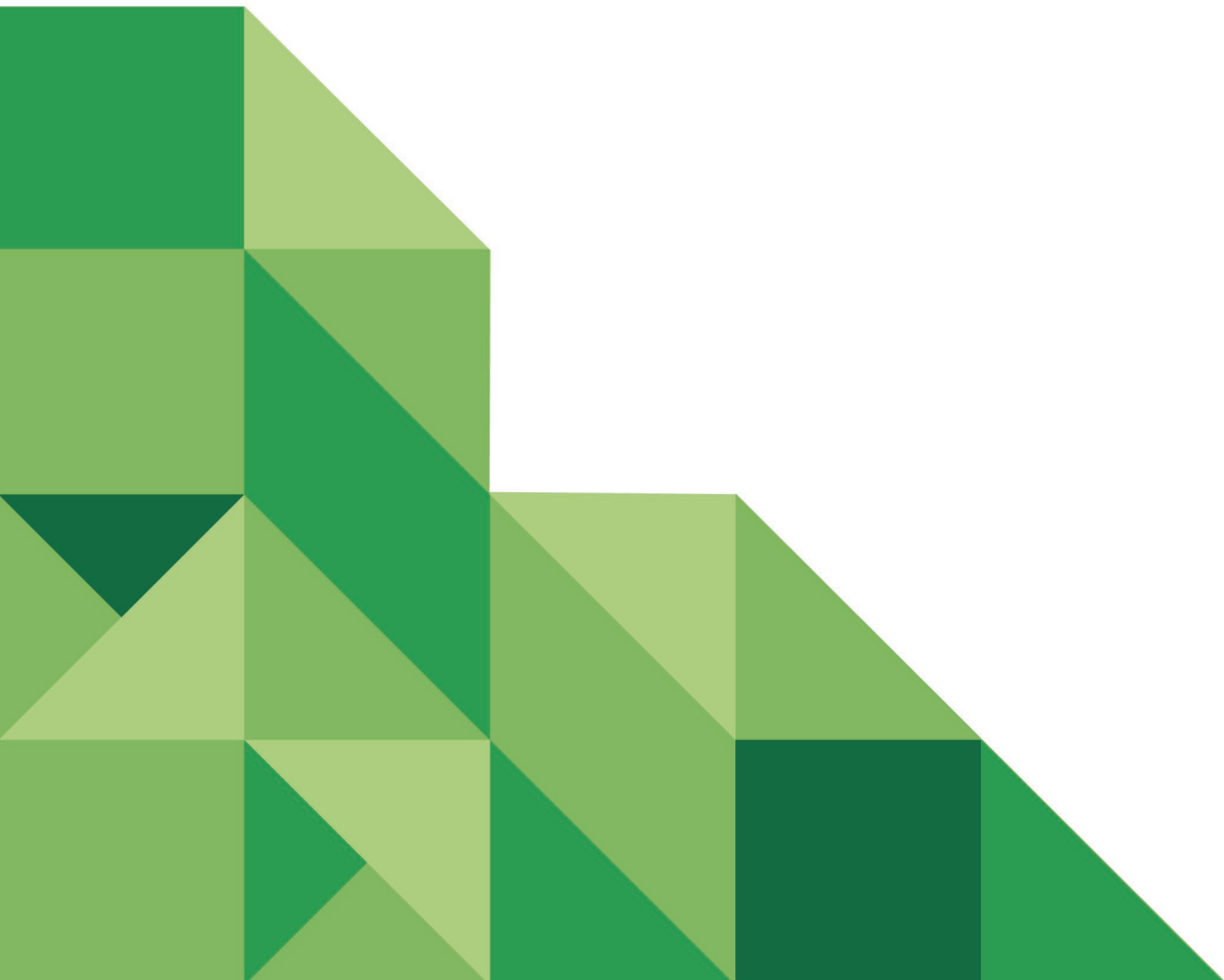




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# **The European Master in Active Ageing and Age-friendly Society (EMMA)**

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The European Master in Active Ageing and Age-friendly Society (EMMA) –project



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# 1 About EMMA

The European Master in Active Ageing and Age-friendly Society (EMMA) was developed by researchers and educators from higher education institutions in Finland, Austria, Greece, Ireland, Portugal, and Slovenia. The goal was to develop an interdisciplinary, future-oriented, international master's programme providing a wide range of professionals with tools for systemic active ageing promotion for the continent's benefit. The project was supported by funding from Erasmus+.

The EMMA project addressed the opportunities and challenges of the ageing population in Europe by developing an interdisciplinary European Master in Active Ageing and Age-friendly Society. The master's programme enable future graduates to broaden their knowledge and develop skills for creating an inclusive society and meaningful active ageing promotion.

Higher education institutions in Finland, Austria, Greece, Ireland, Slovenia, and Portugal completed the international and interdisciplinary consortium. With expertise from the fields of psychology, technical sciences, social work, geriatrics, physiotherapy, and related subjects, the consortium worked to create knowledge and innovative good practices both for and within the master's programme. Student intake will commence in 2025.

In creating this program, the project aimed to identify the necessary competencies for professionals while using the concepts of healthy and active aging and age-friendly society. The interdisciplinarity of the project team was reflected in the curriculum of the master's program, which aimed to create competent professionals able to innovatively solve the challenges of aging and aging societies, at local, national, and European level. The intention was to create a long-term, successful, and widely recognized master's program with a diploma recognized and signed by all partner institutions. The EMMA master's is designed with applicability and compatibility in mind, to allow professionals from many fields who recognise the need for expertise in healthy and active ageing and age-friendly society to get involved.

## 2 Background

The need to develop the EMMA program arose from the recognition of the rapid ageing across whole Europe. The recognized lack of practical tools and holistic knowledge and skills to address the challenges was the impetus for the project. The European Commission's policy on Active and Healthy Ageing aims at helping people to stay in charge of their own lives for as long as possible and where possible. Addressing the challenges of the fast-ageing population is an integral part of the national policies in all the project partner countries. Older people can contribute to the economy and society, if society recognizes and facilitates this participation. Therefore, competent professionals are needed to work for this aim. A holistic exploration of the phenomenon of the ageing population and its future impacts in societies is crucial, and higher education must take an active role here. The EMMA program was developed to address these issues using transdisciplinary, transferable and integrated knowledge and skills mix in the development of the EMMA program and the curriculum for the transdisciplinary student cohorts.

### Objectives

The EMMA program will enable future professionals from varied relevant backgrounds and disciplines to develop interdisciplinary knowledge, skills, and tools to systematically build inclusive societies for the benefit of their own societies and the whole of Europe. The all-encompassing ethos of active ageing takes into consideration the person's entire life course with all its dimensions. The concept of age friendly society is seen as a means to create environments and living conditions that are truly age-friendly, by developing opportunities for citizens of all ages to influence their own lives and enabling participation. This requires actions in many sectors and actors with wide range of knowledge and skills. The EMMA program aims to educate these actors by providing a fully on-line, English language multi- and transdisciplinary learning experience in the context of active ageing and age friendly society. This program engages experts and teachers from the six partner universities, employs state of the art on-line learning and teaching approaches, and offers active and student-centred learning experiences to students across Europe.

## Participating organisations

The EMMA partnership was based on previous collaborations between the organisations and their successful results. Most of the members of EMMA consortium have already collaborated in EU projects such as the ELLAN (LLP, 2013–2016), DigiNurse (Erasmus+ Strategic Partnerships) and SENDoc (NPA programme) projects. The ELLAN project, European Later Life Active Network, implemented in 26 EUR countries, developed a framework of competences for people working with older people. This framework fed into the EMMA curriculum development where a profile for future professionals in the area of active ageing and age-friendly society will be created. The DigiNurse project developed a digital model for self-determination of chronic diseases and supportive training models and tools. SENDoc in its turn developed applications of technological innovations for rehabilitation of older people. In addition to these EU projects, three of the partners (Finland, Austria, Portugal) are already collaborating in online teaching within Karelia's Master programme on Active Ageing.

**Table 1.** Participating organisations.

<b>University</b>	<b>Country</b>
Karelia University of Applied Sciences	Finland
Carinthia University of Applied Sciences	Austria
National and Kapodistrian University of Athens	Greece
University College Cork	Ireland
University of Lisbon	Portugal
University of Ljubljana	Slovenia

The EMMA idea and partnership development was initiated by Carinthia UAS and Karelia UAS, modelling on the Karelia Active Ageing master program which has been running successfully since 2015, first in blended learning mode and then fully on-line since 2019. The two partners explored their own knowledge and skills areas and networks and contacted the potential partners with interest and expertise in active ageing, inviting them to join in the discussion of creating a European interdisciplinary master program around active ageing agenda. Each of the six partners have diverse profiles and rich expertise and experiences in active ageing and bring in a wide range of knowledge and skills in different discipline areas.

The partner universities interest in active ageing and their current profile was considered when choosing the partners:

- Karelia UAS has been offering a master level program on active ageing to a range of health and social care professional, first in blended learning mode and

since 2018 totally on-line. One of the key development areas at Karelia is focused on ageing phenomenon and the Karelia Centre of Excellence in Active Ageing , KAFS, is closely collaborating with the EMMA project.

- With its Institute for Applied Research on Ageing, established in 2016, CUAS addresses the challenges and supports the opportunities of an ageing society, by promoting application-oriented research and transdisciplinary approaches in the context of active ageing.
- The Interdisciplinary Centre for the Study of Human Performance at the University of Lisbon promotes multidisciplinary research synergies by applying multidimensional and bio-psychological models to identify and understand human behaviour and performance and their optimization in different contexts, considering the lifespan.
- University College Cork offers several master level gerontology oriented programs, e.g., MSc in Older Person Rehabilitation and Postgraduate Diploma in Gerontological Nursing.
- The specific activities of the National Kapodistian University of Athens related to this project are teaching gerontology nursing at undergraduate level, community nursing at both under and postgraduate level, as well as research on the health care of the ageing population.
- The Faculty of Social Sciences at the University of Ljubljana, builds its academic excellence through outstanding theoretical and empirical research, extensive scholarly publishing, and a successful transfer of research results in curricula.

## Activities

The process of creating this programme was guided by a series of intellectual outputs, each building on the process and results of the last:

### Output 1

The needs analysis focused on potential student learning needs and relevant policies in healthy and active ageing. The knowledge generated was gathered by scoping review and survey of the broad range of stakeholders, as well as establishing a policy repository representing 10 EU countries.

### Output 2

The curriculum development established the framework and learning approaches of the EMMA master's programme. This involved consultation with European, national, and institution requirements and collection of best practices from the literature and partner institutions.

### Output 3

The development of the core modules relied on the results of the needs analysis and took place in close collaboration with the next intellectual output.

## Output 4

The elective modules took a similar developmental route to the core modules. The needs analysis and consortium-wide discussions helped to determine whether topics are deemed core or elective.

## Output 5

E-learning platform and tools is the basis for module development by creating a solid, systematic, clear, flexible, and transparent framework. There was careful exploration of current practices and use of e-learning platforms, and the skills and competences of online teaching in each partner institution.

## Output 6

The creation of the validation and quality assurance framework included the development of reference quality indicators, a methodology for reviewing educational content and process, and a tool kit for internal and external review of the programme.

## Output 7

The joint degree and accreditation framework was created in close consultation with the European Approach for Quality Assurance of Joint Programmes (EQAR). The consortium collaborated to collect comparisons of experiences and policies, review national legal accreditation frameworks, and agree on definitions of the organisational structure and responsibilities. The final output was a policy recommendation on the accreditation of online joint degrees to inform legislation at national and EU level.



## 3 Description of the EMMA project

The EMMA project took up to address the challenges of the fast-ageing Europe and developed an interdisciplinary, future oriented, international, on-line English language master program. The EMMA program provides future professionals knowledge, skills and competences to promote and develop age friendly societies to facilitate active ageing in a positive, ethical and sustainable resource-wise manner. The EMMA program enables the future graduates to address the challenges of ageing Europe in a holistic and interdisciplinary manner.

The goal of the EMMA project was to develop and produce a curriculum for the European Master in Active Ageing and Age Friendly Society provided on-line in English language. The aim was to prepare and write the curriculum to be ready for accreditation and to be offered in partnership by the project consortium for a wide range of students across Europe. This goal and aims have been achieved and the curriculum is ready for implementation.

The future graduates of the EMMA program will be able to communicate the promotion of active ageing and age friendly society across different paradigms/disciplines. The learners in the EMMA program will include professionals from different disciplines, who will be able to apply, transfer and co-create new knowledge, competences and tools into diverse contexts. They can also apply transversal skills effectively in all their actions. The future graduates can use interdisciplinary and cross-sectoral approaches and methods and transformational leadership skills at local, national and global level. In addition, they will be able to design and implement research and create innovations in active ageing.

The EMMA program can be offered in a format of single, double or multiple or joint degrees in collaboration with all or some of the consortium partners. The individual modules or module streams are also presented in a way that they can be offered independently e.g., for continuing learning activity to bridge the identified knowledge and skills caps or as part of other degrees.

The EMMA team produced also **several publications** to disseminate the results of the initial research, which supported the development of the curriculum, informed the progress and processes of the EMMA consortium work, presented reflections on the achievements and collaborations in the form of blogs.

The flexible nature of the online EMMA program provides resource efficient, easily reachable and applicable education model that also fosters accessible internationalisation of the higher education. Other practitioners in the higher education can benchmark against the EMMA program and benefit from its model.

The unique approach in the EMMA program is its interdisciplinarity and age friendly society. The focus of the curriculum and phenomena to be addressed, cross traditional science and discipline boundaries. This approach complies with the phenomenon under study, since active ageing and age friendly society concepts and related issues concern a wide range of disciplines, professionals, researchers, educators, stakeholders and other actors.

In the initial research to currently available master programs concerning ageing, international and national, it was found that most programs focus on care and health provision, rehabilitation and some purely technological solutions for the challenges of ageing population. The EMMA project investigated and explored the link and interest of different disciplines to active ageing and age friendly society and integrated those ideas into the curriculum development.

The future graduates of EMMA program include professionals from different disciplines, who will be able to communicate the promotion of active ageing and age friendly society across different paradigms/disciplines and apply and transfer new knowledge, competences and tools into diverse contexts.

The flexible nature of the online EMMA program provides economical, sustainable and easily reachable learning forum that also fosters accessibility and internationalisation of the higher education. This also complies with the ethos of internationalisation at home and reducing the carbon footprint.

The clear and methodical modular structure of the curriculum allows learners to think beyond the classic Master's degree limitations. The EMMA program offers learning opportunities and forum for both degree and continuing education studies. The EMMA program promotes life-long learning and enables upgrading and upscaling of skills and competences throughout the career. The credits earned in this program correspond to the ECTS level 7 learning and can be accumulated to match the learners' requirements and thereby opening students opportunities for flexible learning that can be accommodated in their own professional career and journey.

EMMA program can also open up a completely new education market drawing students and teachers from all over the world to a join the program. In the future, EMMA

can be part of a global, multidisciplinary research and learning hub on active ageing and age-friendly society.

The consortium is enriched by the different histories, foci and organisation models ranging from old science universities with large student population to new applied universities with fairly small populations. This is seen as an innovative strength of this consortium. The traditionally established research driven practices can be moderated with new innovative, flexible, community embedded activities by newer and smaller universities of applied sciences.

## 4 Project Management

The EMMA project design and planning process was based on open and equal participation from the start and followed the same principle during the three years working process involving all the partners.

The consortium had three preparatory tasks at the start of the project to continue building a mutual understanding of the process, shared vision of creating the outcomes and future action, to plan the activities for the outputs and the frame for the budget.

Financial arrangements were agreed according to the principles set out in the project grant agreement and related partner agreements signed between the project coordinator and each partner organisation.

Each EMMA partner had an individual budget share according to their responsibilities and tasks. The staff days are interlinked with the intellectual outputs. All the partners were able to allocate their budget to the tasks when designing their contribution to ensure a reasonable allocation of their staff days between the outputs. The budget share of the mobility and project management followed the ERASMUS program rules and is based on distance, duration and role in the mobility activity.

Each partner had a named coordinator who was responsible to ensure that the budget was kept up to date, working hours for each member and the whole team were recorded timely and correctly and all the allowable expenses were checked and approved according to the ERASMUS requirements. EMMA budget control and time management were ensured with a careful follow-up of the project GANTT chart, which shows the time schedule for the output workplans. The detailed timesheets show the staff day allocation matrix for each output. These provided adequate tools for monitoring the project time schedule and budget plan. The documentation covers all the intellectual outputs and the tasks in each and allows the monitoring of the human and financial resources throughout the project to ensure the achievement and quality of all the results.

The processes of the development of the outputs and the deliverables were supported by the project coordinator team and followed the principles of sustainability and follow-up and dissemination activities. All the seven outputs had a named lead- and co-lead, who facilitated the development of the outputs and coordinated the teamwork. The outputs formed a logical and timely chain of development (background research-framework-content-tools-accreditation), where one element supported the next. Processes run simultaneously and in synchronised sequence, as they were mutually informing the development of the other. The planned timing of the different steps, tasks

and events was followed as a whole, but some adjustments were made due to the Covid-19 pandemic preventing face-to-face meetings. Some tasks took longer to start and complete, and the timescale was adjusted with mutual agreement of all partners and working groups.

Consortium and coordinator meetings were held monthly or every two months via TEAMS, which was the project platform for meetings, documentations and on-line discussions. Working group meetings of the seven IO groups and different tasks, e.g., publications, social media, quality monitoring were also held regularly via TEAMS or ZOOM.

## Monitoring and Evaluation

EMMA budget control and time management were ensured with a careful follow-up of the project GANTT chart, output plans and staff day allocation matrix. Each output was monitored based on the planned and completed tasks, the planned and actual workdays per partner. A self-assessment criteria were used: implementation of planned actions; implementation of planned methods; availability and sufficiency of resources; realisation of schedule, the results, internal communication, distribution of work and responsibility. The scale 1-5 (unsatisfactory - excellent) was used.

Karelia as the project coordinator had then main responsibility for budget control and time management with support of the EMMA coordination team. It assured that the relevant management issues were in the meeting agendas, minutes of all the consortium and coordinator meetings as well as detailed notes of the tasks and activities in the TPM and other events and further follow-ups are recorded in the TEAMS folders. In the follow-up and monitoring process the consortium coordinator group was involved as a six-member EMMA coordination team.

The internal evaluation process had three main elements: coordinators' reflections on the milestones, follow-ups from the output teams and feedback from the participants after each workshop event. The follow-ups from the output teams were discussed in the on-line meetings and TPMs, and any modification were agreed and implemented.

Quality assurance applied Deming's cycle, Plan-Do-Check-Act, and it was holistic and participatory. The working of the project consortium was evaluated on a regular basis with milestone follow-up and quality assessment. This ensured the quality of the results and coherence of the actions.

The QA sub team organised three reflective QA workshops in May each year and conducted semi-structured interviews with all the partners one by one. The results were

reported back to the coordination team and whole consortium.

The key questions of the QA process were: What have we achieved so far? How do we perform ourselves? What needs to be modified to ensure successful future proceedings? How do the results change the context and practitioners? What is the long-term impact of EMMA?

The QA process was elaborated using the following main tools: survey, self-assessment tool and group-assessment tool. The self-assessment tool included 29 indicators addressing six key themes: professional development, regional and international networks, multicultural teamwork, virtual learning technologies and pedagogy, curriculum development and research-development-innovation (RDI) competences. Each of the indicators was evaluated on a scale of 1-5.

The group-assessment tool included 48 indicators addressing nine key themes: reflections on the project, on the project plan, on the project management, on the estimated/obtained benefits and impact, on monitoring process and tools, on feedback to the project coordinator, on development suggestions and on best practices.

The feedback at the end of each workshop or activity was collected via a questionnaire reflecting the primary areas of output development and concrete outcomes.

## 5 Outputs of the EMMA project

### Student learning needs and relevant policies in Active Ageing

The proposed Master in Active ageing needed to be informed by relevant policies in the partner countries and in Europe, and to address the learning needs of the target students. Although there is significant literature on healthcare professional education needs, much less is published specifically around learning needs related to Active Ageing and Age-friendly Society, and thus new data to inform the EMMA program development was needed. The target groups for this output were potential students, stakeholders and educators– both in informing the output, and in knowledge transfer and exchange around the output. This IO1 was innovative in generating novel and robust data on i) existing learning offerings on active ageing and age friendly society; ii) mapping the learning needs across multiple countries, using a common online survey. The planned output of the IO1 was primarily to inform the content and delivery of the proposed EMMA program, but a wider aim was to raise awareness of the need for a range of professionals to enhance knowledge in active ageing, and in highlighting the benefits of inter-disciplinary learning to support active ageing.

The findings of the research in this IO1 will be highly transferrable to other countries in Europe, and the methodology can be easily adapted by other groups for other topic areas or student groups. The protocol for the scoping review and the results are published in open access media. The survey results are also published in an open access journal, and the survey itself is available on the project website for others to use or adapt. In this IO1, a policy repository was compiled and shared with all partners to support up-to-date policies relevant to other IOs and to include as appropriate in the learning modules This was indexed by learning theme (e.g., climate; human rights, etc) and organized by country, for ease of use by those developing the module curriculum and content. The documents need to be updated by partners from time to time when developing and updating final module content, and it is a useful resource and is available publicly on the project website <https://www.emma-master.eu/>

## Curriculum development: framework and learning approaches

A clear and justified curriculum framework is the starting point of every program development. The curriculum development for EMMA program has been based on solid pedagogic principles, mutual understanding, and ethos to produce a current, relevant, and flexible programme that all the partners can develop and utilise in their own HEI. The core and elective modules have been developed to fit flexibly in the framework following the European and national requirements for themaster 's level programs and their place and space in the Higher Education (HE) system. A thorough background analysis and synthesis of the current frameworks and pedagogical principles and practices of each partner university was conducted to build the development of the new EMMA program. Both EU level and national directives as well as the requirements and recommendations by the partner HEIs were reviewed and reported.

Correspondence between European Qualifications Framework (EQF) and National Qualifications Frameworks (NQF) of the partner countries concerning ECTS level 7 education was analysed. This analysis and synthesis ensured that the EMMA program fulfils legal and educational requirements of every partner. Current best practices of learning approaches and pedagogy for multidisciplinary, multinational online learning at master's level were collected by the partner universities. The best practices were analysed and utilized in the planning of the pedagogical framework. Pedagogical workshops and training were offered to the teachers of the partner universities, focusing especially on constructive alignment, student-centred learning, and online e-pedagogy.

To develop a framework for the whole curriculum, pedagogical prerequisites, intricacies, and peculiarities of teaching on-line, were explored from the partner institutions' perspectives and their national contexts. This formed the bases for innovative application of pedagogical approaches and tools. The requirements for implementation of online curriculum were analysed in close co-operation with the IO5. Different curriculum framework models were explored and discussed and then adapted to this development, emphasizing the cross national European wide new EMMA program. Based on the above explorations and syntheses, the framework for the programme was designed. The assessment framework is covered in the curriculum framework, and it is based on learning outcomes according to the principles of constructive alignment. The curriculum framework gives a clear blueprint to the grant offering body, partner universities, teachers, prospective students and for quality assurance, validation, and accreditation processes.



## EMMA Core Modules

Based on the extensive expertise of the members of the consortium, the need for a truly transdisciplinary education at the European level that goes beyond gerontological or geriatric care-focused degree program was identified and addressed when developing the core modules.

The EMMA program is based on the most current national and international strategies and policies related to the ageing society. The curriculum has been developed with the approach that looks at older people from a resource-based point of view, rather than being limited to the traditional deficit model. Combating ageism as one of the foundations of curriculum development cannot be successful without this shift in thinking. This course is aimed at students from different professional backgrounds, as ageing affects everyone, not just health and social care professionals or policy makers, but also e.g., computer scientists, civil engineers, economists, architects and others who can contribute to age friendly society.

The entire programme comprises 120 ECTS, divided into core modules, including the master thesis, core of choice and elective modules. The core modules comprise 60 ECTS and are divided into 3 modules: Transdisciplinarity in Active Ageing (20 ECTS) Research Methodology in Active Ageing (10ECTS) Dissertation/Master's Thesis (30 ECTS). The core modules serve to create the basis for a common knowledge base in the field of active ageing, transdisciplinarity and intercultural cooperation. In addition to the core modules, the following core of choice modules have been developed: 1) Physical, Psychological and Cognitive Ageing Processes (5 ECTS) 2) Social Aspects of Active Ageing (5 ECTS) 3) Promoting Healthy and Active Ageing (5 ECTS) 4) Technology for Active and Healthy Ageing (5 ECTS). Students choose 3 out of 4 core of choice modules.

The objectives of the core and core of choice modules are the following:

- 1) to enhance students' knowledge, professionalism and skills in transdisciplinary and intercultural collaboration and in researching, developing and integrating theory and practice in the context of active ageing and age-friendly society;
- 2) to acquire knowledge and skills to promote a culture of enquiry and critical thinking about best practices in active ageing and age-friendly society; to plan and implement research or research-based development/application projects on active ageing and age-friendly society issues; design co-creation approaches in the development of research strategies;
- 3) to provide opportunities for students to engage in and reflect on rigorous independent research or research-based development work in the context of contemporary active ageing and age-friendly society theory and practice

- 4) to understand the physical, psychosocial and cognitive changes that occur with ageing in the context of health, illness and adaptation;
- 5) to understand the social dimensions of ageing, key concepts and theories of social gerontology and related issues of social inequality, human rights and empowerment
- 6) to train professionals to understand the importance of health promotion for successful ageing and to use evidence-based interventions to achieve this
- 7) to understand the basic principles and use of state-of-the-art technology to support active and healthy ageing.

The core and core of choice modules are based on a transdisciplinary approach, not only in the development of the content, but also through the collaboration of faculty from different disciplines within each module.

## EMMA Elective Modules

As this degree programme targets students from multiple professional backgrounds, the EMMA program caters for different professional profiles. In order to meet these diverse needs, we developed six elective modules:

- 1) Advanced Technology and Ageing,
- 2) Advanced Skills in Research and Entrepreneurship,
- 3) Ecological Sustainability and Ageing,
- 4) Economics and Ageing,
- 5) Advanced Health Promotion, and
- 6) Advanced Social Dimensions of Active Ageing.

Based on the needs analysis, as well as the curriculum framework and the core modules developed, these elective modules consist of 15 ECTS each, divided mostly into 3 learning units of 5 ECTS each (with the exception of No. 2) Advanced Skills in Research and Entrepreneurship which has 25 ECTS from which students chose 15 ECTS.

Depending on the choice of core of choice and elective modules, the students will accumulate an individual set of skills and competences, to correspond and expand their professional and discipline background. Each core, core of choice and elective modules had a small team to prepare the syllabus led by one of the partners. The template for the module description was developed together and all the modules were discussed and finalised in the consortium meetings and workshops. The final document of the curriculum framework and all the module outlines was compiled and

the presentation harmonised. The practical implementation of the program and the teaching of different modules will be confirmed after the project by the partners.

In the teaching approach of EMMA program the role of the teacher is seen as a mentor/facilitator, supporting the students in recognizing and expanding their acquired competences and transferring them into the context of active ageing and age-friendly society.

Learners unable to participate in the whole EMMA master's degree program may take individual modules of interest that will help them to broaden their view on the topic of active aging. In this way, it is possible to facilitate life-long learning and expand the knowledge of transdisciplinary topics regarding the aging society to the world of employment. For every successfully completed module, participants will receive a certificate, which will reflect their learning. Learners who have successfully completed individual modules may be able to later enrol for the full program with the credits accumulated from single modules counted towards the EMMA program or other degree.

This type of stackable degree model will make the curriculum flexible and attractive. As the EMMA master's program will target students from multiple professional backgrounds a broad variety of elective modules were developed. Tentatively, the elective modules will consist of 30 – 45 ECTS, divided into 6 – 8 modules of 15 ECTS each. Among these 6-8 modules each student will be able choose 3-4 elective modules. Depending on the choice of elective modules, the students will accumulate an individual set of skills and competences. Program academic tutor will guide the students in choosing their learning path to best fit their career plan. Innovation/impact specifically related to the elective modules: The modular structure of the curriculum will, make it possible to think beyond the classical master's program limitations. Transferability of the program to other European consortia aiming to create a curriculum on cross-cutting issues can apply the model developed for EMMA program. On-line learning and up-to-date e-pedagogy and tools with synchronous and asynchronous learning will also allow students to study in their chosen place and time

## **E-Learning Platform and Tools**

E-learning environments are developing fast, and therefore an innovative and open approach is essential. Identification of application and skilful and appropriate use of state- of- the-art platforms and cutting-edge e-tools, are of utmost importance for the sustainability of programs offered on-line.

A solid, systematic, clear, flexible and transparent framework and detailed plan for e-learning was the bases for the curriculum and module development, which can be transferred to other new course developments in any context. Opportunities to synchronise different technologies and platforms can be utilised and adapted, emphasizing the cross national European wide EMMA program.

At the start of the EMMA project, an initial survey was conducted to determine which Learning Management Systems (LMS) were currently in use in the six consortium HEIs. The results of this survey which also covered topics concerning necessary features of the LMS, were published in *Volume 305: Healthcare Transformation with Informatics and Artificial Intelligence* and presented at the International Conference on Informatics, Management and Technology in Healthcare, Athens, Greece, July 2023.

The LMSs used currently used in the consortium are Moodle (4), Canvas (1) and OpenClass (1). All the three LMSs have in common the possibility to connect to external tools, i.e., other LMSs, via learning tool interoperability (LTI). Based on these conclusions, prototype courses and different scenarios of interoperability were developed and tested during the EMMA project with foci on:

- Delivery of educational content online
- Ease of use for both instructors, students and the supporting LMS administrators
- Secure access, data protection, and data transfer between LMSs in accordance with GDPR of all users' data (name, roles in courses, e-mail addresses and transfer of grades) using LTI standards.

A LTI interconnectivity was established between the two Moodle systems and the OpenClass where LMS 1 was able to connect to LMS 3 via the LTI connections of LMS 1 <-> LMS2 <-> LMS3. Thus, a test partner A accessed a Moodle course of partner B and completed a quiz and then further enrolled via a LTI-link to partner C. Many different scenarios were tested regarding so-called 'Publishers' of course content and 'Subscribers' of said content.

While the initial results were indeed promising and provided degrees of flexibility amongst the EMMA consortium partners, the complexity of providing the entire master program online and determining which partners would be publishers and which subscribers proved to be very challenging. Combined with the administrative overhead this LTI solution was put aside, and a single Moodle LMS host was decided upon where all users would be registered and trained.

In addition to the LTI development, much focus was placed on module design and pedagogic principles in providing online courses and instruction. Online trainings as well as Moodle module templates were provided during the EMMA project to ensure

that all modules were designed in the way that ensures that the module content, learning activities and assessment are presented in a systematic and uniform manner to provide consistency to the students, teachers and administration.

Elements of innovation are: the development of a curriculum framework based on solid pedagogic principles, for e-learning environment, that can be synchronised with different currently in-use platforms and tools in partner institutions. the development of a plan for e-learning and staff development. Expected impact: Diligent planning of e-learning activities and continuing development of teachers involved, has given a sound base for developing and expanding the on-line EMMA program, that will adjust to the fast developing learning environment and societal needs

## **EMMA Master Program Validation and Quality Assurance Tools: e-tools for self- and external evaluation**

The main task of this output was to design a quality assurance process and documentations to ensure that the EMMA program's educational process, content and digital e-learning platform can be constantly monitored and evaluated by self, user and external (expert) evaluation. This will ensure that the program will continue to meet the intended objectives and align with the principles of active ageing in the long term. Rigorous validation and quality assurance of all the components of the program are essential to ensure that students achieve the intended learning outcomes, new knowledge and innovation are created and that the e-learning environment is adaptable to promote an effective learning process and experience for all students. To accomplish this, the support of users, providers, and external evaluation (expert review and feedback) is needed to ensure a proper alignment with common quality assurance standards (Standards and Guidelines for Quality Assurance in the European Higher Education Area, 2015).

The results included the tools for this evaluation by users, the provider self-evaluation and external evaluation. A report on the development and implementation of the tools and a report on the results (self-assessment reports and experts' feedback/recommendations) of the pilot study of these tools are provided. This sets out the expectation that the different components of the EMMA program are well defined and administered, and a high quality education will substantially contribute to the students' professional development. The consortium will continue to contribute to the consolidation of robust quality assurance mechanisms for the provision of higher education in the field of Active Ageing and Age-friendly Society. For this purpose, the

EMMA program Validation and Quality Assurance Framework was designed, and pilot tested to ensure an up-to-date educational content, built on innovative and interdisciplinary collaboration among partners, to enhance the career perspectives and employability of its future students and contribute to their knowledge and skills development in the field of Active Ageing and Age-friendly society.

## Joint Degree Agreement and Accreditation Framework

With the European Approach for Quality Assurance of Joint Programmes (EQAR), the plan was to prepare the documentation for the accreditation of Joint Degrees (JD). However, due to differing legal frameworks, finance models of education, different requirements in ECTS for master degrees, the joint degree accreditation became complicated. It was also expected that the 100% on-line administration of the planned JD will further complicate this situation.

The University of Lisbon was the lead coordinator and CUAS as Co-lead Joint Degree Agreement and Accreditation Framework . The work included the analysis of national and institutional frameworks, the financial and organisational approach and the development of legal documentation. The outcome resulted in the elaboration of the request form to create a new study cycle, European Master's in Active Aging and Age-Friendly Society, to be submitted to Portugal's Higher Education Assessment and Accreditation Agency (A3ES). A3ES is a private law foundation created by the Portuguese State with the mission of carrying out the evaluation and accreditation of higher education institutions and their study cycles, as well as performing the functions inherent to the inclusion of Portugal in the European quality assurance system. of higher education. For a unique external quality assessment and accreditation process, A3ES will establish protocols with the accreditation agencies/institutions of each Partner HEI of the EMMA program.A consortium agreement was also drawn regarding implementing and managing the EMMA program.

The aim of the consortium was to develop a framework for accrediting on-line Joint program based upon the EQAR process and requirements. Within this framework the following documentation was produced: a) Accreditation Self Evaluation Report (document comprising all necessary chapters as required by A3ES b) Cooperation Agreement (incl. Programme Coordination, Responsibilities, Financial organisation, admission and selection procedures, examination regulations, student assessment methods, recognition of credits and degree-awarding procedures) These documents are prepared and ready to be taken forward for accreditation.

However, a full joint degree offered together by the six partners does not seem possible due to different requirements for credits, finance structure and also national accreditation in the partner countries. Finland has a different funding system and requirements for the number of credits for master's degree, which at this point cannot be compromised for the joint degree. Slovenia has its own accreditation system and is not able to join the joint degree at this stage. However, as a compromise, the consortium decided that a joint program will be offered by the six partners, four partners may offer a joint degree, pending on accreditation. Karelia can offer single, double or multiple degree with another partner(s) and ULjubl will participate in the joint program by teaching in the modules. The consortium agreement is in its final stages and the practicalities and finances will be agreed to the mutual benefit of all partners. This framework and the documents are available for other HEIs to be used as a model for their own JD accreditation processes.

As a final output, a policy recommendation was to be formulated on the accreditation of online joint degrees, but this was not achieved. The accreditation agency A3ES already has a documentation for fully on-line master's level programs, which sets down the requirements.

## 6 Impact of EMMA project

For individual participants, i.e. the EMMA consortium members, the process and content of the EMMA project contributed to their professional development in several ways. Expertise in the topic of active ageing and age friendly society was shared, broadened and deepened and new knowledge and understanding about the phenomena was created. This took place during the planning of the tasks, consortium and coordinator meetings, preparing the outputs and events.

The participants also exchanged ideas and gained proficiency in the field of e-learning pedagogy, which will benefit them in the long term in the evermore digitalized world. Two workshops were organised first by Karelías, where experts facilitated the curriculum planning and e-learning pedagogy exploration and discussion. There it was decided that the ethos of the learning /teaching approach in the EMMA program is focused on student centred learning, constructive alignment of curriculum and e-learning principles and application among other issues. Intensive and extensive collaboration in culturally diverse team of six different nationalities and languages developed the team members' cultural and communication competences.

Participating organisations became aware about the differences in the administration, accreditation and quality assurance processes of different HEI in Europe, and this will help in the future when planning new joint programs. For participating HEIs, the clearest impact was the establishing and embedding the developed master programme in the institution profile and provision.

The required organizational measures necessary to run an on-line degree program include a) provision of the necessary resources for creating online learning content, b) training the staff to use the resources and facilities, c) facilitating the staff to understand how to best use the digital tools for additional value. These measures will have a transferable positive effect on the other study programmes in the HEI as well.

Apart from structural impacts, transfer of knowledge between colleagues and accumulation of organizational knowledge is valuable; this concerns not only the teaching content but also the methods of communication and evaluation. The EMMA master's program will have an impact on the future students participating in a degree programme which is not currently being offered by any other HEI, giving them new skills and job opportunities in our ageing societies. The envisioned future professionals will be involved in multiple facets of our ageing society, e.g. policy, media, commerce, technology, town planning, research and innovation with wide-reaching effects as they transfer their newly developed knowledge to these contexts. Furthermore, they will be able to promote the importance of active ageing and age-friendly society across



different paradigms/disciplines, apply systems thinking, using multidisciplinary and intersectoral approaches to active ageing challenges, applying trans-disciplinary methods and transformational leadership skills, and use skills and knowledge at local, national and global level. In addition, future students will be able to develop, implement and research innovations in active ageing and age friendly society, engage with a wide-range of actors, and apply employability skills effectively. Due to the international and online nature of the EMMA program, digital skills and cultural communication competence are practiced during the learning modules. The new graduates from diverse backgrounds will benefit employers, and also society as a whole, but particularly current and future older people.

Due to the widespread relevance of the topic of ageing and age friendly society as a global phenomenon and concern, and the after effect of Covid-19 pandemic, which is seeing a rise in on-line educational programs, EMMA program has a great potential to attract students far beyond the local region.

The publication and dissemination of the background research and the process of developing the EMMA program informs the politicians and policy makers, local, regional, national, researchers and educators about the importance of the education and research into this important and current topic. This is already evident through the readership of the publications and also requests for the articles. By setting an example of an international online Master program, the first of its kind, the EMMA project inspires and encourages other HEIs to follow in the exampl

## 7 Dissemination and Use of Project Results

Key target audiences of the EMMA project were identified using a formal process where we mapped stakeholder power and interest in a matrix. These were finally identified as i) supporters of the process, ii) academic audience, iii) regulatory bodies both organisational, national and EU level; iv) the future student market, v) future employers and vi) older people.

The other dissemination targets at local and national level were:

- Local colleagues in HEIs, local NGO representatives .
- Regional and National Organisations, Non-Governmental Organisations in the field of active ageing, for example:
- In Finland, academics in Karelia, students on Bachelor of Applied Gerontology and Master in Active Ageing programs, Active Ageing Learning Community of Karelia Centre of Excellence in Active ageing (KAFS).
- In Greece: Hellenic Association of Gerontology and Geriatrics, 50+ Hellas, Older people's organisations Network; AGE Platform
- In Austria: Institute for Applied Research on Ageing (IARA)
- In Ireland: Health Service Executive, Irish Gerontological Society, NGOs in Aging and Advocacy, government bodies such as local town/county councils and Age Friendly program
- In Portugal: Universities, Nursing Homes, Municipal Councils, Public Institutes of Social Solidarity
- In Slovenia: Members of University of Ljubljana, members of Slovene Sociological Association, University of University Multidisciplinary research Center for social innovations in active and healthy ageing, Community of social institutions in Slovenia.

### Dissemination activities

**Internal HEI and local dissemination (total 13 events)** were implemented: Seven internal dissemination events reaching 97 HEI stakeholders, and six local events reaching 49 external, local stakeholders including academics in other HEIs; students from other HEIs and advocacy groups for older people.

**Conferences and Symposia (12)** in the fields of geriatrics and gerontology, health sciences, sociology, social work and education: One of the primary dissemination channels was presentations of the EMMA project's findings at academic conferences and symposia. These events provided a platform to engage with fellow researchers, experts, and practitioners in the field of ageing. Through presentations and poster sessions, the work of the project was displayed. These events facilitated constructive feedback and valuable networking opportunities. The EMMA project and its output were presented in Slovenia, Greece, Finland and Ireland, as well as in the Netherlands, UK, Germany, Spain, Japan, Canada, Hong Kong, and Korea. Six were international; three were conferences on education; seven were online; one was a symposium dedicated to the project in an international conference in Greece. Oral feedback was received through questions and comments to the presenters after the presentations with suggestions for development and this was shared with the consortium and used in the EMMA program development. One poster received a national conference prize in Ireland.

**Publications in Peer-Reviewed Journals (3):** The significance of publishing work in peer-reviewed journals to establish credibility and reach a wider academic audience was recognised. The protocol and the results of the scoping review conducted as part of IOI tasks were published in an open access publication and received 650 views since Nov 21 and 64 downloads. The results paper received 2100 views from March–Sept 2023, and the multi-country survey on learning needs was viewed 243 times in the first month. Preparing and submitting articles to relevant journals helped ensure that the research adhered to rigorous scrutiny and contributed to the wider body of knowledge in the field of ageing. This dissemination avenue enables other researchers and interested parties to access and build upon it.

**Publications in HEI journals (2):** Two short papers were published in the Karelia online journal of Ageing Publications – EMMA-Master

**Project Website and blogs (13):** A dedicated project website hosted a blog series, events and a news section

Articles, academic papers and conference contributions can be found in EMMA project website: <https://www.emma-master.eu/publications/>