-CONEXUS partners are subject to different requirements for issuing a joint degree.

In some countries (e.g. [France](#)), it is possible in theory, to award a joint degree but in practice, the degree is very often issued between two universities or also two departments (e.g. [Greece](#)) only (i.e. double degree).

In [Spain](#) and [Lithuania](#), very specific requirements have to be met in order to issue a joint degree. If one of these two countries is the issuer of the joint PhD diploma, it might be signed only by the Rector of the Spanish University or by the Rector of the Lithuanian University, the field of study has to be indicated and only one logo (of the Spanish or Lithuanian University) can be included. In [Croatia](#), similar restrictions exist. The aspect of the diploma is defined by Regulations issued by the Ministry of Public Administration. However, in case of a Joint PhD, it might be possible to change it in order to issue a joint diploma.

Recommendations

An automatic recognition of the European Approach procedure for joint PhD programmes by all national legislative frameworks would be the fastest and most efficient way in enabling the issue of a joint PhD degree.

Defining standards for the double processing of examination could result in genuine joint PhD awards. It would be important to have a very clear process for determining progress and suitability for transfer and submission. A single case of disagreement between the examination outcomes in a joint programme may have significant impact on the future of the programme. The best way to avoid this is through a clear (more descriptive than currently used) criteria for progress and suitability for submission. This would also require a mechanism for support if the candidate is not meeting the criteria at either of these points in the programme.

As it is currently done in [Croatia](#), cooperation between European Universities and national ministries in order to find a model of common procedure that would enable awarding a joint degree and issuing a joint PhD diploma with a common template (all logos and rectors signatures) could help advancing the subject.

Fees or financing of the joint PhD programme

Again, a diversity of cases regarding tuition fees is encountered among EU-CONEXUS partners.

In [France](#), doctoral school annual fees are required, and the thesis must be fully financed.

In [Spain](#), students have to pay fees which are regulated by law in public universities. In the case of private universities, fees are not regulated.

In [Croatia](#), tuition fees are not obligatory for all study programmes, they are determined by each programme. Fees for PhD students who at the same time work at the University either as assistants or within a research project, are paid by the University/project. Tuition fees are obligatory for part-time students (those who do not work at universities or research institutes).

In [Lithuania](#), there are no fees if the PhD position is supported by the government. Full fees are to be paid by the students, if the PhD position is not supported by the government. It can be partly covered by the faculty budget, if the PhD student is a teacher.

In [Greece](#), PhD students do not pay fees. On the contrary, supervising professors are encouraged to secure a paid position for their PhD students as research assistants in a project. This may soon become obligatory through legislation.

In [Ireland](#), PhD registration fees are approximately €4000 per year. However, the majority of PhD students are funded, so this fee is typically built into the funding and paid directly to the institute from the funding agency. At the end of four years, if a student has not fully finished the programme, they will

not receive further stipend and are liable for a €500 continuation fee which covers one full academic year.

In [Germany](#) it is not possible to charge fees for a PhD programme/Doctorate as this is prohibited by law (Landeshochschulgesetz MV, § 6). However, administrative fees are allowed (usually €200-300 per semester).

Recommendations

Tuition fees are a difficult aspect to solve. In the event that the Alliance decides to ask for tuition fees to students registering in joint PhD programme, scholarships should be provided to them – at least to those students coming from countries in which no fees are usually asked.

A European Commission financing mechanism that would add onto the Marie Curie Doctoral Networks, with the support of national authorities, could be implemented to offer PhD scholarships, which would meet criteria of PhD student admission to the joint PhD programmes of European University Alliances.

Previous experience in Ireland has shown that minimum tuition fees and a waiver used in institutes where higher fees exist are best received. Alternatively, if programme dictates year long periods of mobility then fees are pegged to each receiving site.

Structural criteria or programme design

A variety of structural criteria exist within EU-CONEXUS partners:

In [Croatia](#), thesis is usually of 30 ECTS and the whole programme is 180 ECTS.

In [France](#), 150 ECTS are allocated to the thesis.

In [Greece](#), PhD programmes do not have ECTS.

In [Spain](#), PhD programmes do not have ECTS, but it is not forbidden to accord them.

In [Germany](#), structured PhD programmes with ECTS are still a rarity. Few universities are starting to develop such structured programmes, but even in these cases the thesis/dissertation accounts for most of the ECTS (e.g. 120 ECTS for the thesis, 180 ECTS in total). Normally, degrees are obtained in individual doctorates (5 years on average) during which candidates are employed at their respective universities.

In [Ireland](#), the thesis is nominally awarded 270 ECTS (e.g. DCU). This is in addition to any taught component.

Recommendations:

A harmonized framework for the design of Joint PhD Programmes (number of ECTS required for the programme with a nominal value for the thesis and the taught structured elements), should be established by the national legislators.

Without a general ECTS framework for the design of joint PhD programmes, maximum flexibility on a defined period for experimentation should be offered by national authorities to the European Universities alliances.

Joint admission procedure

EU-CONEXUS Alliance is aiming at offering a joint admission procedure to PhD students meaning that students would be registered in all partner universities with a harmonization and a unification of the registration procedures.

Recommendations

The creation of Doctoral Schools at the level of European University Alliances could act as a facilitator for joint admission procedures. European Commission should support/facilitate this process which might face legal constraints.

In response to the call for proposal for *European Universities – Intensification of prior deep institutional transnational cooperation*, launched on 30th November 2021, EU-CONEXUS has proposed to develop the common framework of its Doctoral School. This Doctoral School will be an umbrella and support structure, including representatives from all partners, to promote joint activities in PhD studies within the Alliance with agreed guidelines and procedures. A clear visibility will therefore be given on studies/courses available, research topics, supervisors and opportunities for doctoral students.

Additionally, a common legal entity can support the Alliance's Doctoral School. EU-CONEXUS is setting up EU-CONEXA, non-profit association under Belgium law, and acquire a legal personality. This should allow and ease the creation and implementation of EU-CONEXUS Doctoral School to promote joint activities in PhD studies.

Annexe 4

Recommendations on creating an inter-university “Smart Campus”

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Introduction: General objectives of the EU-CONEXUS Smart Campus

The EU-CONEXUS Smart Campus aims at developing a virtual pedagogical and administrative environment to help students, teaching and administrative staff of each partner institution of the Alliance share information and work together.

The main objectives are to provide common digital solutions to meet the intrinsic needs of EU-CONEXUS and, in the long run, to have all partners information systems interconnected to facilitate the communication between all services.

The initial list of deliverables included

- Inventory of the digital environment of each partner institution
- Action plan to build a Smart Campus
- Progress report on harmonization of the administrative information systems
- Implementation of a pilot system for exchange of administrative information
- Catalogue of digital educational resources available at partner institutions
- Implementation of a Virtual Library for educational resources
- Deployment of virtual desktop with common software environment
- Deployment of virtual classroom
- Feasibility study on implementation of a Student Profiling System

I. Getting started

As the project proposal has been developed in a very short time period and with a partner consortium that did not necessarily know each other well, in particular on the level of technical and information system environment, the Work Package on "Smart Campus" (WP7) was written largely without prior interaction between concerned staff at the partner institutions.

An inventory of the digital environment of each partner (D 7.1) has been created over the first three months of the project in order to define a detailed action plan to build the Smart Campus (D 7.2).

Main Challenges

a. Intercultural Communication

English being the second or third language for all partners of the Alliance (except one associated partner at the time), technical terms were not evenly familiar to everybody, even more so when speaking to non-experts about - for instance - the integration of digital information systems.

Communication about the way towards more harmonization was difficult to organise because of these language problems, but also because of an initial lack of common understanding of the objectives of the joint projects, varying levels of expertise due to the diversity of partner representatives' profiles and backgrounds in the working groups and semantic differences of terms used in communication. If this is particularly true for technical subjects, multicultural communication needs particular accuracy, and these first experiences have led to need to adapt the methods of collaboration, e.g. include intermediaries for better interpretation, move to more written exchanges, etc. in order to avoid misunderstandings.

b. Technical Heterogeneity

IT systems revealed themselves very heterogeneous within the Alliance. Moreover, it appeared that some universities subcontract most of their IT management system (or rely on national solutions) while others, internalized almost all tasks. The development of a common understanding on how to implement the Smart Campus and detailing the tasks took much more time than foreseen.

Recommendations

- Assuring a clear common understanding about the objectives of the joint project and the details of the basic joint workplan at the proposal stage of the project.
- Getting to know each other better through frequent interaction (also and at best by meeting physically) helps the partnership to gain a better understanding of each other's challenges and opportunities.
- Identifying the appropriate counterparts for collaboration on a certain technical subject is crucial for laying the ground for efficient work on common solutions.
- Having a functional internal shared workspace (MS Teams, Nextcloud) guarantees an efficient management, coordination and administration and facilitates continuous communication and collaboration with the exchange and co-development of documentation, virtual management of tasks, etc.
- Foreseeing sufficient time for preparatory activities (inventories, visits, benchmarking, interviews,..) reduces the risk of errors and misunderstandings and deciding on joint technical tools that might not be adapted to all partners technical environment.

II. Getting connected

The most ambitious goal of the Smart Campus Work Package was the initiation of a harmonized administrative information systems (D 7.3) and the implementation of a pilot system for exchange of administrative information (D 7.4) conceived as a backbone for the structured, integrated and long-term cooperation across all university missions set as the strategic goal of the European University Alliance.

This task started by the implementation of a common authentication system to access EU-CONEXUS common services. After much consideration and discussion between partners, it was decided to use Shibboleth and the eduGAIN Federation. That implied that each partner institution had to make their Identity Provider (IdP) eduGAIN-compliant.

Main Challenges

a. Intra-institutional adaption: eduGAIN

In order to use Shibboleth, all partners had to become eduGAIN-compliant, which is not something that the Smart Campus Unit could undertake by itself. The technical adaption and the changes needed could only be effectuated at each institution individually. For some partners who are not deploying/maintaining/controlling their own IdP (such as in Croatia where the IdP is provided at the national level), this task took some time as they needed to ask the supervising ministry for authorization.

b. Clarification of process of data exchange

The understanding of how to exchange data had also to be clarified. A common set of data/attributes needed to be defined, considering different aspects:

- technical issues: which data are required by the different services? which can be made available by all institutions?
- differences in practices: how can be made sure that data is provided in the same way by all partners?
- "ethics/GDPR-related" matters.

Indeed, GDPR issues appeared and significantly complicated the process adding rules and additional documentations to be filled.

c. Recruitment of IT personnel

The need for recruiting an Information System architect in charge of developing a framework for the harmonization of the information systems was foreseen at an early stage but has not been fruitful. The difficulties to define and find the right profile for a short-term period as well as to allocate sufficient budget for it were the main obstacles.

As solution, external services (CapGemini) were hired in order to study the possible harmonization of the information systems and define an architecture. CapGemini however showed a lack of knowledge of the European University initiative context as well as a lack of understanding of the existing problems in relation with this environment. Getting familiar with the vocabulary and terminology in use was also an issue with CapGemini as with the partner institutions.

The CapGemini feasibility study was made of 2 phases. The first phase was based on a detailed systemic and technical analysis of what systems, tools and procedures were in place at each institution in order to get a better understanding of the environment and of the main features which are common to all partners. The second phase (currently a work in progress) will analyze the best technical solutions to provide, taking into account budgetary aspects, so as to - hopefully- launch a pilot harmonization of the information systems at some partners of the Alliance, selected for their resources and budget.

Recommendations

- The complexity of the task to be carried out asks for high-end expert profiles, preferably available within a European University Alliance. An upstream analysis of the competences - and availability- needed for such task is a key element as well as the budget made available for that.

- In the EU-CONEXUS case, problems of recruiting (internally and externally) adequate profiles for implementing the pilot system for exchange of administrative information led to significant delays. The significant shortage of IT staff available, and in particular IT staff ready to be employed on usual contractual terms of public institutions in France (as in this case), which means significantly lower salaries than in the private sector, needs to be taken into account when planning the implementation of tasks.
- Technical (servers, etc.) and HR costs should be foreseen well in advance and budget planned accordingly in order to give oneself the means to achieve the ambitions.
- A major recommendation targeted at the European Commission and national public authorities would be to invest in common services which could easily be redispersed in each Alliance. Mutualization and pool of resources would hugely help in this type of project.

III. Creating a learning environment

European University students should be able to benefit from a shared digital learning environment that exploits the complementarities and synergies of the educational offers available at partner institutions.

Virtual Library

After having identified educational resources at each partner institutions and created a catalogue of digital educational resources available at partner institutions (D 7.5) a Virtual Library for educational resources (D 7.6) will be implemented.

The initial objective of this Virtual Library was to make digital educational resources, such as interactive online courses, open archives, research data services available for teaching staff and students, but also stakeholders from public and private entities. For students in particular, the Virtual Library should provide a pedagogical offer wherever and whenever they would want and also choose courses complementing their primary studies and those providing for the acquisition of special, professionalizing competences. The Virtual Library was also meant to serve the exchange of information about cultural events, mobility options, employment possibilities. A university-industry collaboration platform would be especially designed for collaborations projects between students and private stakeholders (project-based work, work-placements, internships, mentoring, etc.).

The EU-CONEXUS Moodle responds partially to these objectives by making recorded courses available to registered students.

Main challenges

a. Legal barriers for access of content

The implementation of the Virtual Library encountered various obstacles linked to access restrictions. Educational and scientific content is purchased by each partner university library following various formats and business plans: subscription modalities and terms depending on the number of students, flat rate subscription, single subscription by one institution only, or via a national consortium (e.g. Couperin).

The high prices and various formats of subscriptions to publishers as well as legislative constraints related to intellectual property make it difficult -if not impossible- to share such resources with all EU-CONEXUS students.

Recommendations

- The concept of a Virtual Library must be designed according to the target group that should be reached and their specific needs. At the BSc level, a Virtual Library is not much of interest (except for specific disciplines such as literature, philosophy, humanity, etc). However, it becomes more interesting and relevant at the Master level.
- Promoting publishers' subscription at a European University level does not appear financially interesting because some publishers tend to add up the number of students from all the Alliance institutions, which does not always make sense, especially for very specific types or themes of resources for which only a small portion of students would need access to. In such cases, one option would be to split and distribute a number of publishers' subscriptions per institution.
- While not ideal, sharing links to existing online resources can be a solution. Thanks to eduGAIN, relevant resources can be made available to all EU-CONEXUS users (no matter their status, nor whether or not they are enrolled in a EU-CONEXUS minor/program) by uploading them on Moodle in global or thematic open-access courses.

Virtual Campus

EU-CONEXUS virtual campus aims at offering connected conference/seminar rooms, virtual classrooms, virtual shared offices, common virtual desktops. The underlying objectives of the virtual campus are to provide to each student of all partner institutions the same work environment and all the needed tools to work remotely with any students of any institution, as they would do in a unique classroom.

1. Deployment of virtual classroom (D 7.8)

After having done a benchmark of shared resources by all partners was done, a common EU-CONEXUS Moodle as LMS (Learning Management System) was implemented. It was decided not to interconnect all existing LMS together but to create separately a new one, managed by the leader of EU-CONEXUS Smart Campus, La Rochelle Université.

As for the implementation of common virtual classrooms, the Agricultural University of Athens offered to provide a Big Blue Button platform (an open-source solution already used in their institution) for EU-CONEXUS and to link it to the EU-CONEXUS Moodle. Teachers could also use Microsoft Teams Visio conference system for their classes as all partners had an appropriate license.

It was agreed to post resources such as lectures, online courses, recordings of *Virtual Teachers Cafés*, international training for Teachers, etc. on POD, an open-source platform for video streaming provided by French ESUP Consortium and used by La Rochelle Université.

Launching the EU-CONEXUS joint learning platform with virtual classes using common tools (Moodle, Big Blue Button) marked a significant step in ever closer cooperation and engagement within a common vision for EU-CONEXUS. In January 2021, the two EU-CONEXUS Minor programmes ('Blue Economy and Growth' and 'Coastal Development and Sustainable Maritime Tourism') were launched on EU-CONEXUS Moodle.

Main Challenges

I. Technical difficulties

If Shibboleth solves the “authentication issue”, further information is still needed to configure the services depending on the users’ profiles. For instance, in Moodle, once a student (*resp. a teacher*) logs in, only the courses they are enrolled in (*resp. teaching in*) must be available to them. The problem is that this kind of information is not provided through Shibboleth. And since there is no common integrated information system at the Alliance level, sharing/getting relevant/up-to-date/reliable/accurate data turns out to be a difficult task, especially since we are relying – for now – on Excel files. Those files are exploited by semi-automatic processes to automatically enroll users to the rightful courses with the rightful role (student/teacher). However, we are regularly facing issues of “nonmatching” data between those provided by the administrators of the data (minor officers) and the ones provided by the IdP which induces errors in our procedures forces us to look for and fix the issue manually, which is time consuming.

II. Difficulties for users

Teaching staff: EU-CONEXUS virtual classrooms provide tools for online teaching that had not been used by all staff before. Teaching staff had to operate, more intensively, within a virtual learning environment and trainings for teachers had to be organized in order to extend their technical competences and enhance their techniques of online teaching.

Administrative staff (Minor officers): Administrative staff also discovered a new virtual learning environment. Being the entrance door to the diversity of problems encountered and brought up by all users (students and teaching staff), they needed to understand the main functionalities of this new learning environment.

Recommendations

- Organising an exchange of best practices: A monthly EU-CONEXUS “Teachers’ Café” was created that was open also to administrative staff, where encountered difficulties were discussed, and appropriate solutions developed. The sharing of best practices between partner institutions provided learning about new tools and progress in teachers’ competency in using these new instruments and tools, as well as software.
- Providing training for pedagogical innovation: Through two international teaching staff training sessions in « Developing Innovative Study Programmes and Courses » and « Virtual and Blended Teaching », teachers were introduced to innovative ways of doing synchronous and asynchronous teaching to a virtual classroom and to a variety of modern pedagogical instruments to be applied in the classrooms (research-based, problem-based, e-portfolio, etc.).
- Hiring a pedagogical engineer in digital technologies: Recruiting an EU-CONEXUS Engineer in digital technologies for education appeared to be necessary after few months of having implemented the common learning platform. This pedagogical engineer is responsible for supporting students and university actors in the design, implementation and evaluation of e-learning devices and projects, according to the strategy defined within the EU-CONEXUS community.

2. Deployment of virtual desktop with common software environment (D 7.7).

The deployment of a virtual desktop with a common software environment started with the deployment of common IT services centralized for EU-CONEXUS students (Moodle, Big Blue Button, Pod...). However, the virtual desktop appeared not to be the priority for EU-CONEXUS joint programmes. The idea behind the implementation of "Virtual desktops" was to make it possible for students and teachers to work with virtual machines providing a common digital environment, with the exact same software, services, settings, etc. Having such solution would have allowed all users to benefit from the same tools for projects/practical exercises no matter where the user is located, the OS of the device they use, the software to use for said projects/exercises (which may be fee-paying and/or require specific configuration).

While it may become a valuable tool in the mid/long term, it was decided, after consulting the teachers, relevant staff and students, that the deployment of a virtual desktop is not considered as a "priority" for the time being, considering the ongoing and upcoming teaching activities (no specific software is required in the existing courses).

Main Challenges

Implementing this solution would have introduced a few challenges to overcome since only La Rochelle Université has implemented such system so far. Providing it for the whole Alliance community would have required financial (*license fees*), human (*to deploy/maintain the system*) and material (*servers, disk storage*) resources. Even if there was a need for such solution, the Alliance might not have been able to afford it for all students/teachers.

Note: However, students of the future EU-CONEXUS Joint Master Programme in Marine Biotechnology to open in September 2022, will have – since they will be registered at La Rochelle University- a LRUniv institutional account which will make possible for them to use the existing "local" solution.

Recommendations

- This example of the virtual desktop illustrates that it is quite hard to imagine the actual and concrete needs, but also priorities and feasibility, in particular in the field of IT, when first writing down the application (ie. detailed description, specifications, and scope) for a European university such as EU-CONEXUS. Funding instruments should take into account the flexibility needed in this area for providing opportunities for adaption and modifications needed in the course of project implementation.

3. Anti-plagia softwares

It was decided to implement an anti-plagia software in the framework of EU-CONEXUS Joint Master Programme in Marine Biotechnology. Compilatio anti-plagia software has been chosen and will be used as from September 2022.

Main challenges

Difficulties are related to the users (teachers and professors) and how much they can get familiar with this tool beforehand. A new version of Compilatio software has just been released and its

implementation at the EU-CONEXUS level should be done before summer break 2022 (depending on the timeline, the Moodle plugin will be installed on the 2021-2022 instance or the 2022-2023 one).

Recommendations

- Benchmarking: For this project, we discussed about the "similar" tools that were being used in the different institutions so we could compare solutions, learn from each other's experience and eventually agree on a common tool. This is a process that should be done whenever applicable: listen to your partners' feedback/reviews, identify strengths & weaknesses of each solution and overall, trust and rely on the partners' expertise to make the right call.
- Involvement of end-users: It is also important to involve end-users in the process to better understand their needs and make sure the chosen solution meet said needs.

IV. Providing support

1. Implementation of a helpdesk/ticketing solution

Since the beginning of the project, all IT problems have been submitted and managed through e-mails, using a "helpdesk" alias, which makes it hard to keep track of the ongoing issues (and their resolution progress), to reach out to the relevant technicians to solve those issues.

With the increase of digital services, support requests are becoming difficult to manage and a helpdesk solution at EU-CONEXUS level is considered essential. The implementation of a helpdesk/ticketing solution will improve the end-users' support and experience, increase responsiveness and efficiency of the people managing the digital services and processes of the Alliance, create a knowledge base to give tips/answers about the most common issues, automate some procedures, etc.

Main challenges

Much like all technical solutions to implement at the EU-CONEXUS level, the main issues are to define the scope and use cases that should be (and should not be) tackled with this tool and to collectively decide on one solution that fit everyone's criteria/needs.

While this helpdesk/ticketing solution mainly aims at helping managing "IT/technical" issues, it would be a significant improvement to widen its scope and use it to address other needs such as administrative matters. To do so, we need to better understand administrative procedures, use cases, needs, etc. which tends to be difficult/time-consuming since we need to get in touch with the "right" people, explain the what/why/how, etc.

Recommendations

- Think of support services and staff support services from the outset of the deployment of tools: While the "helpdesk" alias has been quite helpful, we feel like we should have worked on a more sophisticated/dedicated solution earlier on to gather and better manage all users' requests. Having a ticketing/helpdesk solution right from the start would have been beneficial to everyone: the students and teachers (to handle issues with Moodle/BBB/...), administrative staff (to notify updates in student enrollment for example), internal/EU-CONEXUS-dedicated people (to

request new services, to update the alliance aliases, to gather new needs/expectations from the community, etc).

2. Multilingual and Accessibility Support Services (Task 7.3)

The objectives initially set were to work on digital support schemes (automatic translation, subtitles of online courses, ...) to enable teaching and studying in a multilingual environment, which should be integrated in the Virtual Library. These tools should automatically translate documents in several languages and also convert them in alternative formats in order to increase their accessibility for impaired people (audio file, Digital Braille document, ...).

Two tools were tested: 'Authôt' for English subtitling of courses and BlackBoard Ally plug-in for documents translation and conversion in various formats.

Authôt-Pilot for subtitling of courses in English

The subtitling service 'Authôt' was tested on an online course ("Ecological psychology") taught by the University of Zadar in Croatia as part of the EU-CONEXUS Minor 'Coastal development and sustainable maritime tourism' and using the BigBlueButton (BBB) platform. English subtitles were to be provided on the recording of the first four course sessions of the spring semester 2020/2021.

Main challenges:

Technical problems linked to the format of the course recordings provided by the BBB server considerably slowed down this pilot test. Recordings need to be provided to Authôt in a HD quality format and had to be converted beforehand in a mp3 or mp4 format.

A solution was finally found by implementing a special plug-in on the BBB server but at this time of resolution of the problem, the Spring semester was over, and students could not benefit from the translation. No feedback could be gathered on how helpful the English subtitles had been in the students learning process, because of the significant delay of the pilot. In view of budgetary constraints, it was decided, for the ongoing academic year, not to pursue the service test.

— BlackBoard Ally plug-in

The Blackboard Ally plug-in on EU-CONEXUS Moodle and EU-CONEXUS Website would allow for automatic translation of documents or web pages into different languages (without proofreading) as well as their conversion into various formats (audio file, electronic braille, etc.).

A test implementation was conducted on the EU-CONEXUS Website: web pages were translated at random from English into French, German and Italian and converted into MP3 format.

Main challenges

The accuracy of the translation proved to be irregular. For some pages, the translation was very bad. At a first stage, during the translation process, the grammatical construction of the sentences was lost and subsequently the full meaning of the sentence. This error was corrected by BlackBoard Ally but the accuracy of the translation remained at a general level unsatisfactory.

The conversion from a Word format into an audio file was also unsuccessful as the conversion took into account all hidden fields/scripts existing on a web page, which made the resulting mp3 much longer than it should have been considering the relevant content of the "translated" web page. For example,

a web page with 5 lines of actual text resulted in a 20-minute long audio final, containing way too many incomprehensible/useless readings.

It was decided to stop the pilot and BlackBoard Ally plug-in was not tested on EU-CONEXUS Moodle.

Recommendations

- Providing (costly) proof-reading of academic translations is essential: Providing translation or subtitles of online courses in an academic environment is a challenge. It is important that students being in a learning process, get an accurate translation and therefore the proof reading of the translation is very important. Technical vocabulary must also be translated properly.
- Avoid automatic translation of online courses: Retrospective subtitling on course recordings has to be done over a rather short period of time after the course has been given, as well as proofread, in order for the students to benefit from it in their learning process. Automatic translation should be seen as a plus to improve -occasionally- general understanding of content but not as a tool on which to base a learning process.

VI. Enabling Collaboration

EU-CONEXUS staff community members asked for a collaborative IT environment.

Main challenges

A variety of needs were identified, but a shared vision of what the different users wanted was not found. This made the final decision on a technical solution difficult. It appeared as if a *Teams* alike platform integrating several tools (chat, video-conference, document sharing, ...) would meet most expectations. However, going with a common Teams/O365 is -for now- out of the question because of GDPR-related (*Microsoft = US company*), technical (*how to manage users' authorization/management*), financial (*this solution is quite expensive*) and strategic/political (*who should be allowed to use it?*) issues. On the other hand, no other user-friendly and all-in-one/integrated platform has been identified.

Recommendations

- Selection committee: It would be useful to establish a panel of different users in order to identify and list all specifications of this collaborative IT environment.
- A specific budget must be allocated for acquisition and maintenance of such a platform.

VII. Conclusion

1. Further development of the Smart Campus needs more services to adapt EU-CONEXUS learning environment of joint programmes to the users' needs.
2. Some partners need more consultancy services to develop this Smart Campus and to start harmonizing their systems.
3. More budget is necessary to conduct all tasks.
4. Specific IT profiles have to be recruited.
5. Pragmatism and efficiency have to be favored with prioritization of actions and tasks. Working on innovative/never-seen-before projects is exciting and inspiring. However, more "down-to-earth" - yet more practical- solutions should not be forgotten. When writing down the application for the Call for Proposal, actual end-users should be involved to make sure the identified projects are actually required/relevant and meet a real need (in the context/scope of the Alliance) and that those projects will eventually help them achieve/optimize their activities/tasks in their daily life.
6. Resources and budget have to be allocated to match ambitions: A seemingly basic rule that it is especially true in IT (license fees, consulting/support services, HR are not cheap!)
7. The rightful people have to be identified and be involved throughout each subproject.
8. Mutualization and collaboration have to be encouraged:
 - a. Within Smart Campus:
 - learn from all partners' experience & feedbacks,
 - get the most out of their expertise
 - b. Within the Alliance:
 - listen to the functional experts in other WPs/WGs,
 - make sure there is a common understanding amongst the people involved in the process,
 - even if time-consuming, get formal decision whenever necessary
 - c. Outside of our own Alliance:
 - reach out to other Alliances members to hear about how they tackled this or that issue
 - try to promote collaboration between alliances
 - ask for support and pool of resources/solutions at the EU level