HELLENIC MEDITERRANEAN UNIVERSITY

UNIVERSITY OF LISBON

School of Health Sciences

Department of Social Work

Department of Nutritional Sciences and Dietetics

Polytechnic School

Department of Electrical and Computer Engineering

Faculty of Medicine

PSP Student Guide

"Innovative technologies and contemporary, integrated healthcare in aging" (ITHA)

HELLENIC MEDITERRANEAN UNIVERSITY & UNIVERSITY OF LISBON

Heraklion, May 2026

Message of the Director of the Joint Postgraduate Study Programme

Dear students,

We welcome you to the Joint Postgraduate Study Programme 'Innovative technologies and contemporary, integrated healthcare in aging' which is an innovative, interdisciplinary, international joint MSc from two distinguished European universities; the Hellenic Mediterranean University (HMU) and the Lisbon School of Medicine (FMUL). It is the result of the collaboration between the Department of Social Work and the Department of Nutrition & Dietetics from the School of Health Sciences, together with the Department of Electrical and Computer Engineering from the School of Engineering, in collaboration with the Lisbon School of Medicine (FMUL). The Master's degree operated for the first time in the winter semester of the academic year xxxx (Government Gazette 2026).

This Programme brings together the strengths of both partner institutions to offer you a rigorous, forward-looking curriculum and a truly interdisciplinary learning experience that is defined by collaboration, academic excellence, and international perspective.

This Study Guide provides the introductory information you need for your studies. Further information about the study programme can be found in the 'Internal Operating Regulations' and the 'Study Regulations'.

Our academic team is here to guide and empower you to make the most of the opportunities that lie ahead and help you develop the knowledge, skills, and professional identity that will shape your future. On behalf of all staff involved, we assure you that we will make every effort to meet your requirements and help you achieve your personal goals.

I wish you a rewarding, inspiring, and transformative period of study.

The Director of the Joint PSP

Contents

1. General information

The Department of Social Work and the Department of Nutrition & Dietetics from the School of Health Sciences, together with the Department of Electrical and Computer Engineering from the School of Engineering, all three belonging to the Hellenic Mediterranean University (HMU), in collaboration with the Lisbon School of Medicine (FMUL), jointly organize and operate a Joint Postgraduate Study Programme (hereinafter referred to as the 'Programme' or 'PSP') entitled "Innovative Technologies and Contemporary, Integrated Healthcare in Aging" (ITHA). The Programme is offered following its accreditation, in accordance with national legislation.

The Joint Postgraduate Study Programme operates in accordance with the provisions of the legislation in force in both countries, the Act of Establishment of the PSP, the Internal Operating Regulations, as well as the provisions of the present Study Guide of the Joint PSP, which has been drafted based on the decisions of the Assemblies of all participating departments.

2. Master's Degree-Awarding

The Joint Postgraduate Study Programme awards a Postgraduate Diploma (MSc) and the accompanying Diploma Supplement. Both are issued by HMU in English. The Postgraduate Diploma is signed by the Rector of the Hellenic Mediterranean University (HMU), the Dean of the Lisbon School of Medicine (FMUL), and the Program Director. Prior to the award of the degree, graduates may be issued a certificate confirming successful completion of the Programme, as well as a transcript of records with the corresponding ECTS credits.

Postgraduate Diploma

The awarded degree title is "Innovative Technologies and Contemporary, Integrated Healthcare in Aging". Award of the degree requires successful completion of the courses defined in the curriculum and successful completion of ninety (90) ECTS credits. The Master's Degree (MSc) is a public document.

The Joint Programme is structured in accordance with the National and European Qualifications Framework (i.e., NQF, EQF, respectively) at Level 7 and is aligned with the Dublin Descriptors.

Diploma Supplement

A Diploma Supplement is issued and accompanies the Postgraduate Diploma, serving as an explanatory document and not replacing the official degree title or the transcript of records.

The Diploma Supplement provides information related to the nature, level, general educational context, content and status of the studies.

3. Purpose, Objectives and Learning outcomes

Purpose and Objectives

The purpose of the Joint Programme "Innovative technologies and contemporary, integrated healthcare in aging" (ITHA) is to provide future professionals from various disciplines with high-quality education (i.e., knowledge and skills) in contemporary and integrated healthcare for the aging population, with an emphasis on interdisciplinarity and the application of innovative technological solutions.

The main objectives of the PSPS are to:

- Train highly qualified professionals capable of designing, implementing and evaluating integrated, technology-enabled care solutions for older adults.
- Develop specialised knowledge and skills for a competent healthcare workforce able to meet the growing demand for care services for older persons.
- Generate new knowledge and integrated solutions that enhance the quality of life of older adults through research, innovation and interdisciplinary collaboration.
- Promote social awareness regarding ageing and integrated healthcare.
- Address labour-market needs by enhancing employability in the health, social care and digital health sectors and by reducing skills shortages, unemployment and brain drain.
- Strengthen internationalisation, academic excellence and European cooperation in higher education.

Learning outcomes

Upon successful completion of the Programme, graduates will have acquired the following knowledge, skills, and competences:

Knowledge

- Demonstrate advanced and interdisciplinary knowledge of ageing processes, health systems and the social determinants of health.
- Understand innovative technologies applied to the prevention, diagnosis, treatment and long-term care of older adults.
- Critically evaluate evidence-based approaches and international policies that promote active and healthy ageing.

Skills

- Apply quantitative and qualitative research methods to address complex issues related to ageing and integrated care.
- Design, implement and evaluate interventions combining clinical, technological and community-based dimensions.
- Communicate scientific and professional information effectively to diverse audiences, including policymakers, patients and interdisciplinary teams.
- Use digital and technological tools to enhance the quality and efficiency of healthcare service delivery.

Competences

- Integrate biomedical, technological and psychosocial approaches into decision-making and patient-centred care.
- Demonstrate leadership skills, ethical responsibility and the ability to work effectively in multicultural and interdisciplinary environments.
- Engage in lifelong learning and contribute to innovation and the transformation of healthcare and social care systems in Europe.

The level of knowledge provided by the Joint Programme enables its graduates to continue their studies at the doctoral level.

4. Governance/Decision Making

The HMU is responsible for providing administrative support and overseeing the Programme's financial management. A number of authorised bodies have been assigned for the organisation and overall operation of the Joint PSP entitled 'Innovative Technologies and Contemporary, Integrated Healthcare in Ageing'. Their roles and responsibilities are defined in detail in the Internal Operating Regulations.

Programme Committee (P.C.)

The P.C. is responsible for overall organization, administration, and management. Composed of seven faculty members (four from HMU, three from UoL), appointed by the Assemblies of the participating Departments. They are not entitled to remuneration or any compensation for the execution of their responsibilities. The Director of the P.C. comes from the Department of Social Work or from HMU. Both institutions must appoint members for the P.C., in which they must be represented.

The Programme Committee consists of the following members: TBA

Steering Committee (S.C.)

The S.C. monitors and coordinates the PSP. Composed of five members selected from the P.C. for a two-year term, with at least three members from HMU. They are not entitled to remuneration or any compensation for their responsibilities. Chaired by the Programme Director.

The Steering Committee consists of the following members: TBA

Programme Director

Appointed by the P.C. must be a Professor or Associate Professor in a relevant or related field to the Programe's topic. Serves a renewable two-year term, renewable without restriction, with duties defined by national legislation, and receives no remuneration for these responsibilities. Name and contact information: TBA.

The Secretariat

The secretarial duties and administrative support of the PSPare fully undertaken by highly trained personnel. The secretariat handles the various administrative issues of the Programme's operation (e.g, announcements, applications, student registrations, timetable, keeping of grade files, granting of degrees, etc.).

Name, Email, Phone number: TBA

Help desk hours: TBA.

Useful Information

PSP 'Innovative Technologies and Contemporary, Integrated Healthcare in Ageing'

Hellenic Mediterranean University

Estavromenos, 71410 Heraklion, GREECE

Webpage: https://itha.hmu.gr/

Lisbon School of Medicine

Avenida Professor Egas Moniz, 1649-028 Lisboa – PORTUGAL

Email: fmul@medicina.ulisboa.pt

Webpage: https://www.medicina.ulisboa.pt/en/welcome-lisbon-school-medicine

5. The Advisory Board of Experts

The Advisory Board of Experts plays a pivotal role in ensuring the academic quality, scientific integrity, and long-term sustainability of the postgraduate program. Through the active engagement of distinguished scientists and internationally recognized experts, the Board strengthens the scientific grounding and academic validity of the curriculum and ensures its continuous alignment with contemporary developments in the field of healthy aging.

As a high-level advisory body, the Board supports strategic planning and academic quality assurance, offering evidence-based recommendations on the structure and content of the curriculum. It evaluates the relevance of learning outcomes to the evolving needs of ageing populations and promotes the integration of current advances in geriatric care, public health, digital health technologies, nutritional science, pharmacology, and the social dimensions of ageing.

The international composition of the Board and the breadth of scientific disciplines represented by its members reinforce the program's interdisciplinary character and facilitate the exchange of best international practices, knowledge, and innovative scientific approaches. In doing so, the Board contributes to maintaining high academic standards, fostering innovation, and linking theoretical knowledge with clinical practice, social applications, and labour-market needs.

Overall, the Advisory Board enhances the program's scientific prestige, international orientation, and long-term academic and societal impact. It comprises seven (7) renowned scientists of international standing from different countries and academic or professional bodies, each with extensive experience and recognised contributions in geriatric medicine, care of older adults, digital health technologies, and the broader promotion of healthy ageing and comprehensive care for older adults.

The members of the Expert Advisory Board follow:

	Name	Scientific expertise	Affiliation
1.	Callaham Sheila	ageing in the workplace	Co-founder and Board Chair of "Age Equity Alliance" a U.S. nonprofit organization
2.	Garcia Santos Nuno	digital health, active and assisted living	Professor at the Institute of Biophysics and Biomedical Engineering, Faculty of Sciences of the University of Lisbon, Portugal
3.	Kotsani Marina	ageing and geriatric	Nursing Home Coordinator Physician, LNA

		syndromes, frailty, multimorbidity	Santé, France PROGRAMMING COST Action 21122 Chair and Global Europe Initiative group of the European Geriatric Medicine Society Co-chair
4.	Munzer Thomas	geriatric medicine, internal medicine	Full Professor (Emeritus), President of the European Academy Medicine of Aging, Lecturer at the School of Applied Sciences and Nursing in St. Gallen and the University of Zürich
5.	Petrovic Mirko	geriatrics, clinical pharmacology	Emeritus Professor of Geriatrics and Clinical Pharmacology at the Department of Internal Medicine and Paediatrics, Ghent University
6.	Siow Richard	ageing, cardiovascular, nutrition, biomedical and life sciences, preventative medicine, population health	Director of Ageing Research at King's, Visiting Professor in the Department of Physiology, Anatomy and Genetics, Medical Sciences Division, University of Oxford
7.	Werner Perla	dementia, caregiving, healthcare of older people	Full Professor (Emeritus), Faculty of Social Welfare and Health Sciences, Department of Community Mental Health, University of Haifa

6. Curriculum

6.1 Duration of studies

The Programme is offered full-time or part-time. The Programme lasts three (3) academic semesters if studied full-time, or six (6) academic semesters if studied part-time. Students who have not completed their studies within the normal period and wish to re-enroll must submit a request for an extension (see 6.7 Extension and Suspension of studies) In any case, the maximum duration of studies leading to the award of the Diploma cannot exceed twice the normal duration of studies. If a postgraduate student does not successfully complete the obligations within the stipulated duration of three semesters and does not submit an application for extension of studies, he/she will be dismissed from the Programme following a deletion act.

6.2 Organization of the Programme

The Programme operates according to the approved HMU's academic calendar. The educational process lasts fifteen (15) weeks/semester.

6.2.1 Structure of the Programme

The academic programme consists of four compulsory courses per semester (eight in total), as well as a thesis or internship/field practice in the 3rd semester.

Studies are organized into three (3) semesters as follows:

- 1st Semester: four (4) courses taught by HMU's teaching staff;
- 2nd Semester: four (4) courses taught by FMUL's teaching staff;
- 3rd Semester: Writing the Master's dissertation/thesis or conducting an internship/field practice, both supervised by teaching staff from the two collaborating institutions. Students may also undertake their Master's Thesis and complete their internship at an organisation located in a different city or country from the collaborating universities, subject to supervision by teaching staff members on the MSc Programme. In both cases, the students must search for and propose the placement, which requires approval by the Programme Committee. Distance-learning options are available for students who are unable to relocate.

Each postgraduate course corresponds to 7.5 ECTS, amounting to thirty (30) ECTS per semester. The dissertation/thesis and the internship/field practice each correspond to thirty (30) ECTS. Courses may be redistributed between semesters by decision of the competent body. Successful completion of the eight (8) courses and writing a dissertation /thesis or completing an internship/field practice, amounting to 90 ECTS are the requirement for awarding the degree.

6.2.2 List of Courses

The courses by semester are as follows:

	First semester			
Course code	**Course title**	**Type of course**	**Weekly teaching hours**	**Credit Units (ECTS)**
A01	Interdisciplinary Approach to Active and Healthy Ageing	Compulsory	4	7.5

A02	Integrative Nutrition Care for Healthy Aging	Compulsory	4	7.5
A03	An Introduction to AI Tools for Healthcare	Compulsory	4	7.5
A04	Artificial Intelligence with a Focus on Medical Applications	Compulsory	4	7.5
			Total Semester ECTS:	30

	Second semester			
Course code	**Course title**	**Type of course**	**Weekly teaching hours**	**Credit Units (ECTS)**
B01	Aging and Geriatric Medicine	Compulsory	4	7.5
B02	Science of Aging and Longevity	Compulsory	4	7.5
B03	Technology for Longevity and Active Aging	Compulsory	4	7.5
B04	Research Methodology Applied to Older Adults	Compulsory	4	7.5
			Total Semester ECTS:	30

	Third semester			
Course code	**Course title**	**Type of course**	**Weekly teaching hours**	**Credit Units (ECTS)**
C01	Master's Dissertation/Thesis*	Compulsory-Elective		30
C02	Internship/Field Practice*	Compulsory-Elective		30
			Total Semester ECTS:	30

**Note: The student chooses either the postgraduate thesis or the Internship/field training.*

6.2.3 Outlines of the courses

The summary of the content of the course outlines follows, whereas the course outlines can be found in the Appendix.

- **A01 - Interdisciplinary Approach to Healthy and Active Aging**

  This course explores the principles of active and healthy aging through an examination of key health determinants across behavioral, social, psychological, environmental, and service-related domains. Students develop skills in designing prevention strategies and

interventions that promote wellbeing and autonomy in older adults. The course also examines how emerging technologies support independent living, innovative care practices, and health self-management. Additional topics include the challenges faced by caregivers of older adults and individuals with dementia, the principles of palliative care, and the ethical dimensions of end-of-life decision-making. Teaching is delivered by faculty from multiple disciplines, offering diverse and complementary perspectives.

- **A02 - Integrative Nutrition Care for Healthy Aging**

  This course examines the circumstances in which food intake alone cannot meet the nutrient requirements of older adults and highlights the evidence-based use of dietary supplements in such conditions. Students explore how supplementation needs vary according to underlying pathophysiology and specific nutrient deficiencies, with emphasis on chronic conditions such as osteoporosis, gastrointestinal disorders, cardiovascular disease, and anemia. The course also addresses the responsibilities of healthcare providers in screening for both the need for supplements and the risks associated with excessive intake or interactions with medications. Training focuses on promoting informed professional guidance, appropriate dosage recommendations, and awareness of potential side effects to ensure safe and effective nutritional support for older adults.

- **A03 - An Introduction to AI Tools for Healthcare**

  This course familiarizes students with the principles, capabilities, and applications of Generative AI in clinical and healthcare settings. Students learn to use large language model (LLM)–based tools for clinical documentation, summarization, data extraction, and patient communication, while developing prompt-engineering techniques tailored to medical tasks and workflow automation. The course also examines healthcare-specific AI platforms and medical LLMs, alongside the regulatory, ethical, and safety frameworks governing their deployment. Emphasis is placed on evaluating risks, biases, explainability, and compliance requirements in clinical practice. Students additionally design small-scale prototypes or workflows that integrate GenAI assistants into real or simulated clinical and operational processes.

- **A04 - Artificial Intelligence with a Focus on Medical Applications**

  This course familiarizes students with the foundational principles, concepts, and terminology of Artificial Intelligence, with emphasis on applications in medical practice and research. Students explore core AI subfields and gain working knowledge of tools used for problem-solving, including algorithms for decision-making under certainty and

uncertainty, as well as fundamental Machine Learning techniques. Demonstration examples and practical applications are drawn from diverse medical domains, enabling students to understand how AI methods support clinical reasoning, diagnostics, and healthcare innovation.

- **B01 - Aging and Geriatric Medicine**

  This course offers students a comprehensive understanding of the biological, clinical, psychological, and social dimensions of aging. Students develop competencies in the prevention, diagnosis, and management of geriatric syndromes, with emphasis on an integrated, interdisciplinary, and person-centered approach to care. The curriculum covers the identification of frailty, multimorbidity, and atypical disease presentations, the application of comprehensive geriatric assessment, and the planning of coordinated interventions within multidisciplinary teams. Ethical and social aspects of aging, effective communication with older adults and their caregivers, and strategies to promote health, autonomy, and quality of life in later years form key components of the course.

- **B02 - Science of Aging and Longevity**

  This course offers students an interdisciplinary understanding of the biological, physiological, and translational mechanisms that shape aging and longevity. Students examine molecular and cellular pathways of aging, the interplay between the immune system and chronic disease, and the influence of microbiota, nutrition, and metabolism on healthy lifespan extension. The course bridges fundamental research with clinical and societal applications, addressing the ethical, legal, and social implications of emerging aging-related interventions and technologies. Through lectures, laboratory visits, and hands-on workshops, students gain exposure to cutting-edge methods in longevity science, gerontechnology, and digital health monitoring.

- **B03 - Technology for Longevity and Active Aging**

  This course offers students an interdisciplinary understanding of how emerging technologies enhance longevity, active aging, and health-span extension. Integrating biomedical sciences, digital health, artificial intelligence, and assistive technologies, the course examines innovative approaches that support autonomy, cognitive and physical function, and overall quality of life in older adults. Students analyze real-world applications — including wearable sensors, robotics, neurotechnology, and AI-driven solutions — and design a prototype addressing a specific need within the aging population.

- **B04 - Research Methodology Applied to Older Adults**

This course introduces students to the principles, methods, and ethical foundations of scientific research, with emphasis on biomedical and clinical applications in aging. Students learn to formulate research questions, design and analyze studies, and interpret findings with scientific rigor and ethical responsibility. The course highlights translational research, data interpretation, and effective scientific communication as essential competencies for evidence-based medical practice.

- **C01 - Master Dissertation/Thesis**

  This is a capstone research project, in which students independently design and conduct an original study under academic supervision. The course develops advanced skills in research methodology, critical analysis, academic writing and ethical enquiry. Students will formulate a research question, review relevant literature, collect and analyse data, and produce a dissertation ready for publication that demonstrates their mastery of the field and their ability to contribute new knowledge. Reviews of any kind (e.g., systematic or scoping) are also permitted.

- **C02 - Internship/Field practice**

  This is a supervised, practice-based learning experience in a professional setting that is relevant to the Programme's discipline. Students will apply their theoretical knowledge to real-world contexts, develop their practical skills and engage with professionals in the field. The course emphasises experiential learning, reflective practice, and developing professional skills, ethics, and workplace readiness.

6.3 Language of Instruction

The language of instruction and assessment for all courses is English. All teaching materials, as well as all requirements for programme completion—including thesis preparation and examinations—are provided in English.

6.4 Teaching method

The Joint Programme “Innovative Technologies and Contemporary, Integrated Healthcare in Aging” is organized as a Blended Learning programme, combining 80% synchronous and 20% asynchronous education and adopts a hybrid mode of instruction, combining face-to-face and online teaching; students who are unable to attend in person may study remotely.

The Digital Unit of HMU supports the distance learning process of the Programme. Asynchronous education methods do not exceed twenty percent (20%) of the Programme’s ECTS credits. Courses and educational activities may be supported by distance learning

methods, provided they do not involve practical, laboratory, or clinical training that requires physical presence. Internships may be conducted remotely only if host organizations support teleworking and adequate supervision is ensured. The detailed procedures for online teaching and examinations are outlined in the 'Study Regulation' of the Joint Master's Programme.

6.5 Cancellation of classes and right to absence

If a class cannot be delivered as scheduled, a make-up session will be arranged. The date and time of the rescheduled class are posted on the electronic platform eclass and communicated to the Programme's Secretariat.

Course attendance is mandatory, and students are required to attend all course lectures. The maximum number of absences allowed in asynchronous in-person lectures per course is set at thirty percent (20%).

6.6 Dismissal/Deletion of students

The Programme Committee may decide to dismiss postgraduate students if they:

- Submit a request for withdrawal themselves,
- Exceed the maximum duration of study,
- Have not settled their financial obligations (i.e., paid their tuition fees).
- violate provisions of the law on intellectual property,
- display behavior that violates the Code of Ethics and Good Practice, the Code of Ethics and Research Conduct and the legislation governing the University.

6.7 Extension and Suspension of studies

Students who have not exceeded the maximum study period may suspend or extend their studies for up to two academic semesters upon submitting a justified request to the Programme Committee. Suspension or extension will be granted only once per student and only for serious reasons such as military service, severe illness, or maternity leave. Applications must be submitted at least one week before the start of the semester and include supporting documentation from the relevant public authorities or organisations. Unjustified failure to complete studies beyond the standard duration may result in the deletion of the postgraduate student from the programme, for which the competent body (P.C.) decides.

During the suspension period, student status is temporarily halted, and participation in any academic activities is not permitted. The period of suspension of studies is not counted towards the maximum duration of standard studies. Students on a suspension of studies must

submit a re-enrolment application at least one week before the end of the suspension period to resume their studies as active students.

7. Course Instructors and Contact Details

The categories of teaching staff who are eligible to undertake teaching or supervisory duties, along with their rights, roles, and responsibilities, are defined in the Internal Operating Regulations.

For the current academic year, teaching duties have been allocated as follows:

A01 - Interdisciplinary Approach to Active and Healthy Aging

Argyroula Kalaitzaki, Professor

Department of Social Work

School of Health Sciences, Hellenic Mediterranean University

CV: CV-Kalaitzaki-January-2025-ENG.docx

Email: akalaitzaki@hmu.gr

Tel: +30 2810 379551

Office hours: TBA

A02 - Integrative Nutrition Care for Healthy Aging

Anastasia Markaki, Associate Professor

Department of Nutrition and Dietetics Sciences

School of Health Sciences, Hellenic Mediterranean University

CV: Microsoft Word - MARKAKI ANASTASIA 012025_EN brief

Email: anmarkaki@hmu.gr

Tel: +30 28430 29491

Office hours: TBA

A03 - An Introduction to AI Tools for Healthcare

Nikolas Vidakis, Associate Professor

Department of Electrical and Computer Engineering

School of Engineering, Hellenic Mediterranean University

CV: Vidakis Nikolaos - Department of Electrical & Computer Engineering

Email: nv@hmu.gr

Tel: +30 2810 379802

Office hours: TBA

A04 - Artificial Intelligence with a focus on medical applications

Sotirios Batsakis, Assistant Professor

Department of Electrical and Computer Engineering

School of Engineering, Hellenic Mediterranean University

CV: Batsakis Sotirios - Department of Electrical & Computer Engineering

Email: sbatsakis@hmu.gr

Tel: +30 2810 379188

Office hours: TBA

B01 – Aging and Geriatric Medicine

Mariana Alves, Assistant Professor

Clinical Semiotics Institute

Lisbon School of Medicine, University of Lisbon

CV – Mariana Da Cruz Alves (0718-09A9-D4EA) | CIÊNCIAVITAE

Email: marianaalves88@gmail.com

Office hours: TBA

B02 – Science of Aging and Longevity

Luisa V. Lopes, Associate Professor

Institute of Pharmacology and Neurosciences

Lisbon School of Medicine, University of Lisbon

CV - Luisa Vaqueiro Lopes (4817-7194-C024) | CIÊNCIAVITAE

Email: lvlopes@medicina.ulisboa.pt

Office hours: TBA

B03 - Technology for Longevity and Active Aging

Hugo Ferreira, Associate Professor

Lisbon School of Medicine, University of Lisbon

CV - HUGO ALEXANDRE TEIXEIRA DUARTE FERREIRA (C118-307A-6B8C) | CIÊNCIAVITAE

Email: hatdferreira@gmail.com

Office hours: TBA

B04 – Research Methodology Applied to Older Adults

Mariana Alves, Assistant Professor

Clinical Semiotics Institute

Lisbon School of Medicine, University of Lisbon

CV – Mariana Da Cruz Alves (0718-09A9-D4EA) | CIÊNCIAVITAE

Email: marianaalves88@gmail.com

Office hours: TBA

8. Master's Dissertation/Thesis

Objectives and Requirements

The Programme offers students the option to either write a dissertation/thesis or complete an internship/field practice. The dissertation/thesis is carried out in the third (3rd) semester of studies for full-time students or the fourth (4th) semester for part-time students, provided that they have successfully completed the requirements:

(a) the course "Research Methodology Applied to Older Adults" and

(b) six (6) of the eight (8) courses of the curriculum.

The Master's Dissertation/Thesis is a capstone research project, in which students independently design and conduct an original study under academic supervision.

To apply for the thesis, full-time students may submit a thesis proposal after the 5th week of the second semester, while part-time students may do so after completing the 4th semester.

The detailed procedures for thesis submission, supervision, writing, formatting, examination, and grading are outlined in the Regulations for writing postgraduate dissertations/theses and assignments.

Supervisors

Supervising duties in the Programme are assigned, by decision of the competent body of the Programme, to teaching staff coming from the Hellenic Mediterranean University, the Lisbon School of Medicine, or any other Higher Education Institutions (HEIs), provided they hold a doctoral degree. By decision of the competent body of the Programme, supervision may also be assigned to members of DEP, EEP, ETEP, and EDIP of the collaborating Departments who have not undertaken teaching duties in the Programme, provided that the relevance of their academic field, scientific work, or doctoral dissertation is relevant to the subject of the Programme. The categories of teaching staff who are eligible to undertake supervising duties, along with their rights, roles, and responsibilities, are defined in detail in the Internal Operating Regulations.

Regulation

Postgraduate students are required to adhere to the Code of Ethics and Good Practice, as well as the Code of Research Ethics of the Universities. They must comply with all relevant legislative provisions and demonstrate particular sensitivity to issues of plagiarism.

9. Internship/Field practice

The internship/field practice is an optional experiential learning component of the MSc '*Innovative Technologies and Contemporary, Integrated Healthcare in Aging'*, offered in the 3rd semester as an alternative to the Master's thesis. It enables students to apply theoretical knowledge in real-world professional environments, develop practical skills, and engage with experienced practitioners under structured supervision. The internship lasts one academic semester (approximately four months), may be full-time or part-time, and awards 30 ECTS credits. Eligibility requires successful completion of six of the eight programme courses.

Internship placements may take place in public services, public-law entities, local government organizations, private-law entities, and private enterprises that operate in fields relevant to the programme and can provide qualified supervision. Students may select from pre-approved organizations in Crete or Lisbon or propose a placement in a different city or country, provided that adequate supervision is ensured. Erasmus+ mobility further expands placement options worldwide, including blended mobility formats that combine physical and virtual components, and provides financial support according to the Erasmus+ Programme Guide.

The internship selection process begins with the student submitting a proposed placement or an expression of interest for pre-approved sites/host organizations. The Program Committee evaluates each proposal to ensure that the host institution offers appropriate learning opportunities, supervision, and alignment with the Programme's objectives. Once approved, the student collaborates with their academic advisor and the host organization to develop a clear training plan outlining learning outcomes, responsibilities, and evaluation criteria, and an internship agreement is signed by all parties. The Internship Committee—composed of teaching staff from both universities—coordinates the overall process, identifies suitable placements, assigns students, and approves supervisors.

Each student is supervised by an academic supervisor and a workplace supervisor, who jointly support the student's professional development. Evaluation is continuous and individualized, based on performance, engagement, and achievement of learning outcomes. Academic and workplace supervisors each contribute 30% of the final grade, while the Final Internship Report accounts for another 20%. Students also maintain a monthly signed Internship Logbook and participate in two formal evaluation meetings, which contribute the remaining 20% of the grade. Submission of all required documents is necessary for validating successful completion and awarding ECTS credits.

10. Academic Advisor

The Academic Advisor -drawn from faculty, laboratory teaching staff, or specialized scientific personnel- guides postgraduate students in navigating their studies, developing their scientific orientation, and achieving their academic and professional goals. They are appointed early in the first semester through a random allocation process and remain with the same students throughout their studies, except in exceptional, well-documented cases requiring reassignment. The framework aligns with HMU-wide regulations and national legislation, also including provisions for supporting students with disabilities through collaboration with the Unit for Equal Access.

More specifically, the advisor's responsibilities include helping students select courses, understanding programme requirements, and addressing academic challenges. They monitor progress, facilitate communication with teaching staff, and provide guidance on dissertations, internships, doctoral studies, and career pathways. Advisors also inform students about available institutional services and maintain records of advisory sessions, reporting recurring issues to the Programme Committee. Regular availability is ensured through weekly office hours and alternative communication methods, with meetings held both in person and remotely, including an initial welcome meeting early in the advising relationship. A detailed description of the Academic Advisor, their role, and responsibilities is presented in the Regulation for the institution of the Academic Advisor.

11. Students' Admission

A detailed description of the selection and evaluation criteria, enrolment and registration process can be found in the Study Regulations and Internal Operating Regulations. A summary is provided below.

Categories and Number of Admitted Students

The Joint PSP accepts holders of graduate degree titles awarded by Higher Education Institutions (HEIs), namely Universities and former Technological Educational Institutes (TEIs), in Greece, or by equivalent and officially recognised institutions abroad, provided that their degrees are recognised by the Hellenic National Academic Recognition Information Center (DOATAP), in accordance with the provisions of the applicable legislation.

The maximum number of admitted students is set at sixty (60).

Admission Procedure

Following the call for the admission of postgraduate students, candidates submit the following documents:

1. Application.
2. Curriculum Vitae (Europass format preferred).
3. Copy of degree(s) or certificate of completion of studies and detailed transcript of course ratings (and recognition of academic qualifications, if applicable).
4. A photocopy of both sides of the ID card or passport.
5. Motivational Letter stating the reasons why the candidate wishes to continue their studies and their research interests (up to 500 words). The letter should explain the candidate's professional goals and the importance of the postgraduate program for their professional development.
6. Any other supporting documents that the candidate considers appropriate or necessary in order to support their candidacy (optional-if any), such as (indicative): letter of recommendation from professors or employers; proof of previous employment and/or research activity; scientific publications or conference presentations; other degrees; proof of English language proficiency (e.g., self-declaration or English language certificate).

Only applicants holding—or about to complete—a recognized relevant degree are eligible, including final-year students with proof of completion.

Selection criteria and procedure

Candidates are selected on the basis of the points they accumulate from the following criteria:

1. Interview (40%).
2. Degree grade (20%).
3. Motivational Letter (10%).
4. Professional experience, research activity, and publications etc (if any) (20%).
5. Additional qualifications, such as letters of recommendation, social action, etc (if any) (10%).

A three-member Evaluation Committee (E.C.), composed of members of the Programme Committee (P.C.), reviews all admissible applications, excludes those not meeting minimum requirements, shortlists the candidates on a 100-point scale, and invites shortlisted candidates to an interview (in person or online) before finalizing the ranking. Each candidate’s total score is calculated as the average of the ratings awarded by each member of the E.C. In the event of a tie (rounded to the nearest whole number), up to 10% of the maximum number of admissions may be accepted. The final list of successful and waitlisted candidates is approved by the Programme Committee (P.C.), with care taken to ensure

diversity in terms of origin, field of study, and gender. Candidates with the highest total scores are selected. Any objections from candidates must be submitted to the Programme Secretariat within three working days of the results being announced. The P.C. examines the objections and decides whether to accept them or not, amending the list of successful candidates (and those on the waiting list) accordingly.

Enrollment and registration

Successful candidates must secure their place by being enrolled and paying the tuition deposit within thirty (30) days, after which remaining places may be offered to the next candidates in order of merit. Enrollment takes place within deadlines set by the Programme Committee. Students are enrolled at HMU for the entire duration of the Programme. During their mobility period (if applicable), students are additionally enrolled as exchange students at the Lisbon School of Medicine.

Registration for courses

Each academic semester, students should register for the courses they will attend exclusively within the specified deadlines set by the Programme Committee and announced by the Programme Secretariat. This process renews the student's registration for each semester. Part-time students may register for a maximum of two (2) courses per academic semester. No recognition or transfer of courses successfully completed in other studies—undergraduate, postgraduate, or doctoral—is permitted. Applications submitted outside these dates will be rejected.

12. Students' Rights and Responsibilities

Postgraduate students are entitled to all the rights and benefits granted to undergraduate students, under the same conditions and criteria set by both universities, except for the provision of free textbooks. Institutions must ensure that students with disabilities and/or special educational needs have access to the proposed teaching materials. Prospective postgraduate students must be familiar with all regulations governing the PSP prior to enrolment. Postgraduate students have the following responsibilities:

1. Attend the courses offered.
2. Submit assignments by the prescribed deadlines.
3. Attend course examinations.
4. Successfully complete their master's dissertations or internship/field practice.

5. Provide up to six (6) hours of auxiliary teaching work per week on the undergraduate programmes (if needed).
6. Participate in the programme evaluation process.
7. Participate in workshops and other scientific events organised by the Programme, provided that their other responsibilities permit it.
8. Settle all financial and other obligations to the Institution before graduating; otherwise, they shall not be entitled to receive the Master's degree or any related documents.
9. Comply with these Postgraduate Studies Regulations and the decisions of the Programme's bodies, the Departments, and the Universities.
10. Respect and adhere to the rules of academic ethics and research integrity.

Failure to comply with the current MSc Regulations and the decisions of the University's and Programme's governing bodies will result in the student being denied the right to receive the Master's degree or any related documents.

Auxiliary teaching

Auxiliary teaching work is defined as providing assistance to faculty members/members of the Teaching and Research Staff with their teaching duties, student training, conducting tutorials and laboratory exercises, supervising examinations and grading exercises.

Tuition fees

Students admitted to the PSP through the centralized application procedure pay their participation costs (tuition fees) in euros directly to the HMU for each semester. Students from European Union countries pay 3,000 € (three thousand euros) in participation costs for the entire 90 ECTS Programme for the nominal study period. Students from non-European Union countries pay € 6,900 (six thousand and nine hundred euros).

Scholarships

The Steering Committee may grant scholarships of excellence and reciprocal scholarships to the postgraduate students of the Programme according to the procedure, terms, and conditions set out in the Internal Operating Regulations of the Programme, the Regulations of Postgraduate and Doctoral Studies Programs of the University, and legislation.

13. Course examinations and grading

Examinations for courses taught during the winter and spring semesters are conducted exclusively after the end of those semesters during the periods defined by the academic calendar. Students are also entitled to take exams for courses from both semesters (winter and

spring) during the resit period in September. Students are informed of the detailed examination timetable at least two weeks before the start of the examination period. Special arrangements are made for students with disabilities and special educational needs / specific learning difficulties to take their examinations, in accordance with the procedures defined by the Hellenic Mediterranean University's Internal Regulations.

Postgraduate students are assessed on their performance in the courses they are required to attend at the end of each semester. The method of assessment is determined by the Head instructor of each course and recorded in the course syllabus/outline. No changes to the specified method are permitted during the semester. It may only be altered before the start of the semester with the instructor's application and the competent body's approval. The grading of each course is determined by the Head instructor, who may organize written and/or oral examinations at their discretion. Grading may also be based on assignments or exercises completed during the semester. Each written examination must be completed within three (3) hours, and its minimum duration cannot be less than two (2) hours.

The procedures for conducting exams and the obligations of students and invigilators are determined by the HMU's Code of Conduct. Exam grades are posted on the Electronic Secretariat application within fifteen (15) days from the end of each examination period.

If a student fails the same course more than three (3) times, they may submit a request to be evaluated by a three-member committee, consisting of teaching staff who have taught in the MSc Program in the same or a related subject area. The course instructor responsible for the course cannot be a member of this committee.

Course grades, as well as dissertation/thesis or internship/field-practice grades, are assigned on a scale from zero (0) to ten (10) in increments of 0.5, and a minimum grade of five (5) is required to pass a course. The correspondence between the grading scale and postgraduate student performance is as follows:

a) 'Excellent': 8.51 to 10

b) 'Very Good': 6.51 to 8.50

c) 'Good': 5 to 6.50

Upon successful completion of the Joint MSc Programme, the final degree grade is calculated as the weighted average of course grades (G1, G2, …), including the dissertation/thesis or internship/field practice, with weights corresponding to the respective ECTS credit units (CU1, CU2, …). Specifically, the overall MSc grade is calculated using the formula:

$$\text{Degree Grade } = \frac{(G1 \times CU1) + (G2 \times CU2) + \cdots + (\text{Gn} \times \text{ CUn})}{\text{Total ECTS } (CU1 + CU2 + \cdots CUn)}$$

where *Gi* represents the grades of the courses including the Master's dissertation/thesis or internship/field practice, *CUi* represents the corresponding credit units and *n* represents the total number of required courses. The denominator is the sum of the ECTS of all courses and the thesis or internship.

14. Academic calendar 2027-2028

The educational process lasts fifteen (15) weeks/semester and is implemented in accordance with the HMU's academic calendar. According to the Senate decision, the start and end dates of the winter and spring semesters, vacation periods, and examination periods for the 2027–2028 academic year are as follows:

Educational processes	**Date(s)**
Start – End of Winter Semester	TBA
Registration – Course Selection	TBA
Week of supplementary courses	TBA
1st Exam Period (Winter Semester)	TBA
Start – End of Spring Semester	TBA
Registration – Course Selection	TBA
Week of supplementary courses	TBA
2nd Exam Period (Spring Semester)	TBA
3rd Resit Exam Period (Spring and Fall Semester Courses)	TBA
National holidays/breaks	
Christmas break	23 December – 07 January
Easter break	Depending on Orthodox Easter
Greek national/religious holidays:	
Anniversary of Greece's Rejection of the Italian Ultimatum (1940)	28 October
Polytechnic anniversary	17 November
Three Hierarchs	30 January
Clean Monday	Movable feast
Greek Independence Day	25 March

Labour day	1 May
Holy Spirit	Movable feast
Saint Minas	11 November
Portuguese national/religious holidays:	
Republic Day	5 October 2027
All Saints' Day	1 November 2027
Restoration of Independence	1 December 2027
Immaculate Conception	8 December 2027
Carnival (*facultative public holiday*)	29 February 2028
Good Friday	14 April 2028
Easter Sunday	16 April 2028
Freedom Day	25 April 2028
Labour Day	1 May 2028
Portugal Day	10 June 2028
Corpus Christi	15 June 2028
Assumption of Mary	15 August 2028

15. Services to the students

15.1 Student Ombudsman

Both institutions have an independent office operating under the name 'Student Ombudsman', which focuses mainly on the defense and protection of the students' rights and interests within the University. It specifically aims to mediate between students and professors or the institution's administrative services, uphold legality within the framework of academic freedom, address maladministration and safeguard the institution's smooth operation. However, the Student Ombudsman has no jurisdiction over examinations and student grades (paragraph 1a of article 55 of law 4009/2011).

The **Student** Ombudsman in HMU: The Student Ombudsman investigates student reports or issues raised ex officio, mediates with institutional bodies to resolve problems, and may request documents, testimonies, or expert opinions as needed. When legality or proper administration is not upheld, it issues a report to the relevant professor, service, and student, and works toward an appropriate resolution. It may dismiss vague or unfounded reports, and

when indications of a disciplinary offence exist, it forwards the case to the competent disciplinary authority.

The Student Ombudsman in University of Lisbon: The Student Ombudsman examines student complaints related to pedagogical, administrative, and broader academic-life issues, issuing recommendations to the University's competent bodies to prevent or resolve verified problems. Its work is carried out in cooperation with School pedagogical councils, Student Support Services, and Student Unions, ensuring coordinated and effective handling of student concerns.

15.2 Library

Both universities have a library that aims to support educational and research activities. They have rich, fully automated print and digital collections organised according to international library standards. Through the library's website, students can find out how it operates, access the available information services and browse the collections. The library lends resources and a membership card is required to utilise them.

HMU: https://lib.hmu.gr/

FMUL: https://www.medicina.ulisboa.pt/biblioteca-arquivo-historico-e-patrimonio-museologico

15.3 Student Care

15.3.1 Student care at HMU

Health Care

HMU Medical Center provides primary health care services to students and staff of the University. The campus health care service provides first-line medical care, including emergency response, medication administration, referrals, vaccinations, and medical certificates. It also prescribes screening tests, collaborates with the occupational physician, and coordinates prevention and health-promotion programs tailored to student needs.

Counselling and Psychosocial Support (kesypsy@hmu.gr)

The Counseling and Psychosocial Support Office provides free, confidential psychological and social support to students, offering individual, group, and web-based counselling, guidance on personal and interpersonal difficulties, and information for those facing socio-economic challenges. Its team of Psychologists and Social Workers also designs mental-health education activities, organises prevention and awareness programmes, and

collaborates with health professionals and specialised agencies to ensure comprehensive support for the student community.

Teaching and Learning Support Center (https://kedima.hmu.gr/)

The Teaching and Learning Support Center (KeDiMA) of ELMEPA was established in 2023 by decision of the Senate, with the ultimate goal of becoming a center that will seek to ensure the quality of educational work, providing high-quality teaching and supporting the teaching and learning process.

Gender Equality Policy and Gender Equality and Combating Discrimination Committee

Gender Equality and Combating Discrimination Committee is fighting discrimination and inappropriate treatment due to gender-related prejudices are key concerns for ELMEPA, which respects the constitutional principles of equal rights. The Gender Equality and Combating Discrimination Committee of HMU is an advisory body to the University and its governing authorities. The Committee's mission is to promote gender equality and to combat discrimination based on gender, racial or ethnic origin, religion or beliefs, health status/disability, age, or sexual orientation at all levels of operation and in all procedures and activities of academic life.

Liaison & Career Office

The Liaison & Career Support Office helps students and graduates plan their academic and professional paths by providing guidance on postgraduate studies, scholarships, job opportunities, lifelong learning programs, and mobility or volunteer initiatives. It also supports career planning, skills development, CV writing, job-search techniques, and decision-making, while fostering collaborations with employers and organisations to strengthen the connection between the University and the labour market.

Office of Public & International Relations

The Department of Public & International Relations is active in the field of international relations in order to promote the HMU abroad. It coordinates all collaborations with Educational Institutions, Research Centers, and Businesses within the framework of International and mainly European programs. In addition, it regulates student mobility through the Lifelong Learning Program (LLP) / Erasmus, in an attempt to contribute to the development of the Community by promoting exchanges and cooperation between educational systems.

Center for Further Education and Lifelong Learning

The purpose of the C.E.L.L.L. is the organization of all kinds of educational and training programs, which do not involve undergraduate or postgraduate curricula. The organization

and development of actions that fall within the purposes of C.E.L.L.L. cannot be developed individually by university staff or any other structures thereof, unless this is explicitly provided for by law. The educational/training programs implemented by C.E.L.L.L. have as their main objective the provision of specialized knowledge and skills in order to strengthen the professional prospects of the trainees and their connection to the labor market.

15.3.2 Student care at the FMUL and University of Lisbon

Estudantes com Necessidades Educativas Específicas (Students with Special Educational Needs

The objectives are to centralize information related to matters concerning students with special educational needs, to provide faster communication channels between you and FMUL, and to disseminate useful information and initiatives.

Núcleo de Apoio ao Estudante (Student Support Center)

The Student Support Center (NAE) aims to provide comprehensive support across all areas of personal, social, and professional development for students throughout their academic journey, fostering an environment open to diversity and personal growth. It also intends to promote the integration of all students, including students with special educational needs (SEN), into the community of the Faculty of Medicine of the University of Lisbon (FMUL), promoting equal opportunities. The NAE has been responsible for this area since 2022/2023.

Apoios Sociais (Social Support & Scholarships)

The Social Action Services of the University of Lisbon (SASUL) have the mission of providing social support in order to promote equal opportunities in access to and successful attendance at ULisboa, contributing to the integral education of its students, in an academic context of active citizenship. SASULisboa grants the following types of student support (a) Direct Social Support, including scholarships, financial aid, and annual transport subsidies for students from Madeira and the Azores; (b) Indirect Social Support, such as meals, accommodation, childcare and, in conjunction with specific ULisboa services, health services, sociocultural and sports activities; (c) Special Support, granted to students with special educational needs.

Employability

ULisboa monitors the employability of its graduates through periodic online surveys, tracking employment rates, contract types, waiting periods, and career profiles after 12 months, and again after 6 and 10 years in the job market. This system helps assess how well academic of-

ferings align with labour-market needs, while several Schools also provide personalised support for students' professional insertion and career development.

Lifelong Learning

Today's higher education institutions have the obligation to ensure that any person, at any stage of life, may continue their studies as a logical recognition of the skills and competencies acquired in a variety of contexts, or simply to allow any person to refocus their career. In accordance with this rationale, ULisboa seeks to develop effective lifelong learning strategies, based on the European Universities' Charter on Lifelong Learning.

15.4 Life at the University

15.4.1 Life at HMU

Food services and housing

There is a possibility for students who are not entitled to the free meal card to issue a prepaid, fortnightly or monthly card, at a very lost cost per day. HMU restaurant offers breakfast, full lunch and dinner throughout the week. The HMU offers Student Halls of Residence that can accommodate a certain number of students who meet certain conditions.

Gym

The University offers students and staff a wide range of organized sports activities in fully equipped facilities staffed by qualified Physical Education teachers, promoting both physical health and personal development. Activities include basketball, volleyball, traditional dance, aerobics, martial arts, weight training, ping pong, and specialized rehabilitation programmes for injuries or musculoskeletal conditions.

Kindergarten

HMU's daycare center accommodates exclusively children of the Educational, Administrative staff and Students of the Foundation. In the children's area, two sections operate: a) Children's section 2.5 to 4 years old, and b) Pre-toddler 4 to 5 years old.

Cultural and other groups

The University has many different sports, culture, extroversion/volunteering, and technology groups that students can participate in. You can see more details here: Theater group, Music group, Dance Team, Choir, Present, Connect HMU, Animal friendly HACHIKO,PO/IW, Robotics Team, Chess Team, Volleyball Team, Basketball team

Student Association

The student association is active in promoting requests and resolving issues that concern the student community. Students can participate in the Association's procedures after registering

with the Department. Within the framework of the Department Assembly, issues are discussed, which are determined by the Board of Directors of the Association, which emerges after elections held every spring.

Volunteer Network 'Parontes'

The volunteer group "Parontes" is comprised of students at the Hellenic Mediterranean University who are interested, through their voluntary work, in supporting the accessibility and adaptation of their fellow students to academic life.

15.4.2 Life at the University of Lisbon

Student Halls of Residence

Every semester, the ULisboa Student Support Services sets aside vacancies in their Student Halls of Residence for foreign students studying at the University under the Mobility Programs.

Dining Halls

ULisboa operates 11 Dining Halls offering full meals with daily options such as meat, fish, diet, and ovo-lacto-vegetarian dishes. Several Schools also provide Student Menus through their bars and cafeterias, and additional bars, snack bars, and restaurants across the University serve the wider academic community.

Sports

Universidade de Lisboa (ULisboa) includes a number of specialized units which promote sport, health and well-being within the academic community. The sports facilities provide physical exercise modalities (e.g. fitness, group activities, combat sports, tennis, volleyball), and university championships in order to promote the use of free time for health and wellbeing activity within the academic community. See the University Stadium of Lisbon

Health

In the context of primary health care, the Universidade de Lisboa (ULisboa) provides general medical consultations and other medical specialties with special access to members of ULisboa.

Cultural activities

ULisboa offers a rich cultural environment, organising annual exhibitions, concerts, conferences, seminars, and other artistic events. The Aula Magna serves as a major cultural venue in Lisbon, hosting prominent national and international performances, while choirs, student unions, academic music groups, and drama groups further enrich the university's academic and cultural life.

Green spaces

ULisboa maintains several historic and scientifically significant green spaces across Lisbon, including the Ajuda Botanical Garden, Tapada da Ajuda, the Lisbon Botanical Garden, and the Tropical Botanical Garden. These areas preserve diverse plant collections, seed and DNA banks, herbariums, and unique ecosystems, while offering educational activities, workshops, and opportunities for public engagement with biodiversity and nature conservation.

Students Unions

Student Unions at ULisboa represent the students of each School, supporting their reception, integration, and active participation in academic life while fostering cooperation with other higher-education institutions. They maintain close interaction with University governance and organise educational, academic, cultural, and social activities, while also offering practical services such as sports opportunities, reprographic support, and assistance with job searching.

Alumni / ULisboa Alumni and Faculty of Medicine Alumni

Universidade de Lisboa is very interested in strengthening the relationship it has with its alumni, to whom the "alma mater" of their education is still of prime importance, creating a strong, cohesive and proactive body, the Universidade de Lisboa Alumni Association.

15.5 The Universities on social media

Official website of the Joint Master's Programme: https://itha.hmu.gr/

Hellenic Mediterranean University on social media

- HMU's official information channel on viber.
- Official account of HMU on Facebook.
- Official account of the HMU on X / Twitter @HMUniversity.
- Official account of HMU on Instagram.
- Official channel of the HMU on YouTube.
- Official account of HMU on LinkedIn.

Department of Social Work

- Official website: https://sw.hmu.gr/
- Facebook: https://www.facebook.com/profile.php?id=100088702659805
- Instagram: https://www.instagram.com/social.work_hmu_official/

- LinkedIn: https://www.linkedin.com/in/social-work-hellenic-mediterranean-university-473b2b278/

Department of Nutrition & Dietetics

- Official website: https://nds.hmu.gr/
- Facebook (in Greek): https://www.facebook.com/profile.php?id=100093108156443&locale=el_GR
- Instagram: https://www.instagram.com/nds_hmu/

School of Health Sciences

Official website: https://hmu.gr/en/school-of-health-sciences/

Department of Electrical and Computer Engineering

- Official website: https://ece.hmu.gr/
- Facebook: https://www.facebook.com/ece.hmu.gr
- X: https://x.com/ECE_HMU

School of Engineering

Official website: https://hmu.gr/polytechniki-scholi/

University of Lisbon on social media

- Facebook: https://www.facebook.com/UniversidadedeLisboa
- Instagram: https://www.instagram.com/ulisboa
- YouTube: https://www.youtube.com/ulisboa
- LinkedIn: https://www.linkedin.com/school/328706
- Threads: https://www.threads.net/@ulisboa

Lisbon School of Medicine on social media

- Facebook: https://www.facebook.com/faculdademedicina.ulisboa
- Instagram: https://www.instagram.com/faculdademedicina.ulisboa/
- LinkedIn: https://www.linkedin.com/school/medicinaulisboa/

Annex with the full description of the courses of the curriculum

1st Semester

Course Outline A01

1] GENERAL

SCHOOL	Health Sciences, Hellenic Mediterranean University		
ACADEMIC UNIT	Social Work Department		
LEVEL OF STUDIES	Graduate - Master		
COURSE CODE	**A01**	**SEMESTER**	A (1st)
COURSE TITLE	**Interdisciplinary Approach to Healthy and Active Aging**		
INDEPENDENT TEACHING ACTIVITIES *if credits are awarded for separate components of the course, e.g. lectures, laboratory exercises, etc. If the credits are awarded for the whole of the course, state the weekly teaching hours and the total credits*		**WEEKLY TEACHING HOURS**	**CREDITS**
Theory - Lectures		**4**	**7.5**
COURSE TYPE	General knowledge - Mandatory		
PREREQUISITE COURSES:	No		
LANGUAGE OF TEACHING and OF ASSESSMENT:	English		
MODE OF TEACHING *in-person (%) synchronous distance learning (%) asynchronous distance learning (%) (In the case of synchronous distance learning, the total weekly duration of teaching is recorded)*	Blended learning: synchronous hybrid learning (i.e., Face-to-face and distance learning) Synchronous distance learning is for students who can't travel to the countries where the courses are held and has a weekly teaching duration of 240 minutes (4 hours x 60 minutes/hour). Asynchronous distance learning may be used up to 25% (if needed)		
AVAILABILITY TO ERASMUS STUDENTS	Yes		
COURSE WEBSITE (URL)	TBA		

2] LEARNING OUTCOMES

Learning Outcomes

The course learning outcomes, specific knowledge, skills and competences of an appropriate level, which the students will acquire with the successful completion of the course are described.

Consult Appendix A

- *Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area*
- *Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B*

Brief Guide for drafting Learning Outcomes

Knowledge

- understanding global trends in population aging
- knowledge of the challenges that older people and their carers may face
- knowledge of the policy framework of active aging (concepts and identifiers, etc.)
- understanding the contribution of behavioral, psychological and social determinants of health

Skills

- application of knowledge to implement actions to promote the health of older people
- implementation of practices in the care of older people

Abilities

- critical examination of the challenges faced by older people
- development of interventions and actions related to active and healthy aging
- creating innovative practices in the care of old people and in the self-management of their health
- interdisciplinary collaboration in older people care

General Competences

Taking into consideration the general competences that the degree-holder must acquire (as these appear in the Diploma Supplement and are stated below), at which of the following does the course aim?

Search, analysis and synthesis of data and information, with the use of the necessary technology	*Project planning and management*
Adaptability to new situations	*Respect for difference and multiculturalism*
Decision-making	*Respect for the natural environment*
Working independently	*Showing social, professional and ethical responsibility and sensitivity to gender issues*
Team work	*Criticism and self-criticism*
Working in an international environment	*Production of free, creative and inductive thinking*
Working in an interdisciplinary environment	*……*
Production of new research ideas	*Other…*
	…….

- Adaptation to new situations
- Decision making
- Autonomous work
- Teamwork
- Work in an interdisciplinary environment

- Respect for diversity and pluralism
- Demonstration of social, professional and ethical responsibility
- Promotion of free, creative and inductive thinking
- Solving problems
- Observation and comparison
- Oral and written communication skills

3] COURSE SYLLABUS

PURPOSE:

The purpose of the course is to familiarize students with the concept of active and healthy aging, the three (3) axes and the six (6) groups of health determinants (e.g. behavioral, such as diet and physical exercise, social, psychological, environment, services and structures). Students will be able to develop prevention actions and interventions to promote active and healthy aging among older people. Students will also learn how new technologies can contribute to active and healthy aging and create innovative practices in in old people care and health self-management (autonomous and independent living). Finally, students will learn about the challenges faced by caregivers of older people and people with dementia, what palliative care is, and the ethical issues related to end-of-life decisions. The topics will be taught by professors from a variety of disciplines, each of whom will offer a different perspective.

CONTENT:

1. Introduction to active and healthy aging (definitions, population aging, myths about aging, age discrimination, concepts and determinants of active and healthy aging).
2. Psychological factors and their role in active and healthy aging (self-esteem, self-efficacy, coping skills, religiosity, psychological resilience, post-traumatic growth)
3. Social determinants of health and their role in active and healthy aging (social support, Intergenerational connection programs for old people as policies for healthy aging and social cohesion)
4. The burden of carers of older people and people with dementia
5. Behavioral determinants of health: The role of nutrition in cognitive function and in active and healthy aging
6. Prevention and health promotion in older people (health assessment, challenges, vulnerability, geriatric syndromes, and neuropsychiatric disorders in old age)
7. Autonomous and independent living of older adults: assessment, programs, self-management
8. Services to promote healthy and active aging (access to health and healthcare) and the role of health literacy
9. Supervision and guidance in the writing of students' papers
10. Introduction to the new technologies and their role in active and healthy aging
11. Palliative care. Bioethical dimensions and applications
12. Presentations of students' homework
13. Presentations of students' homework

4] TEACHING AND LEARNING METHODS – ASSESSMENT

MODE OF TEACHING *Face-to-face, distance learning, etc.*	Blended learning: synchronous hybrid learning (i.e., Face-to-face and distance learning) Asynchronous distance learning may be used up to 25% (if needed)
MODE AND FREQUENCY OF COMMUNICATION WITH THE STUDENTS	▪ Communication via university email, LMS announcements (e.g., eClass) as needed ▪ Announcements for urgent updates or changes and/or reminders for upcoming tasks (as needed) ▪ Weekly office hours and individual appointments as needed ▪ Additional updates before major assessments and timely feedback on submitted work
ENSURING THE MODE OF COMMUNICATION AMONG STUDENTS *Team assignments and discussions, collaborative learning platforms with the use of AI, video conference, QA sessions, κ.α.*	▪ Team assignments that require coordinated collaboration and shared decision-making ▪ Discussion forums on the LMS ▪ collaborative learning platforms (e.g., shared documents, AI-supported tools) for group work and co-creation ▪ video conference meetings for group presentations, project planning, and synchronous collaboration ▪ Regular Q&A sessions to encourage peer support and collective clarification of course material
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY *Use of ICT in teaching, in laboratory training, in the communication with students*	ICTs, GenAI platforms, and cloud-based AI environments are used in teaching, delivering content to students, and communicating with them. More specifically: ▪ Use of digital platforms (e.g., LMS) for distributing learning materials, assignments, and announcements ▪ Use of multimedia presentations, interactive tools, and online resources to enhance teaching and student engagement ▪ Synchronous and asynchronous communication with students through email, LMS forums, and video-conferencing tools (e.g., Skype, Microsoft Teams, Zoom, Webex, Google Meet) ▪ Support for collaborative learning through shared documents, online workspaces, and structured group activities
TECHNOLOGICAL EQUIPMENT REQUIREMENTS	▪ Access to a computer or laptop with a reliable internet connection and basic equipment (e.g. a camera, speakers and headphones). ▪ Use of the university's LMS (e.g. eClass) for course materials, assignments and communication. ▪ Audio-visual equipment for lectures and presentations (e.g. a projector, speakers and a microphone).

<table>
<tr><td></td><td>

- Video conferencing tools for online sessions.
- Specialised software or digital tools required for course-specific tasks (if applicable).
- Laboratory equipment and digital interfaces for practical or simulation-based training (where relevant).
- Basic knowledge of computers, the internet, Windows, and Office.

</td></tr>
<tr><td>PLAGIARISM POLICY/ PLAGIARISM DETECTION TOOLS</td><td>

Plagiarism Policy: The current policy of the universities

Plagiarism detection tools: Rhe tools used by the universities, e.g. Turnitin.

More specifically:

- All submitted work must be original and adhere to the academic integrity and plagiarism policies of the universities
- Proper citation and referencing are required for all sources, including texts, images and digital materials.
- Plagiarism, whether intentional or unintentional, may result in penalties according to institutional regulations.
- Assignments and written work will be checked using plagiarism detection software (e.g. Turnitin) to ensure academic honesty.
- Students are encouraged to review similarity reports and correct any citation issues before final submission.
- Guidance on avoiding plagiarism is provided through course materials, workshops and instructor feedback.

</td></tr>
<tr><td>ARTIFICIAL INTELLIGENCE POLICY
(1) The use of Artificial Intelligence is prohibited in all circumstances
(2) The use of Artificial Intelligence is allowed only with the permission of the instructor
(3) The use of Artificial Intelligence is allowed only with an explicit reference to the literature
(4) Students are free to use Artificial Intelligence</td><td>The use of AI is permitted if the following requirements are met. Students may use AI tools to support their learning and assignment preparation, provided the instructor approves it and the student adheres to the guidelines for acceptable use. Students should maintain academic integrity by critically evaluating AI-generated content, clearly referencing/acknowledging the tool used and describing how it was used, and citing all sources and literature that informed the final work.</td></tr>
<tr><td>ORGANISATION OF TEACHING
The mode and methods of teaching are described in detail.
Lectures, seminars, laboratory</td><td>

Activity	Semester workload
Lectures and Interactive teaching/supervision	60
Study and analysis of	70

</td></tr>
</table>

practice, fieldwork, study and analysis of bibliography, tutorials, work placements, clinical practice, art workshop, interactive teaching, educational visits, project, essay writing, artworks, etc. *The student's study hours for each learning activity are stated, as well as the hours of independent study, according to the principles of the ECTS.*	articles/literature - Independent study for the exams Assignment/Homework: 60 **Course total: 190**
STUDENT ASSESSMENT *Description of the assessment method* *Language of assessment, methods of assessment, formative or summative assessment, multiple choice questions test, short answer questions, essay questions, problem solving, written work, essay/report, oral examination, public presentation, laboratory assignment, clinical examination of patient, art interpretation, other* *Specifically-defined evaluation criteria are given, and if and where they are accessible to students.*	The evaluation language is English. Assessment consists of: ▪ Final written examination (70%) with multiple-choice, true/false, matching, fill-in-the-blank, and/or short-answer questions. ▪ Written experiential assignment (30%), with detailed instructions provided by the course instructor and posted on eClass. Mid-semester guidance is provided to support the development of the assignment, and students present their work at the end of the semester. Evaluation criteria for all assessment components are available on eClass from the start of the course.

5] RECOMMENDED-BIBLIOGRAPHY

-Suggested Bibliography:

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- Related scientific journals:

- Age and Aging
- Aging and Society
- Aging Research Reviews
- Aging and Disease
- Aging and Mental Health
- Aging Clinical and Experimental Research
- Alzheimer's & Dementia
- American Journal of Alzheimer's Disease & Other Dementias
- American Journal of Geriatric Psychiatry
- Archives of Gerontology and Geriatrics
- BMC Geriatrics

- Clinical Interventions in Aging
- Current Aging Science
- Dementia
- Dementia and Geriatric Cognitive Disorders
- European Journal of Aging
- Frontiers in Aging
- Geriatrics and Gerontology International
- Gerontology and Geriatric Medicine
- Interdisciplinary topics in gerontology and geriatrics
- International Journal of Aging and Human Development
- International Journal of Alzheimer's Disease
- International Journal of Geriatric Psychiatry
- International psychogeriatrics
- Journal of Alzheimer's Disease
- Journal of Aging and Health
- Journal of Aging Studies
- Journal of Cross-Cultural Gerontology
- Psychogeriatrics
- Psychology and Aging
- Quality in Aging and Older Adults
- Research on Aging
- The Gerontologist
- The journal of frailty and aging
- The journals of Gerontology. Series B, Psychological sciences and social sciences

Course Outline A02

1] GENERAL

SCHOOL	School of Health Sciences		
ACADEMIC UNIT	Department of Nutrition and Dietetics Sciences		
LEVEL OF STUDIES	Postgraduate		
COURSE CODE	**A02**	**SEMESTER**	A (1st)
COURSE TITLE	**Integrative Nutrition Care for Healthy Aging**		
INDEPENDENT TEACHING ACTIVITIES if credits are awarded for separate components of the course, e.g. lectures, laboratory exercises, etc. If the credits are awarded for the whole of the course, state the weekly teaching hours and the		**WEEKLY TEACHING HOURS**	**CREDITS**

total credits		
Theory - Lectures	**4**	**7.5**
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail in section (4).		

COURSE TYPE general background, special background, specialization, general education, skills development	Special background
PREREQUISITE COURSES	No
LANGUAGE OF INSTRUCTION AND OF ASSESSMENT	English
MODE OF TEACHING in-person (%) synchronous distance learning (%) asynchronous distance learning (%) (In the case of synchronous distance learning, the total weekly duration of teaching is recorded)	in-person and/or synchronous distance learning (100%)
AVAILABILITY TO ERASMUS STUDENTS	Yes
COURSE WEBSITE (URL)	TBA

2] LEARNING OUTCOMES

Learning Outcomes

The course learning outcomes, specific knowledge, skills and competences of an appropriate level, which the students will acquire with the successful completion of the course are described.

Consult Appendix A

- *Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area*
- *Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B*
- *Brief Guide for drafting Learning Outcomes*

- Explain the biological and physiological mechanisms linking nutrition and aging.
- Be familiar with the core principles of Integrative nutrition, such as the importance of whole foods, the impact of emotional and mental health on dietary choices, and the significance of lifestyle factors such as stress management and physical activity.
- Assess nutritional status, biomarkers, and dietary patterns using evidence-based tools.
- Design integrated nutrition care plans tailored to the individual needs of older adults.

- Utilize digital technologies and data-driven applications for precision nutrition and dietary monitoring.
- Critically evaluate scientific literature on nutrition, metabolism, and healthy aging.
- Be familiar with the dietary supplements most used for the third age.
- Collaborate with multidisciplinary teams to implement nutrition interventions in clinical and community settings.

General Competences

Taking into consideration the general competences that the degree-holder must acquire (as these appear in the Diploma Supplement and are stated below), at which of the following does the course aim?

Search, analysis and synthesis of data and information, with the use of the necessary technology	*Project planning and management*
	Respect for difference and multiculturalism
	Respect for the natural environment
Adaptability to new situations	*Showing social, professional and ethical responsibility and sensitivity to gender issues*
Decision-making	
Working independently	*Criticism and self-criticism*
Team work	*Production of free, creative and inductive thinking*
Working in an international environment	*……*
Working in an interdisciplinary environment	*Other…*
Production of new research ideas	*…….*

The course aims to develop competences in:

- Search, analysis & synthesis of data with use of technology
- Adapting to new situations
- Decision-making
- Teamwork & interdisciplinary collaboration
- Working in international environment
- Production of new research ideas
- Project planning & management
- Production of creative and inductive thinking

3] COURSE SYLLABUS

1) Developmental Origins of Healthy Ageing and Personalized Nutrition Care: Early-life determinants of health, epigenetic programming, and implications for aging trajectories.
2) Nutritional Biomarkers, Nutritional focused Physical Examination and Clinical Assessment of Aging
3) Digital applications for Diet Monitoring and Precision Nutrition in Older Adults Malnutrition: Strategies for preventing and treating undernutrition, sarcopenia, and frailty through tailored nutritional support.
4) Metabolomics and Gut Microbiome in Personalized Nutrition and Healthy Aging
5) Chrononutrition and Circadian Rhythm in Aging
6) Next-generation genetic technologies for the research of complex neurodegenerative diseases in geriatrics

7) Exercise and Nutrition in Geroscience: Synergistic effects of physical activity and diet on metabolic regulation and biological aging.
8) Mindful eating and mindful-based interventions for healthy aging
9) Public Health Approaches to Healthy Aging: Policies and community-based programs promoting nutrition and active aging.
10) Integrated and Person-Centered Aging Care Across Institutional, Clinical & Community Settings
11) Current trends of supplementation in older adults
12) Supplements in combination with physical activity in the third age
13) Presentations of students' work

4] TEACHING AND LEARNING METHODS - ASSESSMENT

MODE OF TEACHING *Face-to-face, distance learning, etc.*	Blended learning: synchronous hybrid learning (i.e., Face-to-face and distance learning) Asynchronous distance learning may be used up to 25% (if needed)
MODE AND FREQUENCY OF COMMUNICATION WITH THE STUDENTS	▪ Communication via university email, LMS announcements (e.g., eClass) as needed ▪ Announcements for urgent updates or changes and/or reminders for upcoming tasks (as needed) ▪ Weekly office hours and individual appointments as needed ▪ Additional updates before major assessments and timely feedback on submitted work
ENSURING THE MODE OF COMMUNICATION AMONG STUDENTS *Team assignments and discussions, collaborative learning platforms with the use of AI, video conference, QA sessions, κ.α.*	▪ Team assignments that require coordinated collaboration and shared decision-making ▪ Discussion forums on the LMS ▪ collaborative learning platforms (e.g., shared documents, AI-supported tools) for group work and co-creation ▪ video conference meetings for group presentations, project planning, and synchronous collaboration ▪ Regular Q&A sessions to encourage peer support and collective clarification of course material
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY *Use of ICT in teaching, in laboratory training, in the communication with students*	ICTs, GenAI platforms, and cloud-based AI environments are used in teaching, delivering content to students, and communicating with them. More specifically: ▪ Use of digital platforms (e.g., LMS) for distributing learning materials, assignments, and announcements ▪ Use of multimedia presentations, interactive tools, and online resources to enhance teaching and student engagement ▪ Application of specialized software and virtual environments (if needed) ▪ Synchronous and asynchronous communication with students through email, LMS forums, and video-conferencing tools (e.g.,

	Skype, Microsoft Teams, Zoom, Webex, Google Meet) ▪ Support for collaborative learning through shared documents, online workspaces, and structured group activities
TECHNOLOGICAL EQUIPMENT REQUIREMENTS	▪ Access to a computer or laptop with a reliable internet connection and basic equipment (e.g. a camera, speakers and headphones). ▪ Use of the university's LMS (e.g. eClass) for course materials, assignments and communication. ▪ Audio-visual equipment for lectures and presentations (e.g. a projector, speakers and a microphone). ▪ Video conferencing tools for online sessions. ▪ Specialised software or digital tools required for course-specific tasks (if applicable). ▪ Laboratory equipment and digital interfaces for practical or simulation-based training (where relevant). ▪ Basic knowledge of computers, the internet, Windows, and Office.
PLAGIARISM POLICY/ PLAGIARISM DETECTION TOOLS	Plagiarism Policy: The current policy of the universities Plagiarism detection tools: The tools used by the universities, e.g. Turnitin. More specifically: ▪ All submitted work must be original and adhere to the academic integrity and plagiarism policies of the universities ▪ Proper citation and referencing are required for all sources, including texts, images and digital materials. ▪ Plagiarism, whether intentional or unintentional, may result in penalties according to institutional regulations. ▪ Assignments and written work will be checked using plagiarism detection software (e.g. Turnitin) to ensure academic honesty. ▪ Students are encouraged to review similarity reports and correct any citation issues before final submission. ▪ Guidance on avoiding plagiarism is provided through course materials, workshops and instructor feedback.
ARTIFICIAL INTELLIGENCE POLICY *(1) The use of Artificial Intelligence is prohibited in all circumstances* *(2) The use of Artificial Intelligence is allowed only with the permission of the instructor* *(3) The use of Artificial Intelligence is*	The use of AI is permitted if the following requirements are met. Students may use AI tools to support their learning and assignment preparation, provided the instructor approves it and the student adheres to the guidelines for acceptable use. Students should maintain academic integrity by critically evaluating AI-generated content, clearly referencing/acknowledging the tool used and describing how it was used, and citing all sources and literature that informed the final work.

<table>
<tr><td>allowed only with an explicit reference to the literature
(4) Students are free to use Artificial Intelligence</td><td></td></tr>
<tr><td>ORGANISATION OF TEACHING
The mode and methods of teaching are described in detail.
Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, work placements, clinical practice, art workshop, interactive teaching, educational visits, project, essay writing, artworks, etc.
The student's study hours for each learning activity are stated, as well as the hours of independent study, according to the principles of the ECTS.</td><td>
<table>
<tr><th>Activity</th><th>Semester workload</th></tr>
<tr><td>Lectures and Interactive teaching/supervision</td><td>60</td></tr>
<tr><td>Study and analysis of articles/literature - Independent study for the exams</td><td>70</td></tr>
<tr><td>Assignment/Homework</td><td>60</td></tr>
<tr><td>Course total</td><td>190</td></tr>
</table>
</td></tr>
<tr><td>STUDENT ASSESSMENT
Description of the assessment method
Language of assessment, methods of assessment, formative or summative assessment, multiple choice questions test, short answer questions, essay questions, problem solving, written work, essay/report, oral examination, public presentation, laboratory assignment, clinical examination of patient, art interpretation, other
Specifically defined evaluation criteria are given, and if and where they are accessible to students.</td><td>The evaluation language is English.
Assessment consists of:
▪ Final written examination (70%) with multiple-choice, true/false, matching, fill-in-the-blank, and/or short-answer questions.
▪ Written experiential assignment (30%), with detailed instructions provided by the course instructor and posted on eClass.
Mid-semester guidance is provided to support the development of the assignment, and students present their work at the end of the semester.
Evaluation criteria for all assessment components are available on eClass from the start of the course.</td></tr>
</table>

5] RECOMMENDED BIBLIOGRAPHY

- ***Suggested bibliography:***

- Chernoff, R. (2019). Geriatric Nutrition: The Health Professional's Handbook. Jones & Bartlett Learning.
- Wahl, D. et al. (2023). Editorial: Nutrition and Metabolic Aging. Front Nutr. 2023 Apr 5;10:1191958.
- WHO (2021). Decade of Healthy Ageing (2021–2030). World Health Organization.
- U.S. Department of Health and Human Services (2020). Dietary Guidelines for Americans 2020–2025.

• Bousquet, J. et al. (2019). The Reference Site Collaborative Network of the European Innovation Partnership on Active and Healthy Ageing. Transl Med Unisa, 19:66-81.

- Related academic journals:

- The American Journal of Clinical Nutrition
- The Journal of Nutrition
- Ageing Research Reviews
- GeroScience
- Frontiers in Nutrition
- Nutrients
- Journal of Personalized Medicine
- Clinical Nutrition
- The Journals of Gerontology: Series A (Biological Sciences & Medical Sciences)
- Public Health Nutrition
- The Lancet Healthy Longevity
- Journal of Medical Internet Research

Course Outline A03

1] GENERAL

SCHOOL	School of Engineering-Hellenic Mediterranean University		
ACADEMIC UNIT	Electrical and Computer Engineering Department		
LEVEL OF STUDIES	Graduate – Master		
COURSE CODE	**A03**	**SEMESTER**	A (1^{st})
COURSE TITLE	**An Introduction to AI tools for Healthcare**		
INDEPENDENT TEACHING ACTIVITIES *if credits are awarded for separate components of the course, e.g. lectures, laboratory exercises, etc. If the credits are awarded for the whole of the course, give the weekly teaching hours and the total credits*		**WEEKLY TEACHING HOURS**	**CREDITS**
Theory		**3**	**7.5**
Practice		**1**	
Total		**4**	**7.5**
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).			
COURSE TYPE *general background, special background, specialised general knowledge, skills*	Specialized general knowledge – Skills development		

development	
PREREQUISITE COURSES:	N/A
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	English
MODE OF TEACHING *in-person (%)* *synchronous distance learning (%)* *asynchronous distance learning (%)* *(In the case of synchronous distance learning, the total weekly duration of teaching is recorded)*	in-person and/or synchronous distance learning (100%)
IS THE COURSE OFFERED TO ERASMUS STUDENTS	Yes
COURSE WEBSITE (URL)	TDB

2] LEARNING OUTCOMES

Learning outcomes

The course learning outcomes, specific knowledge, skills and competences of an appropriate level, which the students will acquire with the successful completion of the course are described.

Consult Appendix A

- *Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area*
- *Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B*
- *Guidelines for writing Learning Outcomes*

By the end of this course, students will be able to:

- Understand the principles and capabilities of Generative AI (GenAI) in healthcare.
- Use LLM-based AI tools for clinical documentation, summarization, data extraction, and patient communication.
- Apply prompt engineering techniques tailored to medical tasks and workflow automation.
- Evaluate, select, and use healthcare-specific AI tools and platforms, including ChatGPT-based systems, BioMedLM and other medical LLMs.
- Understand regulatory, ethical, and safety frameworks around GenAI deployment in healthcare environments.
- Assess risks, biases, explainability considerations, and compliance requirements for AI tools used in clinical practice.
- Design small-scale prototypes/workflows integrating GenAI assistants into clinical or operational processes.

General Competences

Taking into consideration the general competences that the degree-holder must acquire (as these appear in the Diploma Supplement and appear below), at which of the following does the course aim?

Search for, analysis and synthesis of data and information, with the use of the necessary technology	*Project planning and management*
Adapting to new situations	*Respect for difference and multiculturalism*
Decision-making	*Respect for the natural environment*
Working independently	*Showing social, professional and ethical responsibility and sensitivity to gender issues*
Team work	*Criticism and self-criticism*
Working in an international environment	*Production of free, creative and inductive thinking*
Working in an interdisciplinary environment	*……*
Production of new research ideas	*Others…*
	…….

This course promotes:

- Decision-making
- Critical thinking
- Problem solving
- Working independently
- Teamwork
- Use of technology in professional environments
- Ethical and responsible practice
- Innovation and design of new workflows
- Oral and written communication skills

3] SYLLABUS

1. Introduction to Generative AI in Healthcare

- What is Generative AI?
- LLMs (Large Language Model) in biomedicine: capabilities & limitations.
- Overview of healthcare-specific generative models such as BioMedLM, Med-PaLM, ClinicalGPT, etc.

Learning Objectives: Upon completing this module, students will be able to:

- Define what Generative AI and Large Language Models (LLMs) are.
- Identify the main applications of Generative AI within the healthcare domain.
- Distinguish the capabilities and limitations of medical LLMs (e.g., BioMedLM, Med-PaLM).
- Analyze realistic clinical use cases where Generative AI is applied.

2. LLM-based Tools for Clinical Documentation

- Automating clinical notes, SOAP (Subjective, Objective, Assessment, and Plan) notes, discharge summaries.
- AI-assisted HER (Electronic health record) integration.
- Hands-on demonstrations with medical LLM tools.

Learning Objectives: Upon completing this module, students will be able to:

- Describe the ways in which LLMs automate clinical documentation.
- Use AI tools to generate SOAP notes, discharge summaries, and clinical narratives.
- Evaluate the quality and accuracy of AI-generated documentation.
- Adapt LLM outputs for different specialized clinical scenarios.

3. Text Summarization and Information Extraction

- Summaries of lab reports.
- Extracting structured data from unstructured clinical text.
- Demonstration with ChatGPT-based systems and regulatory-compliant medical models.

Learning Objectives: Upon completing this module, students will be able to:

- Explain the process of extracting structured data from unstructured clinical text.
- Identify risk areas such as hallucinations and semantic drift.
- Use safe and controlled workflows for summarization and information extraction.

4. Patient Communication Tools

- Drafting messages for patient engagement.
- AI tools for health literacy adaptations.
- Multilingual GenAI assistants for healthcare.

Learning Objectives: Upon completing this module, students will be able to:

- Use LLMs as assistants for patient-facing communication.
- Create patient-friendly messages adapted to different levels of health literacy.
- Apply multilingual GenAI assistants for cross-cultural communication in healthcare.
- Understand the risks of misinformation and oversimplification when using AI for patient interaction.

5. Prompt Engineering for Medical Tasks

- Principles of effective prompting.
- Zero-shot and few-shot prompting for clinical use cases.
- Safety-oriented prompt frameworks.
- Building prompt libraries for healthcare workflows.

Learning Objectives: Upon completing this module, students will be able to:

- Formulate effective prompts tailored to medical applications.
- Use zero-shot, few-shot, and chain-of-thought prompting techniques.
- Design safe and reliable prompt frameworks for clinical tasks.
- Develop prompt libraries to support clinical teams and healthcare workflows.

6. Regulatory & Safety Considerations

- EU AI Act guidelines for healthcare.
- Bias, fairness, transparency, explainability.
- Risk assessment frameworks for clinical AI tools.

Learning Objectives: Upon completing this module, students will be able to:

- Recognize regulatory frameworks (EU AI Act) governing AI tools in healthcare.
- Assess GenAI tools for bias, fairness, explainability, and safety.
- Analyze risks associated with developing and deploying LLMs in clinical environments.

- Describe ethical guidelines for the responsible use of GenAI in healthcare.

7. Healthcare-Specific GenAI Tools

- BioMedLM, Med-PaLM, ClinicalGPT, etc.
- GDPR-compliant GenAI platforms
- Limitations and fail cases

Learning Objectives: Upon completing this module, students will be able to:

- Use practical GenAI tools such as BioMedLM, Med-PaLM, and ClinicalGPT.
- Identify GDPR-compliant GenAI platforms appropriate for clinical use.
- Evaluate different AI tool options based on the clinical task and requirements.

8. Case Studies & Practical Use Cases

- Documentation automation.
- Clinical decision support augmentation.
- Research summarization.
- Administrative workflow optimization.

Learning Objectives: Upon completing this module, students will be able to:

- Analyze existing GenAI systems deployed in hospitals or healthcare organizations.
- Map clinical workflows and identify points where AI creates added value.
- Avoid misuse cases and recognize common failure modes in medical AI.
- Translate theoretical concepts into practical clinical scenarios.

9. Final Project

Students design and evaluate a GenAI-based healthcare workflow, using safe, ethical, and compliant methods such as the following examples:

- AI-assisted summarization pipeline.
- Prototype patient-communication assistant.
- Data extraction tool for clinical text.

Learning Objectives: Upon completing this module, students will be able to:

- Design an end-to-end GenAI pipeline for a specific medical use case.
- Apply prompting, evaluation, and error-analysis techniques.
- Document risks, mitigation strategies, and regulatory considerations.
- Present a small-scale AI tool or workflow with scientific justification and methodological clarity.

4] TEACHING and LEARNING METHODS - EVALUATION

MODE OF TEACHING *Face-to-face, Distance learning, etc.*	Hybrid (in-person and virtual lectures)
MODE AND FREQUENCY OF COMMUNICATION WITH THE STUDENTS	Hybrid Communication (i.e., Face-to-face and distance communication)
ENSURING THE MODE OF COMMUNICATION AMONG STUDENTS	▪ Communication via university email, ▪ LMS (e.g., eClass) announcements (as needed): ▪ Announcements for urgent updates or changes,

<table>
<tr><td>Team assignments and discussions, collaborative learning platforms with the use of AI, video conference, QA sessions, etc.</td><td>▪ reminders for upcoming tasks,
▪ Weekly office hours and individual appointments (as needed),
▪ Additional updates before major assessments and timely feedback on submitted work.</td></tr>
<tr><td>USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY
Use of ICT in teaching, laboratory education, communication with students</td><td>Use of IT in teaching
Use of IT in delivering content to students online
Use of GenAI platforms and LLM tools
Use of cloud-based AI environments
Online communication with students</td></tr>
<tr><td>TECHNOLOGICAL EQUIPMENT REQUIREMENTS</td><td>▪ Access to a PC with a reliable internet connection and basic equipment (e.g. a camera, speakers and headphones).
▪ Use of the university’s LMS (e.g. eClass) for course materials, assignments and communication.
▪ Audio-visual equipment for lectures and presentations (e.g. a projector, speakers and a microphone).
▪ Video conferencing tools for online sessions.
▪ Specialized software or digital tools required for course-specific tasks (if applicable).</td></tr>
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<tr><td>TEACHING METHODS
The manner and methods of teaching are described in detail. Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials,</td><td><table>
<tr><th>Activity</th><th>Semester workload</th></tr>
<tr><td>Lectures</td><td>60 hours</td></tr>
<tr><td>Hands-on workshops</td><td>10 hours</td></tr>
<tr><td>Independent study</td><td>60 hours</td></tr>
<tr><td>Assignments</td><td>30 hours</td></tr>
<tr><td>Final project</td><td>30 hours</td></tr>
</table></td></tr>
</table>

placements, clinical practice, art workshop, interactive teaching, educational visits, project, essay writing, artistic creativity, etc. The student's study hours for each learning activity are given as well as the hours of non-directed study according to the principles of the ECTS	**Course total** — **190 hours**
STUDENT ASSESSMENT *Description of the assessment method Language of evaluation, methods of evaluation, summative or conclusive, multiple choice questionnaires, short-answer questions, open-ended questions, problem solving, written work, essay/report, oral examination, public presentation, laboratory work, clinical examination of patient, art interpretation, other* *Specifically defined evaluation criteria are given, and if and where they are accessible to students.*	• Final written assignment / project: 40% • Practical exercises (prompting & tool use): 30% • Written exam: 30% Evaluation includes: • Open-ended questions • Use of AI tools in controlled labs • Written report and presentation of use case Language of evaluation: English.

5] RECOMMENDED BIBLIOGRAPHY

Books & Reports

- *Artificial Intelligence in Healthcare – Elsevier*
- *Ethics and Governance of Artificial Intelligence for Health, WHO*
- *Generative AI for Healthcare, MIT Press (forthcoming/selected chapters)*

Articles & Journals

- *Nature Medicine*
- *NPJ Digital Medicine*
- *Journal of Medical Internet Research*
- *Artificial Intelligence in Medicine*

Course Outline A04

1] GENERAL

SCHOOL	School of Engineering-Hellenic Mediterranean University
ACADEMIC UNIT	Electrical and Computer Engineering Department
LEVEL OF STUDIES	Graduate – Master

COURSE CODE	**A04**	**SEMESTER**	A (1st)
COURSE TITLE	**Artificial Intelligence with a Focus on Medical Applications**		

INDEPENDENT TEACHING ACTIVITIES *if credits are awarded for separate components of the course, e.g. lectures, laboratory exercises, etc. If the credits are awarded for the whole of the course, state the weekly teaching hours and the total credits*	**WEEKLY TEACHING HOURS**	**CREDITS**
Theory	**4**	**7.5**
Total	**4**	**7.5**
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail in section (4).		

COURSE TYPE *general background, special background, specialization, general education, skills development*	Special background - Mandatory
PREREQUISITE COURSES	N/A
LANGUAGE OF INSTRUCTION AND OF ASSESSMENT	English
MODE OF TEACHING *in-person (%) synchronous distance learning (%) asynchronous distance learning (%) (In the case of synchronous distance learning, the total weekly duration of teaching is recorded)*	in-person and/or synchronous distance learning (100%)
AVAILABILITY TO ERASMUS STUDENTS	Yes
COURSE WEBSITE (URL)	TBA

2] LEARNING OUTCOMES

Learning Outcomes

The course learning outcomes, specific knowledge, skills and competences of an appropriate level, which the students will acquire with the successful completion of the course are described.

Consult Appendix A

- *Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area*
- *Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B*

- *Brief Guide for drafting Learning Outcomes*

By the end of this course, students will be able to:

- Understand the AI terminology and potential application fields.
- Use AI for learning from Data.
- Apply AI for decision-making in cases where certainty is the case.
- Representing and reasoning over complex cases under uncertainty
- Apply AI for decision-making under uncertainty.
- Understand multi-agent AI decision-making methods for mechanism and policy design and multiagent decision making
- Understand ethical and philosophical aspects of the application of AI in medicine

General Competences

Taking into consideration the general competences that the degree-holder must acquire (as these appear in the Diploma Supplement and are stated below), at which of the following does the course aim?

Search, analysis and synthesis of data and information, with the use of the necessary technology	*Project planning and management*
	Respect for difference and multiculturalism
	Respect for the natural environment
Adaptability to new situations	*Showing social, professional and ethical responsibility and sensitivity to gender issues*
Decision-making	
Working independently	*Criticism and self-criticism*
Teamwork	*Production of free, creative and inductive thinking*
Working in an international environment	*……*
Working in an interdisciplinary environment	*Other…*
Production of new research ideas	*…….*

- Adaptation to new situations
- Decision making
- Autonomous work
- Teamwork
- Promotion of free, creative and inductive thinking
- Solving problems
- Observation and comparison
- Oral and written communication skills

3] COURSE SYLLABUS

Introduction to AI

Concepts and definitions of AI topics, subfields of AI and areas of research and example applications will be presented to students.

Introduction to Machine Learning

Learning how to create models from raw Data. Introduction to Supervised (Classification and Regression using e.g., Decision Trees, Linear Regression and Neural Networks) and unsupervised learning (Clustering e.g. using KMeans) using WEKA ML tool. Presenting the importance of data preprocessing, cleaning, curation and domain

expertise.

Reasoning and acting under certainty

Fundamental algorithms for searching for optimal sequences of actions under certainty (i.e., full observability and determinism) and under constraints will be presented. Although in medicine decisions are typically made under uncertainty, understanding of simpler cases will serve as an introduction to the most complex cases. Furthermore, students will apply the presented algorithms and methods using Python libraries.

Reasoning under uncertainty

In case of uncertainty probabilistic reasoning is typically used. Introduction to probabilities is followed by presentation of Bayesian Networks and Markov Models and algorithms for inference in these formalisms. All algorithms and methods used will be demonstrated and used by students using Python libraries so students will acquire working knowledge of presented topics. Furthermore Causal networks and their applications in medicine (e.g. clinical trial settings) will be presented.

Acting under uncertainty

Decision making in presence of uncertainty using various formalisms such as Decision Networks, and Markov Decision Processes and algorithms such as Value and Policy Iteration will be presented to students. Practicing on these formalisms and algorithms using Python will be part of the course.

Multiagent Decision Making

Designing medical protocols typically involves multiple stakeholders sometimes with conflicting interests. Also policies are created by considering different objectives by various stakeholders. Policy and mechanism design will be covered on this part of the course.

Ethical and Philosophical Issues

Applying AI often is controversial especially in critical application such as medicine. After introducing the technical aspects of the field of AI in previous sections in this part of the course the students will be exposed to a wider point of view, accessing critically the AI assisted decision making.

4] TEACHING AND LEARNING METHODS - ASSESSMENT

MODE OF TEACHING *Face-to-face, distance learning, etc.*	Blended learning: synchronous hybrid learning (i.e., Face-to-face and distance learning) Asynchronous distance learning may be used up to 25% (if needed)
MODE AND FREQUENCY OF COMMUNICATION WITH THE STUDENTS	▪ Communication via university email, LMS announcements (e.g., eClass) as needed ▪ Announcements for urgent updates or changes and/or reminders for upcoming tasks (as needed) ▪ Weekly office hours and individual appointments as needed ▪ Additional updates before major assessments and timely feedback on submitted work
ENSURING THE MODE OF COMMUNICATION AMONG STUDENTS *Team assignments and discussions, collaborative learning platforms with*	▪ Team assignments that require coordinated collaboration and shared decision-making ▪ Discussion forums on the LMS ▪ collaborative learning platforms (e.g., shared documents, AI-supported tools) for group work and co-creation

the use of AI, video conference, QA sessions, κ.α.	▪ video conference for group presentations, project planning, and synchronous collaboration ▪ Regular Q&A sessions to encourage peer support and collective clarification of course material
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY *Use of ICT in teaching, in laboratory training, in the communication with students*	ICTs, GenAI platforms, and cloud-based AI environments are used in teaching, delivering content to students, and communicating with them. More specifically: ▪ Use of digital platforms (e.g., LMS) for distributing learning materials, assignments, and announcements ▪ Use of multimedia presentations, interactive tools, and online resources to enhance teaching and student engagement ▪ Application of specialized software and virtual environments ▪ Synchronous and asynchronous communication with students through email, LMS forums, and video-conferencing tools (e.g., Skype, Microsoft Teams, Zoom, Webex, Google Meet) ▪ Support for collaborative learning through shared documents, online workspaces, and structured group activities
TECHNOLOGICAL EQUIPMENT REQUIREMENTS	▪ Access to a computer or laptop with a reliable internet connection and basic equipment (e.g. a camera, speakers and headphones). ▪ Use of the university's LMS (e.g. eClass) for course materials, assignments and communication. ▪ Audio-visual equipment for lectures and presentations (e.g. a projector, speakers and a microphone). ▪ Video conferencing tools for online sessions. ▪ Specialised software or digital tools required for course-specific tasks (if applicable). ▪ Laboratory equipment and digital interfaces for practical or simulation-based training (where relevant). ▪ Basic knowledge of computers, the internet, Windows, and Office.
PLAGIARISM POLICY/ PLAGIARISM DETECTION TOOLS	Plagiarism Policy: The current policy of the universities Plagiarism detection tools: Rhe tools used by the universities, e.g. Turnitin. More specifically: ▪ All submitted work must be original and adhere to the academic integrity and plagiarism policies of the universities ▪ Proper citation and referencing are required for all sources, including texts, images and digital materials. ▪ Plagiarism, whether intentional or unintentional, may result in penalties according to institutional regulations. ▪ Assignments and written work will be checked using plagiarism detec-

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Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, work placements, clinical practice, art workshop, interactive teaching, educational visits, project, essay writing, artworks, etc.
The student's study hours for each learning activity are stated, as well as the hours of independent study, according to the principles of the ECTS.</td><td>
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<tr><th>Activity</th><th>Semester workload</th></tr>
<tr><td>Lectures and Interactive teaching/supervision</td><td>60</td></tr>
<tr><td>Study and analysis of articles/literature - Independent study for the exams</td><td>60</td></tr>
<tr><td>Assignment/Homework</td><td>70</td></tr>
<tr><td>Course total</td><td>190</td></tr>
</table>
</td></tr>
<tr><td>STUDENT ASSESSMENT
Description of the assessment method
Language of assessment, methods of assessment, formative or summative assessment, multiple choice questions test, short answer questions, essay questions, problem solving, written work, essay/report, oral examination,</td><td>The evaluation language is English.
Assessment consists of:
▪ Final written examination (60%) with multiple-choice, true/false, matching, fill-in-the-blank, and/or short-answer questions.
▪ Written experiential assignment (40%), with detailed instructions provided by the course instructor and posted on eClass.
Mid-semester guidance is provided to support the development of the assignment, and students present their work at the end of the semester.</td></tr>
</table>

public presentation, laboratory assignment, clinical examination of patient, art interpretation, other Specifically defined evaluation criteria are given, and if and where they are accessible to students.	Evaluation criteria for all assessment components are available on eClass from the start of the course.

5] RECOMMENDED BIBLIOGRAPHY

- Suggested bibliography:

Artificial Intelligence: A Modern Approach, 4th US ed. by Stuart Russell and Peter Norvig. 2020

Artificial Intelligence: Foundations of Computational Agents, 3rd edition by David L. Poole and Alan K. Mackworth, Cambridge University Press 2023,

- Related academic journals:

Journal of Artificial Intelligence Research

Artificial Intelligence Review

Artificial Intelligence

Nature Machine Intelligence

Data & Knowledge Engineering

2nd Semester

Course Outline B01

1] GENERAL

SCHOOL	Medicine School		
ACADEMIC UNIT	University of Lisbon		
LEVEL OF STUDIES	Graduate - Master		
COURSE CODE	**B01**	**SEMESTER**	B (2nd)
COURSE TITLE	**Aging and Geriatric Medicine**		
INDEPENDENT TEACHING ACTIVITIES *if credits are awarded for separate components of the course, e.g. lectures, laboratory exercises, etc. If the credits are awarded for the whole of the course, state the weekly teaching hours and the total credits*		**WEEKLY TEACHING HOURS**	**CREDITS**
Theory - Lectures		**60**	**7.5**
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail in section (4).			
COURSE TYPE *general background, special background, specialization, general education, skills development*	Specialised general knowledge - Mandatory		
PREREQUISITE COURSES	No		
LANGUAGE OF INSTRUCTION AND OF ASSESSMENT	English		
MODE OF TEACHING *in-person (%) synchronous distance learning (%) asynchronous distance learning (%) (In the case of synchronous distance learning, the total weekly duration of teaching is recorded)*	in-person and/or synchronous distance learning (100%)		
AVAILABILITY TO ERASMUS STUDENTS	Yes		
COURSE WEBSITE (URL)	TBA		

2] LEARNING OUTCOMES

Learning Outcomes

The course learning outcomes, specific knowledge, skills and competences of an appropriate level, which the students will acquire with the successful completion of the course are described.

Consult Appendix A

- *Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area*
- *Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B*
- *Brief Guide for drafting Learning Outcomes*

Knowledge

At the end of the course, students will be able to:

• Describe the biological, physiological, and anatomical changes of ageing.

• Explain major geriatric syndromes (frailty, sarcopenia, cognitive impairment, polypharmacy, falls, incontinence, etc.).

• Understand models of geriatric care, care transitions, and the role of multidisciplinary teams.

• Identify social, ethical, and legal aspects of ageing, including elder abuse and end-of-life issues.

Skills

Students will acquire the ability to:

• Perform a basic comprehensive geriatric assessment (history, physical exam, functional and cognitive evaluation).

• Recognise atypical presentations of disease in older adults.

• Apply principles of safe prescribing and medication review in geriatrics.

• Use gerontechnology and digital tools relevant to older patients.

Competences

Upon completion, students will be able to:

• Integrate multidisciplinary perspectives when approaching older patients.

• Make informed decisions adapted to the needs and priorities of older adults.

• Communicate effectively with patients, families, and caregivers.

• Demonstrate ethical and professional responsibility in the care of older adults.

General Competences

Taking into consideration the general competences that the degree-holder must acquire (as these appear in the Diploma Supplement and are stated below), at which of the following does the course aim?

Search, analysis and synthesis of data and information, with the use of the necessary technology	*Project planning and management*
	Respect for difference and multiculturalism
	Respect for the natural environment
Adaptability to new situations	*Showing social, professional and ethical responsibility and sensitivity to gender issues*
Decision-making	
Working independently	*Criticism and self-criticism*
Team work	*Production of free, creative and inductive thinking*
Working in an international environment	*……*
Working in an interdisciplinary environment	*Other…*
Production of new research ideas	*…….*

The course aims to develop the following general competences:

- Adapting to new clinical situations in the care of older adults.
- Clinical decision-making in geriatric scenarios.
- Working independently in patient assessment.
- Teamwork within interdisciplinary geriatric teams.
- Working in an interdisciplinary environment, integrating medical, nursing, social, and rehabilitation perspectives.
- Showing social and professional responsibility, particularly regarding ethical aspects, vulnerability and protection of older persons.
- Critical thinking and self-reflection in clinical practice.
- Production of informed, evidence-based clinical reasoning.

3] COURSE SYLLABUS

Foundations of Geriatrics

- History of Geriatrics
- Biology, Physiology and Anatomy of Ageing
- Demography and Epidemiology of Ageing
- Social, Ethical and Legal Aspects of Ageing
- Elder Abuse and Mistreatment

Organisation of Care

- Levels of Clinical Care and Care Transitions
- Role of Family, Formal and Informal Caregivers
- Gerontechnology and Digital Health

Geriatric Syndromes

- Frailty; Sarcopenia; Malnutrition
- Polypharmacy and Iatrogenesis
- Instability, Falls, Immobility
- Pain (acute and chronic)
- Urinary and Faecal Disorders (incontinence, retention, impaction)
- Cognitive Impairment, Delirium, Depression
- Dysphagia
- Visual, Hearing, and Vestibular Impairment

Comprehensive Geriatric Assessment (CGA)

- Clinical history and physical examination in older adults
- Atypical presentation of diseases
- Functional and cognitive assessment
- Interdisciplinary teamwork

Clinical Management in Geriatrics

- Pharmacology and safe prescribing

- Nutrition and physical activity in older adults
- Health promotion and prevention
- Motor, functional, and cognitive rehabilitation
- Palliative and end-of-life care

4] TEACHING AND LEARNING METHODS - ASSESSMENT

MODE OF TEACHING *Face-to-face, distance learning, etc.*	Blended learning: synchronous hybrid learning (i.e., Face-to-face and distance learning) Asynchronous distance learning may be used up to 25% (if needed)
MODE AND FREQUENCY OF COMMUNICATION WITH THE STUDENTS	▪ Communication via university email, LMS announcements (e.g., eClass) as needed ▪ Announcements for urgent updates or changes and/or reminders for upcoming tasks (as needed) ▪ Weekly office hours and individual appointments as needed ▪ Additional updates before major assessments and timely feedback on submitted work
ENSURING THE MODE OF COMMUNICATION AMONG STUDENTS *Team assignments and discussions, collaborative learning platforms with the use of AI, video conference, QA sessions, κ.α.*	▪ Team assignments that require coordinated collaboration and shared decision-making ▪ Discussion forums on the LMS ▪ collaborative learning platforms (e.g., shared documents, AI-supported tools) for group work and co-creation ▪ video conference meetings for group presentations, project planning, and synchronous collaboration ▪ Regular Q&A sessions to encourage peer support and collective clarification of course material
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TECHNOLOGICAL EQUIPMENT	▪ Access to a computer or laptop with a reliable internet connection and

<table>
<tr><td>REQUIREMENTS</td><td>basic equipment (e.g. a camera, speakers and headphones).
▪ Use of the university's LMS (e.g. eClass) for course materials, assignments and communication.
▪ Audio-visual equipment for lectures and presentations (e.g. a projector, speakers and a microphone).
▪ Video conferencing tools for online sessions.
▪ Basic knowledge of computers, the internet, Windows, and Office.</td></tr>
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analysis of bibliography, tutorials, work placements, clinical practice, art workshop, interactive teaching, educational visits, project, essay writing, artworks, etc. *The student's study hours for each learning activity are stated, as well as the hours of independent study, according to the principles of the ECTS.*	<table><tr><td>Independent study for the exams</td><td></td></tr><tr><td>Assignment/Homework</td><td>60</td></tr><tr><td>**Course total**</td><td>**190**</td></tr></table>
STUDENT ASSESSMENT *Description of the assessment method* *Language of assessment, methods of assessment, formative or summative assessment, multiple choice questions test, short answer questions, essay questions, problem solving, written work, essay/report, oral examination, public presentation, laboratory assignment, clinical examination of patient, art interpretation, other* *Specifically defined evaluation criteria are given, and if and where they are accessible to students.*	The evaluation language is English. Assessment consists of: ▪ Final written examination (60%) with multiple-choice, true/false, matching, fill-in-the-blank, and/or short-answer questions. ▪ Written assignment (40%), with detailed instructions provided by the course instructor and posted on eClass. Mid-semester guidance is provided to support the development of the assignment, and students present their work at the end of the semester. Evaluation criteria for all assessment components are available on eClass from the start of the course.

5] RECOMMENDED BIBLIOGRAPHY

- ***Suggested bibliography:***

  - *Learning Geriatric Medicine: A Study Guide for Medical Students. Regina Roller-Wirnsberger, Katrin Singler, Maria Cristina Polidori (Eds.).*
  - *WHO. Integrated Care for Older People (ICOPE) guidelines*

Related academic journals:

- *Age and Ageing*
- *Journal of the American Geriatrics Society (JAGS)*
- *European Geriatric Medicine*

Course Outline B02

1] GENERAL

SCHOOL	Medicine School		
ACADEMIC UNIT	University of Lisbon		
LEVEL OF STUDIES	Graduate - Master		
COURSE CODE	**B02**	**SEMESTER**	B (2^{nd})
COURSE TITLE	**Science of Aging and Longevity**		

INDEPENDENT TEACHING ACTIVITIES *if credits are awarded for separate components of the course, e.g. lectures, laboratory exercises, etc. If the credits are awarded for the whole of the course, state the weekly teaching hours and the total credits*	**WEEKLY TEACHING HOURS**	**CREDITS**
Theory	**4**	**7.5**
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail in section (4).		

COURSE TYPE *general background, special background, specialization, general education, skills development*	Skills development - Mandatory
PREREQUISITE COURSES	No
LANGUAGE OF INSTRUCTION AND OF ASSESSMENT	English
MODE OF TEACHING *in-person (%) synchronous distance learning (%) asynchronous distance learning (%) (In the case of synchronous distance learning, the total weekly duration of teaching is recorded)*	in-person and/or synchronous distance learning (100%)
AVAILABILITY TO ERASMUS STUDENTS	Yes
COURSE WEBSITE (URL)	TBA

2] LEARNING OUTCOMES

Learning Outcomes
The course learning outcomes, specific knowledge, skills and competences of an appropriate level, which the students will acquire with the successful completion of the course are described.

Consult Appendix A

- *Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area*
- *Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B*
- *Brief Guide for drafting Learning Outcomes*

Upon successful completion of this course, students will be able to:

Knowledge

- Explain the key molecular, cellular, immunological, and neurological mechanisms underlying ageing and longevity.
- Describe how nutrition, microbiome, immune function and digital health technologies influence ageing trajectories.
- Discuss ethical, societal, and policy implications of longevity research and emerging ageing-related technologies.

Skills

- Analyse and interpret scientific literature in the biology of ageing, immunosenescence, and neurodegeneration.
- Integrate multi-disciplinary concepts (biology, technology, ethics) to formulate research questions in ageing science.
- Apply principles of translational research to bridge basic discoveries with clinical and public health applications.
- Critically evaluate interventions and technologies aimed at promoting healthy ageing.

Competences

- Work effectively in multidisciplinary and international research settings.
- Demonstrate responsible scientific conduct, including ethical awareness in the use of ageing-related technologies and biological samples.
- Communicate scientific concepts clearly in oral and written formats (discussion of case studies, lab visit reflections).
- Develop independent and creative thinking to propose innovative approaches to healthy ageing and longevity.

General Competences

Taking into consideration the general competences that the degree-holder must acquire (as these appear in the Diploma Supplement and are stated below), at which of the following does the course aim?

Search, analysis and synthesis of data and information, with the use of the necessary technology	*Project planning and management*
	Respect for difference and multiculturalism
	Respect for the natural environment
Adaptability to new situations	*Showing social, professional and ethical responsibility and sensitivity to gender issues*
Decision-making	
Working independently	*Criticism and self-criticism*

Team work	*Production of free, creative and inductive thinking*
Working in an international environment	*……*
Working in an interdisciplinary environment	*Other…*
Production of new research ideas	*…….*

The course aims to develop the following competences:

- Search, analysis and synthesis of scientific data using digital and laboratory technologies.
- Adaptation to new scientific and technological developments in ageing and longevity.
- Independent and team-based research work in an interdisciplinary and international environment.
- Production of new research ideas in ageing biology, gerontechnology and translational science.
- Project planning and problem-solving in experimental and digital-health contexts.
- Ethical and professional responsibility in biomedical and longevity research.
- Critical thinking, self-evaluation and creative scientific reasoning.

3] COURSE SYLLABUS

Introduction

• Welcome session; presentation of mission, structure and research priorities

• Historical perspective of ageing and longevity research

Biology of Ageing

• Cellular and molecular mechanisms of ageing

• Senescence, stem cell exhaustion, DNA damage

• Metabolism, mitochondria and oxidative stress

• Longevity pathways (mTOR, AMPK, sirtuins)

Immunity, Inflammation and Ageing

• Immunosenescence and inflammaging

• Age-related decline of innate and adaptive immunity

• Links with chronic disease

Neurobiology of Ageing

• Cognitive ageing and neurodegeneration

• Brain plasticity and resilience

• Translational approaches in neuroscience and geriatrics

Nutrition, Microbiome and Longevity

• Nutrition for healthy ageing

• Gut microbiota and host–microbiome interactions

• Caloric restriction and diet–immune–microbiome links

Digital Health, Gerontechnology and Translational Research

• AI, robotics and digital monitoring in ageing populations

• Biobanking and the GIMM Space Biobank

• Pathways for translation into clinical practice

Ethics, Society and Policy in Longevity

• Ethical and legal aspects of ageing interventions

• Equity and access to longevity technologies • Public health and societal impact Closing Session • Roundtable: "The Future of Longevity Research"

4] TEACHING AND LEARNING METHODS - ASSESSMENT

MODE OF TEACHING *Face-to-face, distance learning, etc.*	Blended learning: synchronous hybrid learning (i.e., Face-to-face and distance learning) Asynchronous distance learning may be used up to 25% (if needed)
MODE AND FREQUENCY OF COMMUNICATION WITH THE STUDENTS	▪ Communication via university email, LMS announcements (e.g., eClass) as needed ▪ Announcements for urgent updates or changes and/or reminders for upcoming tasks (as needed) ▪ Weekly office hours and individual appointments as needed ▪ Additional updates before major assessments and timely feedback on submitted work
ENSURING THE MODE OF COMMUNICATION AMONG STUDENTS *Team assignments and discussions, collaborative learning platforms with the use of AI, video conference, QA sessions, κ.α.*	▪ Team assignments that require coordinated collaboration and shared decision-making ▪ Discussion forums on the LMS ▪ collaborative learning platforms (e.g., shared documents, AI-supported tools) for group work and co-creation ▪ video conference meetings for group presentations, project planning, and synchronous collaboration ▪ Regular Q&A sessions to encourage peer support and collective clarification of course material
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY *Use of ICT in teaching, in laboratory training, in the communication with students*	ICTs, GenAI platforms, and cloud-based AI environments are used in teaching, delivering content to students, and communicating with them. More specifically: • Use of digital platforms (e.g., LMS) for distributing learning materials, assignments, and announcements • Use of multimedia presentations, interactive tools, and online resources to enhance teaching and student engagement • Synchronous and asynchronous communication with students through email, LMS forums, and video-conferencing tools (e.g., Skype, Microsoft Teams, Zoom, Webex, Google Meet) • Support for collaborative learning through shared documents, online workspaces, and structured group activities
TECHNOLOGICAL EQUIPMENT REQUIREMENTS	▪ Access to a computer or laptop with a reliable internet connection and basic equipment (e.g. a camera, speakers and headphones). ▪ Use of the university's LMS (e.g. eClass) for course materials, assign-

	ments and communication. ▪ Audio-visual equipment for lectures and presentations (e.g. a projector, speakers and a microphone). ▪ Video conferencing tools for online sessions. ▪ Basic knowledge of computers, the internet, Windows, and Office.
PLAGIARISM POLICY/ PLAGIARISM DETECTION TOOLS	Plagiarism Policy: The current policy of the universities Plagiarism detection tools: The tools used by the universities, e.g. Turnitin. More specifically: ▪ All submitted work must be original and adhere to the academic integrity and plagiarism policies of the universities ▪ Proper citation and referencing are required for all sources, including texts, images and digital materials. ▪ Plagiarism, whether intentional or unintentional, may result in penalties according to institutional regulations. ▪ Assignments and written work will be checked using plagiarism detection software (e.g. Turnitin) to ensure academic honesty. ▪ Students are encouraged to review similarity reports and correct any citation issues before final submission. ▪ Guidance on avoiding plagiarism is provided through course materials, workshops and instructor feedback.
ARTIFICIAL INTELLIGENCE POLICY *(1) The use of Artificial Intelligence is prohibited in all circumstances* *(2) The use of Artificial Intelligence is allowed only with the permission of the instructor* *(3) The use of Artificial Intelligence is allowed only with an explicit reference to the literature* *(4) Students are free to use Artificial Intelligence*	The use of AI is permitted if the following requirements are met. Students may use AI tools to support their learning and assignment preparation, provided the instructor approves it and the student adheres to the guidelines for acceptable use. Students should maintain academic integrity by critically evaluating AI-generated content, clearly referencing/acknowledging the tool used and describing how it was used, and citing all sources and literature that informed the final work.
ORGANISATION OF TEACHING *The mode and methods of teaching are described in detail.* *Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, work placements, clinical practice, art workshop, interactive teaching,*	**Activity** / **Semester workload** Lectures and Interactive teaching/supervision — 60 Study and analysis of articles/literature - Independent study for the exams — 70 Assignment/Homework — 60

educational visits, project, essay writing, artworks, etc. The student's study hours for each learning activity are stated, as well as the hours of independent study, according to the principles of the ECTS.	**Course total** | **190**
STUDENT ASSESSMENT *Description of the assessment method Language of assessment, methods of assessment, formative or summative assessment, multiple choice questions test, short answer questions, essay questions, problem solving, written work, essay/report, oral examination, public presentation, laboratory assignment, clinical examination of patient, art interpretation, other Specifically defined evaluation criteria are given, and if and where they are accessible to students.*	The evaluation language is English. Assessment consists of: ▪ Final written examination (60%) with multiple-choice, true/false, matching, fill-in-the-blank, and/or short-answer questions. ▪ Written assignment (40%)**,** with detailed instructions provided by the course instructor and posted on eClass. Mid-semester guidance is provided to support the development of the assignment, and students present their work at the end of the semester. Evaluation criteria for all assessment components are available on eClass from the start of the course.

5] RECOMMENDED BIBLIOGRAPHY

Suggested bibliography:

• López-Otín C, Blasco MA, Partridge L, Serrano M, Kroemer G. Hallmarks of aging: An expanding universe. Cell. 2023 Jan 19;186(2):243-278. doi: 10.1016/j.cell.2022.11.001. Epub 2023 Jan 3. PMID: 36599349.

• How We Age: The Science of Longevity Coleen T. Murphy Princeton Univ. Press (2023)

• Biology of Aging, 2nd ed. (Roger B. McDonald)

Related journals:

• *Nature Aging*

• *Aging Cell*

• *Age and Ageing*

Course Outline B03

1] GENERAL

SCHOOL	Medicine School
ACADEMIC UNIT	University of Lisbon
LEVEL OF STUDIES	Graduate - Master

COURSE CODE	**B03**	**SEMESTER**	B (2nd)
COURSE TITLE	**Technology for Longevity and Active Aging**		
INDEPENDENT TEACHING ACTIVITIES *if credits are awarded for separate components of the course, e.g. lectures, laboratory exercises, etc. If the credits are awarded for the whole of the course, state the weekly teaching hours and the total credits*		**WEEKLY TEACHING HOURS**	**CREDITS**
Theory - Lectures		**30**	**3.75**
Practical/Lab Sessions		**30**	**3.75**
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail in section (4).			
COURSE TYPE *general background, special background, specialization, general education, skills development*	Specialised general knowledge, skills development - Mandatory		
PREREQUISITE COURSES	No		
LANGUAGE OF INSTRUCTION AND OF ASSESSMENT	English		
MODE OF TEACHING *in-person (%) synchronous distance learning (%) asynchronous distance learning (%) (In the case of synchronous distance learning, the total weekly duration of teaching is recorded)*	in-person and/or synchronous distance learning (100%)		
AVAILABILITY TO ERASMUS STUDENTS	Yes		
COURSE WEBSITE (URL)	TBA		

2] LEARNING OUTCOMES

Learning Outcomes

The course learning outcomes, specific knowledge, skills and competences of an appropriate level, which the students will acquire with the successful completion of the course are described.

Consult Appendix A

- *Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area*
- *Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix*

B

- *Brief Guide for drafting Learning Outcomes*

Knowledge

At the end of the course, students will be able to:

• Gain an interdisciplinary perspective on how emerging technologies support longevity, active aging, and healthspan extension.

• Gain insight to explore innovative strategies that sustain autonomy, cognitive and physical function, and quality of life in older adults based on biomedical sciences, digital health, artificial intelligence, and assistive technologies.

Skills

Students will acquire the ability to:

• Analyse real-world applications—from wearable sensors and robotics to neurotechnology and AI-based prediction applied to longevity and healthy aging.

• Prototype a solution addressing a specific need of the aging population.

Competences

Upon completion, students will be able to:

• Integrate multidisciplinary perspectives on emerging technologies supporting longevity, active aging and healthspan extension.

• Discuss and define innovative strategies for the implementation and usage of said technologies

• Analyse real-world applications under a health technology assessment framework of said technology

• Prototype applications of said technologies

General Competences

Taking into consideration the general competences that the degree-holder must acquire (as these appear in the Diploma Supplement and are stated below), at which of the following does the course aim?

Search, analysis and synthesis of data and information, with the use of the necessary technology	*Project planning and management*
	Respect for difference and multiculturalism
	Respect for the natural environment
Adaptability to new situations	*Showing social, professional and ethical responsibility and sensitivity to gender issues*
Decision-making	
Working independently	*Criticism and self-criticism*
Team work	*Production of free, creative and inductive thinking*
Working in an international environment	*……*
Working in an interdisciplinary environment	*Other…*
Production of new research ideas	*…….*

The course aims to develop the following general competences:

- Decision-making in implementing emerging technologies scenarios.
- Working independently in the analysis of emerging technologies.
- Team work within interdisciplinary geriatric teams.
- Production of new research ideas, integrating medical, nursing, social and rehabilitation perspectives together with engineering and technology.
- Showing social, professional and ethical responsibility, particularly regarding the use of emerging tech-

nologies in vulnerable populations.

- Critical thinking and self-reflection in the usage of emerging technologies for longevity, active aging, and healthspan extension

3] COURSE SYLLABUS

Expository/Theoretical Classes

- Introduction to Technology for Longevity and Active Aging
- Measuring biomarkers of Aging and Longevity
- Digital Health Ecosystems
- Smart Home and Ambient Assisted Living
- Artificial Intelligence and Predictive Models
- Neurotechnologies and Cognitive Enhancement
- Robotics, Mobility, and Rehabilitation
- Lifestyle Interventions and Behavioral Change
- Digital Twins and Personalized Aging
- Genomics, Microbiome, and Personalized Longevity
- Usability, Accessibility, and Human Factors
- Ethics, Regulation, Data Protection, and Health Technology Assessment
- Innovation and Entrepreneurship
- Future Perspectives and Integration

Practical/Laboratory Classes

- User needs analysis and personas of older adults
- Data analysis: epigenetic clocks, inflammation markers, brain volumes
- Visualization of wearable sensor data (actigraphy, HRV, sleep)
- IoT applications and fall detection systems
- AI model for aging biomarker prediction
- EEG/tES simulation and VR/AR/XR technologies
- Exoskeleton and robot-assisted movement demos
- Digital coaching and habit-tracking tools
- Data integration and basic digital twin modeling
- Bioinformatics workflow overview
- Interface evaluation with senior user scenarios
- EU AI Act and MDR HTA case study
- Group ideation and rapid prototyping
- Project presentations and peer evaluation

4] TEACHING AND LEARNING METHODS - ASSESSMENT

MODE OF TEACHING *Face-to-face, distance learning, etc.*	Blended learning: synchronous hybrid learning (i.e., Face-to-face and distance learning) Asynchronous distance learning may be used up to 25% (if needed)

MODE AND FREQUENCY OF COMMUNICATION WITH THE STUDENTS	▪ Communication via university email, LMS announcements (e.g., eClass) as needed ▪ Announcements for urgent updates or changes and/or reminders for upcoming tasks (as needed) ▪ Weekly office hours and individual appointments as needed ▪ Additional updates before major assessments and timely feedback on submitted work
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USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY *Use of ICT in teaching, in laboratory training, in the communication with students*	ICTs, GenAI platforms, and cloud-based AI environments are used in teaching, delivering content to students, and communicating with them. More specifically: • Use of digital platforms (e.g., LMS) for distributing learning materials, assignments, and announcements • Use of multimedia presentations, interactive tools, and online resources to enhance teaching and student engagement • Synchronous and asynchronous communication with students through email, LMS forums, and video-conferencing tools (e.g., Skype, Microsoft Teams, Zoom, Webex, Google Meet) • Support for collaborative learning through shared documents, online workspaces, and structured group activities
TECHNOLOGICAL EQUIPMENT REQUIREMENTS	▪ Access to a computer or laptop with a reliable internet connection and basic equipment (e.g. a camera, speakers and headphones). ▪ Use of the university's LMS (e.g. eClass) for course materials, assignments and communication. ▪ Audio-visual equipment for lectures and presentations (e.g. a projector, speakers and a microphone). ▪ Video conferencing tools for online sessions. ▪ Specialised software or digital tools required for course-specific tasks. ▪ Basic knowledge of computers, the internet, Windows, and Office.
PLAGIARISM POLICY/ PLAGIARISM DETECTION TOOLS	Plagiarism Policy: The current policy of the universities Plagiarism detection tools: The tools used by the universities, e.g. Turnitin.

	More specifically: ▪ All submitted work must be original and adhere to the academic integrity and plagiarism policies of the universities ▪ Proper citation and referencing are required for all sources, including texts, images and digital materials. ▪ Plagiarism, whether intentional or unintentional, may result in penalties according to institutional regulations. ▪ Assignments and written work will be checked using plagiarism detection software (e.g. Turnitin) to ensure academic honesty. ▪ Students are encouraged to review similarity reports and correct any citation issues before final submission. ▪ Guidance on avoiding plagiarism is provided through course materials, workshops and instructor feedback.
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ORGANISATION OF TEACHING *The mode and methods of teaching are described in detail.* *Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, work placements, clinical practice, art workshop, interactive teaching, educational visits, project, essay writing, artworks, etc.* *The student's study hours for each learning activity are stated, as well as the hours of independent study, according to the principles of the ECTS.*	

Activity	Semester workload
Expository Classes	30
Practical/Lab Sessions	30
Project Work (Group)	30
Individual Report	30
Study and analysis of articles/literature - Independent study for the exams	70
Course total	**190**

STUDENT ASSESSMENT *Description of the assessment method Language of assessment, methods of assessment, formative or summative assessment, multiple choice questions test, short answer questions, essay questions, problem solving, written work, essay/report, oral examination, public presentation, laboratory assignment, clinical examination of patient, art interpretation, other Specifically defined evaluation criteria are given, and if and where they are accessible to students.*	The evaluation language is English. Assessment consists of: • Group Project (30%) – Design and prototype of a technology for longevity/active aging. • Individual Written Report (30%) – Critical review of a selected technology or research area. • Practical/Lab Participation (20%) – Performance and engagement during practical sessions. • Final Presentation (20%) – Oral presentation and defense of the group project. Approval criteria: • Minimum final grade of 50%. • Minimum 70% attendance in practical sessions. Mid-semester guidance is provided to support the development of the assignment, and students present their work at the end of the semester. Evaluation criteria for all assessment components are available on eClass from the start of the course.

5] RECOMMENDED BIBLIOGRAPHY

- ***Suggested bibliography:***
  - *Sixsmith, A., & Gutman, G. (Eds.). (2013). Technologies for active aging (Vol. 9, pp. 7-27). New York: Springer.*
  - *Juzwishin, D., MacNeil, M., Meisen, A., & Stolee, P. (2025). AgeTech Innovations in Healthcare for Older Adults. New York: Springer.*
- ***Related academic journals:***
  - *Ageing Research Reviews*
  - *GeroScience*
  - *The Journal of Frailty & Aging*
  - *JMIR Aging*
  - *Journal of Applied Gerontology*

Course Outline B04

1] GENERAL

SCHOOL	Medicine School		
ACADEMIC UNIT	University of Lisbon		
LEVEL OF STUDIES	Graduate - Master		
COURSE CODE	**B04**	**SEMESTER**	B (2nd)

COURSE TITLE	Research Methodology Applied to Older Adults	
INDEPENDENT TEACHING ACTIVITIES *if credits are awarded for separate components of the course, e.g. lectures, laboratory exercises, etc. If the credits are awarded for the whole of the course, state the weekly teaching hours and the total credits*	**WEEKLY TEACHING HOURS**	**CREDITS**
Theory - Lectures	**4**	**7.5**
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail in section (4).		
COURSE TYPE *general background, special background, specialization, general education, skills development*	Skills development - Mandatory	
PREREQUISITE COURSES	No	
LANGUAGE OF INSTRUCTION AND OF ASSESSMENT	English	
MODE OF TEACHING *in-person (%) synchronous distance learning (%) asynchronous distance learning (%) (In the case of synchronous distance learning, the total weekly duration of teaching is recorded)*	in-person and/or synchronous distance learning (100%)	
AVAILABILITY TO ERASMUS STUDENTS	Yes	
COURSE WEBSITE (URL)	TBA	

2] LEARNING OUTCOMES

Learning Outcomes

The course learning outcomes, specific knowledge, skills and competences of an appropriate level, which the students will acquire with the successful completion of the course are described.

Consult Appendix A

- *Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area*
- *Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B*
- *Brief Guide for drafting Learning Outcomes*

Upon successful completion of this course, students will be able to:

Knowledge

1. Explain the fundamental principles of scientific research, including differences between basic, clinical and translational research, and their relevance to geriatric and musculoskeletal health.
2. Describe major study designs (observational, experimental, laboratory-based) and their methodological foundations, including validity, sampling, variables, and ethical considerations.
3. Understand biostatistical concepts required for data analysis, including descriptive statistics, hypothesis testing, and basic regression modelling.
4. Discuss ethical and regulatory frameworks governing biomedical research, particularly in vulnerable populations (e.g., older adults, cognitively impaired).
5. Identify the structure, process and standards of systematic reviews and meta-analyses, including literature search strategies and critical appraisal.
6. Describe applications, opportunities, and limitations of Artificial Intelligence and -omics approaches in clinical and translational research related to ageing.

Skills

1. Formulate clear and answerable research questions, objectives, and hypotheses using frameworks such as PICO.
2. Select an appropriate study design for a given research question and justify methodological decisions.
3. Perform basic statistical analysis using common software (SPSS/R/Excel) and correctly interpret statistical output.
4. Conduct structured literature searches in major biomedical databases and critically appraise scientific papers using established tools.
5. Develop components of a research protocol, including methodology, variable selection, sample size considerations, and ethical approval requirements.
6. Apply qualitative methods, including interviews, focus groups, observation, and photovoice, and perform basic thematic analysis.
7. Use AI-assisted tools for literature appraisal, data handling, and scientific writing while maintaining critical judgement.

Competences

1. Integrate quantitative and qualitative methods to address complex clinical questions in ageing and chronic disease.
2. Communicate scientific findings effectively through written (IMRaD manuscripts, abstracts, systematic review protocols) and oral formats (presentations, posters).
3. Adhere to ethical, professional, and regulatory standards, ensuring integrity, reproducibility, and protection of vulnerable populations.
4. Critically evaluate the strengths and limitations of research, recognising sources of bias and implications for practice.
5. Work independently and collaboratively in multidisciplinary research environments, contributing to study planning, data interpretation, and dissemination.

General Competences

Taking into consideration the general competences that the degree-holder must acquire (as these appear in the Diploma Supplement and are stated below), at which of the following does the course aim?

Search, analysis and synthesis of data and information, with the use of the necessary technology	*Project planning and management*
Adaptability to new situations	*Respect for difference and multiculturalism*
Decision-making	*Respect for the natural environment*
Working independently	*Showing social, professional and ethical responsibility and sensitivity to gender issues*
Team work	*Criticism and self-criticism*
Working in an international environment	*Production of free, creative and inductive thinking*
Working in an interdisciplinary environment	*Other…*
Production of new research ideas	

The course aims to develop the following competences:

- Search, analysis and synthesis of data using appropriate technologies
- Adaptation to new situations and informed decision-making
- Independent and team-based work
- Ability to work in interdisciplinary and international environments
- Project planning and management
- Production of new research ideas
- Ethical and professional responsibility
- Critical thinking and self-reflection
- Creative and inductive thinking

3] COURSE SYLLABUS

(1) Introduction to Scientific Research

Overview of science; differences between basic, clinical and translational research. Ethics in biomedical research. The research cycle from question to publication.

(2) Formulating the Research Question

PICO and other frameworks. Objectives and hypotheses. Examples from geriatrics, orthopaedics and internal medicine.

(3) Study Design

Observational and experimental designs. Randomised vs. non-randomised trials. Internal and external validity. Exercise: selecting the appropriate design.

(4) Methodology in Clinical and Basic Research

Population and sampling. Variables and sample size. Basic laboratory methods and introduction to translational research.

(5) Bioethics and Good Clinical Practice

Informed consent, vulnerable populations, regulatory approvals, GDPR, ICH-GCP standards.

(6) Applied Statistics

Descriptive statistics, hypothesis testing, regression models, and introduction to statistical software. In-

terpretation of results.

(7) Systematic Reviews and Meta-Analyses

Principles of systematic reviews**,** PRISMA, search strategies, critical appraisal, basics of meta-analysis.

(8) Critical Appraisal and Scientific Communication

Reading and critiquing papers; IMRaD format; writing abstracts, manuscripts, posters and presentations.

(9) Artificial Intelligence in Research

Basic concepts of AI/ML; applications in clinical and basic research; ethical considerations; practical examples of AI tools.

(10) Qualitative Research Methods

Overview of qualitative approaches. Interviews, focus groups, observation, photovoice. Thematic analysis and mixed methods.

4] TEACHING AND LEARNING METHODS - ASSESSMENT

MODE OF TEACHING *Face-to-face, distance learning, etc.*	Blended learning: synchronous hybrid learning (i.e., Face-to-face and distance learning) Asynchronous distance learning may be used up to 25% (if needed)
MODE AND FREQUENCY OF COMMUNICATION WITH THE STUDENTS	▪ Communication via university email, LMS announcements (e.g., eClass) as needed ▪ Announcements for urgent updates or changes and/or reminders for upcoming tasks (as needed) ▪ Weekly office hours and individual appointments as needed ▪ Additional updates before major assessments and timely feedback on submitted work
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USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY *Use of ICT in teaching, in laboratory training, in the communication with students*	ICTs, GenAI platforms, and cloud-based AI environments are used in teaching, delivering content to students, and communicating with them. More specifically: • Use of digital platforms (e.g., LMS) for distributing learning materials, assignments, and announcements • Use of multimedia presentations, interactive tools, and online resources to enhance teaching and student engagement • Synchronous and asynchronous communication with students through email, LMS forums, and video-conferencing tools (e.g.,

	Skype, Microsoft Teams, Zoom, Webex, Google Meet) • Support for collaborative learning through shared documents, online workspaces, and structured group activities
TECHNOLOGICAL EQUIPMENT REQUIREMENTS	▪ Access to a computer or laptop with a reliable internet connection and basic equipment (e.g. a camera, speakers and headphones). ▪ Use of the university's LMS (e.g. eClass) for course materials, assignments and communication. ▪ Audio-visual equipment for lectures and presentations (e.g. a projector, speakers and a microphone). ▪ Video conferencing tools for online sessions. ▪ Specialized software or digital tools required for course-specific tasks. ▪ Basic knowledge of computers, the internet, Windows, and Office.
PLAGIARISM POLICY/ PLAGIARISM DETECTION TOOLS	Plagiarism Policy: The current policy of the universities Plagiarism detection tools: The tools used by the universities, e.g. Turnitin. More specifically: ▪ All submitted work must be original and adhere to the academic integrity and plagiarism policies of the universities ▪ Proper citation and referencing are required for all sources, including texts, images and digital materials. ▪ Plagiarism, whether intentional or unintentional, may result in penalties according to institutional regulations. ▪ Assignments and written work will be checked using plagiarism detection software (e.g. Turnitin) to ensure academic honesty. ▪ Students are encouraged to review similarity reports and correct any citation issues before final submission. ▪ Guidance on avoiding plagiarism is provided through course materials, workshops and instructor feedback.
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Intelligence	
ORGANISATION OF TEACHING *The mode and methods of teaching are described in detail.* *Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, work placements, clinical practice, art workshop, interactive teaching, educational visits, project, essay writing, artworks, etc.* *The student's study hours for each learning activity are stated, as well as the hours of independent study, according to the principles of the ECTS.*	
STUDENT ASSESSMENT *Description of the assessment method* *Language of assessment, methods of assessment, formative or summative assessment, multiple choice questions test, short answer questions, essay questions, problem solving, written work, essay/report, oral examination, public presentation, laboratory assignment, clinical examination of patient, art interpretation, other* *Specifically defined evaluation criteria are given, and if and where they are accessible to students.*	The evaluation language is English. Assessment consists of: ▪ Final written examination (60%) with multiple-choice, true/false, matching, fill-in-the-blank, and/or short-answer questions. ▪ Written assignments (40%)**,** with detailed instructions provided by the course instructor and posted on eClass. Mid-semester guidance is provided to support the development of the assignment, and students present their work at the end of the semester. Evaluation criteria for all assessment components are available on eClass from the start of the course.

Activity	Semester workload
Lectures and Interactive teaching/supervision	60
Study and analysis of articles/literature - Independent study for the exams	70
Assignment/Homework	60
Course total	**190**

5] RECOMMENDED BIBLIOGRAPHY

Suggested bibliography

- *Higgins JPT, Thomas J, Chandler J, et al. Cochrane Handbook for Systematic Reviews of Interventions. Cochrane, 2023.*
- *Guyatt G, Rennie D, Meade M, Cook D. Users' Guides to the Medical Literature. JAMA Evidence, McGraw-Hill.*
- *Hulley SB, Cummings SR, Browner WS, et al. Designing Clinical Research. Lippincott Williams & Wilkins.*
- *Greenhalgh T. How to Read a Paper: The Basics of Evidence-Based Medicine. BMJ Publishing.*

Examples of relevant systematic reviews

- *GRADE Working Group. GRADE guidelines: a systematic approach to rating evidence quality. BMJ.*
- *Cochrane Review example:*
    - *Bhasin S, et al. "Vitamin D supplementation for prevention of falls in older adults." Cochrane Database of Systematic Reviews.*
    - *O'Neill J, et al. "Exercise for preventing falls in older people." Cochrane Database of Systematic Reviews.*

Related academic journals

- *Age and Ageing*
- *Journal of the American Geriatrics Society (JAGS)*
- *European Geriatric Medicine*
- *The Lancet Healthy Longevity*
- *BMJ Open*
- *Cochrane Database of Systematic Reviews*

3rd Semester

Course Outline C01

1] GENERAL

SCHOOL	School of Health Sciences - School of Engineering - Medicine School (Hellenic Mediterranean University and University of Lisbon)			
ACADEMIC UNIT	Social Work Department, Nutrition and Dietetic Sciences, Department of Electrical and Computer Engineering, Medicine			
LEVEL OF STUDIES	Graduate / Master's			
COURSE CODE	**C01**	**SEMESTER**	C (3rd)	
COURSE TITLE	**Master's Dissertation/Thesis**			
INDEPENDENT TEACHING ACTIVITIES		**WEEKLY TEACHING HOURS**	**CREDITS**	
			30 ECTS	
COURSE TYPE	Skills development - Optional			
PREREQUISITE COURSES:	YES. Students on the full-time programme have the right to submit a proposal to prepare a Master's thesis after the fifth week of the second semester (after the fourth semester of studies on the part-time programme), provided that they have successfully completed (a) the course "Research Methodology Applied to Older Adults" and (b) six (6) out of the eight (8) courses of the curriculum.			

LANGUAGE OF INSTRUCTION AND OF ASSESSMENT:	English
MODE OF TEACHING *in-person (%)* *synchronous distance learning (%)* *asynchronous distance learning (%)* *(In the case of synchronous distance learning, the total weekly duration of teaching is recorded)*	Blended learning: synchronous hybrid learning (i.e., Face-to-face and distance learning) Synchronous distance learning is for students who can't travel to the countries where the courses are held and has a weekly teaching duration of 240 minutes (4 hours x 60 minutes/hour). Asynchronous distance learning may be used up to 25% (if needed)
AVAILABILITY TO ERASMUS STUDENTS	Yes
COURSE WEBSITE (URL)	TBA

2] LEARNING OUTCOMES

Learning Outcomes

The course learning outcomes, specific knowledge, skills and competences of an appropriate level, which the students will acquire with the successful completion of the course are described.

Consult Appendix A

- *Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area*
- *Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B*
- *Brief Guide for drafting Learning Outcomes*

During the preparation of their master's thesis, students are expected to acquire the following, with the guidance of the supervising professor:

Knowledge

- a deep understanding of the subject under study
- document their arguments and thoughts in a scientific way
- choose the appropriate bibliographic sources to document the content of their work
- summarize existing scientific knowledge on the subject under study
- sound knowledge and selection of appropriate theoretical models, methodology (e.g., sample selection, research questions), data collection media/tools, etc. for the analysis and synthesis of the subject

Skills

- conduct an extensive literature search of digital and print sources.
- synthesize and organize primary and secondary data
- document and make proper use of their chosen methodology
- solve problems when developing research
- interpret, judge/evaluate the findings

- formulate sound conclusions and substantiated proposals for dealing with a subject
- organize and write a scientific text
- present orally successfully and document the subject under study

Abilities

- develop analytical and critical thinking
- acquire proficiency in empirical research methodology
- acquire the ability to write the theoretical and empirical part of the subject under study, the results of the research and the ability to critically analyse and discuss the main findings of the research.

General Competences

Taking into consideration the general competences that the degree-holder must acquire (as these appear in the Diploma Supplement and are stated below), at which of the following does the course aim?

Search, analysis and synthesis of data and information, with the use of the necessary technology	*Project planning and management*
Adaptability to new situations	*Respect for difference and multiculturalism*
Decision-making	*Respect for the natural environment*
Working independently	*Showing social, professional and ethical responsibility and sensitivity to gender issues*
Team work	*Criticism and self-criticism*
Working in an international environment	*Production of free, creative and inductive thinking*
Working in an interdisciplinary environment	*……*
Production of new research ideas	*Other…*
	…….

- Search, analysis and synthesis of data and information, also using the necessary technologies.
- Adaptation to new situations
- Decision making
- Independent work
- Work in an interdisciplinary environment.
- Generating new research ideas.
- *Respect for diversity and multiculturalism*
- Project planning and management
- *Demonstrating social, professional and ethical responsibility and sensitivity to gender issues*
- Exercise criticism and self-criticism.
- Promotion of free, creative and inductive thinking.

3[COURSE SYLLABUS

PURPOSE

The purpose of the thesis is to (a) educate students / make them delve into research thinking and methodology and (b) make them apply the knowledge acquired during the courses through the investigation of a topic that is directly related to the subject of the thesis.

CONTENT

The topic of the master's thesis must be of high scientific quality and fall within the scope of the taught courses.

Preparing the thesis is mandatory.

PROCEDURE

- Apply for undertaking a master's thesis (accompanied by a research protocol)
- Elaboration and writing of the master's thesis under the supervision of a professor.
- Public defence of the master's thesis

4] TEACHING AND LEARNING METHODS - ASSESSMENT

MODE OF TEACHING *Face-to-face, distance learning, etc.*	Blended learning: synchronous hybrid learning (i.e., Face-to-face and distance learning) Supervision of the master's thesis by the supervising professor involves regular personal meetings with students, either in person or online. During supervision, the professor is responsible for monitoring the student's progress and providing advice, guidance and constructive criticism at each stage of the work. Asynchronous distance learning may be used up to 25% (if needed)
MODE AND FREQUENCY OF COMMUNICATION WITH THE STUDENTS	▪ Communication via university email, LMS announcements (e.g., eClass) as needed ▪ Announcements for urgent updates or changes and/or reminders for upcoming tasks (as needed) ▪ Weekly office hours and individual appointments as needed ▪ Additional updates before major assessments and timely feedback on submitted work
ENSURING THE MODE OF COMMUNICATION AMONG STUDENTS *Team assignments and discussions, collaborative learning platforms with the use of AI, video conference, QA sessions, κ.α.*	▪ Discussion forums on the LMS ▪ collaborative learning platforms (e.g., shared documents, AI-supported tools) for group work and co-creation ▪ video conference meetings and synchronous collaboration ▪ Regular supervision / Q&A sessions
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY *Use of ICT in teaching, in laboratory training, in communication with students*	ICTs, GenAI platforms, and cloud-based AI environments are used in supervision, delivering content to students, communicating with them, and for the defence of the master's thesis. More specifically: • Use of digital platforms (e.g., LMS) for distributing learning materials and announcements • Use of multimedia presentations, interactive tools, and online resources for master thesis defense/presentation • Synchronous and asynchronous communication with students through email, LMS forums, and video-conferencing tools (e.g., Skype, Microsoft Teams, Zoom, Webex, Google Meet)

	▪ Support for collaborative learning through shared documents, online workspaces etc ▪ Search for literature and information in international databases related to the field of Health Sciences.
TECHNOLOGICAL EQUIPMENT REQUIREMENTS	▪ Access to a computer or laptop with a reliable internet connection and basic equipment (e.g. a camera, speakers and headphones). ▪ Use of the university's LMS (e.g. eClass) for thesis materials and communication. ▪ Audio-visual equipment for thesis defense/presentation (e.g. a projector, speakers, and a microphone). ▪ Video conferencing tools for online sessions. ▪ Basic knowledge of computers, the internet, Windows, and Office.
PLAGIARISM POLICY/ PLAGIARISM DETECTION TOOLS	Plagiarism Policy: The current policy of the universities Plagiarism detection tools: Rhe tools used by the universities, e.g. Turnitin. More specifically: ▪ All submitted work must be original and adhere to the academic integrity and plagiarism policies of the universities ▪ Proper citation and referencing are required for all sources, including texts, images and digital materials. ▪ Plagiarism, whether intentional or unintentional, may result in penalties according to institutional regulations. ▪ Assignments and written work will be checked using plagiarism detection software (e.g. Turnitin) to ensure academic honesty. ▪ Students are encouraged to review similarity reports and correct any citation issues before final submission. ▪ Guidance on avoiding plagiarism is provided through course materials, workshops and instructor feedback.
ARTIFICIAL INTELLIGENCE POLICY *(1) The use of Artificial Intelligence is prohibited in all circumstances* *(2) The use of Artificial Intelligence is allowed only with the permission of the instructor* *(3) The use of Artificial Intelligence is allowed only with an explicit reference to the literature* *(4) Students are free to use Artificial Intelligence*	The use of AI is permitted if the following requirements are met. Students may use AI tools to support their learning and assignment preparation, provided the instructor approves it and the student adheres to the guidelines for acceptable use. Students should maintain academic integrity by critically evaluating AI-generated content, clearly referencing/acknowledging the tool used and describing how it was used, and citing all sources and literature that informed the final work.

ORGANISATION OF TEACHING

The mode and methods of teaching are described in detail. Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, work placements, clinical practice, art workshop, interactive teaching, educational visits, project, essay writing, artworks, etc. The student's study hours for each learning activity are stated, as well as the hours of independent study, according to the principles of the ECTS.

Activity	Semester Workload
Independent literature study and analysis	100
Research	450
Writing and defence	200
Total Course	**750**

STUDENT ASSESSMENT

Description of the assessment method Language of assessment, methods of assessment, formative or summative assessment, multiple choice questions test, short answer questions, essay questions, problem solving, written work, essay/report, oral examination, public presentation, laboratory assignment, clinical examination of patient, art interpretation, other Specifically defined evaluation criteria are given, and if and where they are accessible to students.

The evaluation language is English.

Presentation/defence and evaluation of the thesis to a Three-Member Examining Committee (T.M.E.E.). The evaluation criteria are referred to in the "Regulations for Elaboration of Master's Thesis" and are briefly:

- Accuracy and validity of content (30%)
- Structure of the thesis (10%),
- Scientific adequacy of the literature review (10%).
- Correct use of scientific references (5%),
- Correct choice/use of methodology (20%),
- Correct spelling and syntax in English (5%),
- Presentation/defence (20%).

5] RECOMMENDED-BIBLIOGRAPHY

- Suggested Bibliography

Venianaki, A. & Georgiadis, M. (2021). Research Paper Writing in the Social Sciences & Humanities. Athens: Gutenberg

Dermatis, Z. (2022). Research Methodology and Writing Scientific Papers, 2nd Edition. Ed. Giola

Evdoridou E. & Karakasidis Th. (2015). Academic Writing. Athens: Giola Publications.

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Theofyllides, H. (2013). The writing of a scientific paper, From theory to practice. Athens: Ed. Print it.

Kornuta, H.M. & Germaine, R.W. (2019). A Concise Guide to Writing a Thesis or Dissertation: Educational Research and Beyond. Routledge. https://doi.org/10.4324/9780429056888

- Online sources (indicative)

Dafermos, M. & Tsaoussis, G. (2014). Guide to Writing Diploma Theses and Doctoral Dissertations. https://eclass.uop.gr/modules/document/file.php/TS162/odigos_syggrafis_diplomatikon_ergasion_teliko.pdf

Plagiarism Avoidance Guidehttps://lib.hmu.gr/wp-content/uploads/2020/09/%CE%9B%CE%BF%CE%B3%CE%BF%CE%BA%CE%BB%CE%BF%CF__%80%CE%AE.pdf

APA Reference Guidehttps://lib.hmu.gr/gphylladia-odigoi/or https://lib.hmu.gr/wp-content/uploads/2021/03/APA.pdf

Method of writing scientific papers https://periodiko.inpatra.gr/guidelines/guidelines_gr.pdf

How to Write a Thesis in 2025: Step-by-Step Guide for Studentshttps://jennyhillphd.com/how-to-write-a-thesis-2025-guide/

Course Outline C02

1] GENERAL

SCHOOL	School of Health Sciences - School of Engineering - Medicine School (Hellenic Mediterranean University and University of Lisbon)		
ACADEMIC UNIT	Social Work Department, Nutrition and Dietetic Sciences, Department of Electrical and Computer Engineering, Medicine		
LEVEL OF STUDIES	Graduate - Master		
COURSE CODE	**C02**	**SEMESTER**	C (3rd)
COURSE TITLE	**Internship/Field practice**		
INDEPENDENT TEACHING ACTIVITIES *if credits are awarded for separate components of the course, e.g. lectures, laboratory exercises, etc. If the credits are awarded for the whole of the course, state the weekly teaching hours and the total credits*		**WEEKLY TEACHING HOURS**	**CREDITS**
Work on the service/organization to be placed		40	24 ECTS
Supervision by an academic supervisor		3	2 ECTS
Other activities		7	4 ECTS
Total		50	30 ECTS
COURSE TYPE	Skills development - Optional		
PREREQUISITE COURSES	YES. Students should have successfully completed six out of the eight courses of the curriculum.		
LANGUAGE OF INSTRUCTION AND OF ASSESSMENT	English		
MODE OF TEACHING	100% in-person.		

in-person (%) *synchronous distance learning (%)* *asynchronous distance learning (%)* *(In the case of synchronous distance learning, the total weekly duration of teaching is recorded)*	All internship/field practice activities take place on-site at the host organization. Note: Although the internship itself is conducted entirely in person, supervision and guidance sessions may be held online when appropriate. These online meetings do not constitute distance teaching and therefore are not included in the percentages above.
AVAILABILITY TO ERASMUS STUDENTS	Yes
COURSE WEBSITE (URL)	TBA

2] LEARNING OUTCOMES

Learning Outcomes

The course learning outcomes, specific knowledge, skills and competences of an appropriate level, which the students will acquire with the successful completion of the course are described.

Consult Appendix A

- *Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area*
- *Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B*
- *Brief Guide for drafting Learning Outcomes*

The purpose of the Internship/field practice is to support students in consolidating and expanding the knowledge and skills they have acquired theoretically, by linking them to practice and acquiring professional skills and relevant experience through their placement into a service/organization and by taking on an active role and tasks (e.g., in the collection and diagnostic assessment of information, implementation and evaluation of interventions, development of team coordination skills, etc.).

More specifically, students are expected to acquire the following knowledge, skills, and abilities:

Knowledge (from placement)

- Knowledge of the political, organizational, and administrative structure and operation of the service/organization
- Evaluation of the service/organization's work and investigation of unmet needs and submit proposals
- Gradual participation in programs, actions, and networking of the service/organization with other services and organizations
- Recognition of their professional role and the boundaries between different specialties within the interdisciplinary team.
- Developing awareness of their professional role by taking on responsibilities, developing initiative, developing interdisciplinary cooperation, and adhering to the principles and values of their profession
- Utilising the knowledge and skills acquired during training, as well as the opportunities provided by the service/organization, to contribute to the prevention and treatment of contemporary problems faced by individuals, families, groups, and communities

- Developing initiatives and promoting innovation in the development and implementation of programs
- Presenting their work and diagnostic assessment to the interdisciplinary team.
- Adherence to the principles of professional ethics.
- Contribution to the interconnection of the service/organization for more effective coverage of the needs of those served and the community.

Knowledge (from group supervision)

- They delve deeper into issues of planning, implementation, and evaluation of intervention at the individual, group, family, and community levels.
- Develop self-criticism regarding their response to educational goals and the contribution of the educational experience to their overall development.
- Develop the ability to record and present (in writing and orally) their work and write summary reports.
- Develop the ability to collaborate with members of the supervision team.
- They take initiative and gradually become independent from the supervisor.

Skills:

- Gradual application of theoretical knowledge within the framework of the service/organization
- Observation, information gathering, and data evaluation
- team coordination at the level of agencies and the community
- selection of methods, techniques, and skills at the individual, team, and community levels.
- Implementation and evaluation of an integrated interdisciplinary intervention.
- application of ethical principles in the exercise of their role as professionals
- written documentation and report writing.

Abilities:

- connecting theory with practice
- integrating into the service/organization and team supervising and utilizing the educational stimuli provided
- focusing on study topics and problem-solving on an individual, family, and group-community basis
- conducting interviews, diagnostic assessments, and interventions at the individual, group, and community levels, and evaluating interventions.
- coordinating the team and utilizing various means of expression and communication in the effort to diagnose and intervene
- developing initiative, utilizing the guidance provided by the academic supervisor through group supervision.
- gradually acquiring a professional attitude
- establishing a professional relationship with the staff of the service/organization and the recipients of the services
- modifying attitudes and perceptions that negatively affect the exercise of their professional role – dealing with emotional involvement, attitudes, and prejudices
- Critical thinking skills regarding the operation of the service/organization and their professional role

General Skills

Taking into consideration the general competences that the degree-holder must acquire (as these appear in the Diploma Supplement and are stated below), at which of the following does the course aim?

Search, analysis and synthesis of data and *Project planning and management*

information, with the use of the necessary technology *Adaptability to new situations* *Decision-making* *Working independently* *Team work* *Working in an international environment* *Working in an interdisciplinary environment* *Production of new research ideas*	*Respect for difference and multiculturalism* *Respect for the natural environment* *Showing social, professional and ethical responsibility and sensitivity to gender issues* *Criticism and self-criticism* *Production of free, creative and inductive thinking* *……* *Other…* *…….*

- Teamwork
- Autonomous work
- Decision making
- Adaptation to new situations
- Demonstration of social, professional and ethical responsibility
- Respect for diversity and pluralism
- Promotion of free, creative and inductive thinking
- Work in an interdisciplinary environment
- Problem solving
- Observation and comparison
- Oral and written communication skills

3] COURSE SYLLABUS

The Internship/field practice consists of:

A) The Internship, which takes place in services/organizations selected by both institutions (8 hours of work per day, 5 days per week, in the service/organization where the internship is carried out) and

B) Supervision that supports the Internship and is carried out on a weekly basis by an academic supervisor, i.e. members of the teaching staff. Supervision is three hours long and is carried out in groups.

Through the internship, students have the opportunity to learn how to apply theory in practice in real working conditions. They are supported by professionals working in the structures and supervised/guided by a supervisor who takes on the role of trainer in the context of group supervision.

Students are encouraged to acquire a professional attitude, techniques, and skills in the practice of their profession and to develop the ability to intervene methodically to meet the needs of those they serve.

4] TEACHING AND LEARNING METHODS - ASSESSMENT

MODE OF TEACHING *Face-to-face, distance learning, etc.*	Blended learning: synchronous hybrid learning (i.e., Face-to-face and distance learning) In-person – all internship activities take place in person since the students are placed in a structured setting Online – the supervision may be conducted online Asynchronous distance learning may be used up to 25% (if needed),

	e.g., provision of reading material by supervisor.
MODE AND FREQUENCY OF COMMUNICATION WITH THE STUDENTS	▪ Communication via university email, LMS announcements (e.g., eClass) as needed ▪ Announcements for urgent updates or changes and/or reminders for upcoming tasks (as needed) ▪ Weekly office hours and individual appointments for supervision ▪ Additional updates before major assessments and timely feedback on submitted work
ENSURING THE MODE OF COMMUNICATION AMONG STUDENTS *Team assignments and discussions, collaborative learning platforms with the use of AI, video conference, QA sessions, κ.α.*	▪ Team assignments that require coordinated collaboration and shared decision-making ▪ Discussion forums on the LMS ▪ collaborative learning platforms (e.g., shared documents, AI-supported tools) for group work and co-creation ▪ video conference meetings for group presentations, project planning, and synchronous collaboration ▪ Regular supervision/Q&A sessions
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY *Use of ICT in teaching, in laboratory training, in the communication with students*	ICTs, GenAI platforms, and cloud-based AI environments are used in supervision, delivering content to students, and communicating with them. More specifically: • Use of digital platforms (e.g., LMS) for distributing learning materials, assignments, and announcements • Use of multimedia presentations, interactive tools, and online resources for students to present assignments • Synchronous and asynchronous communication with students through email, LMS forums, and video-conferencing tools (e.g., Skype, Microsoft Teams, Zoom, Webex, Google Meet) ▪ Support for collaborative learning through shared documents, online workspaces etc
TECHNOLOGICAL EQUIPMENT REQUIREMENTS	▪ Access to a computer or laptop with a reliable internet connection and basic equipment (e.g. a camera, speakers and headphones). ▪ Use of the university's LMS (e.g. eClass) for thesis materials and communication. ▪ Audio-visual equipment for supervision and presentations of assignments (e.g. a projector, speakers, and a microphone). ▪ Video conferencing tools for online sessions. ▪ Basic knowledge of computers, the internet, Windows, and Office.
PLAGIARISM POLICY/ PLAGIARISM DETECTION TOOLS	Plagiarism Policy: The current policy of the universities Plagiarism detection tools: Rhe tools used by the universities, e.g. Turnitin.

<table>
<tr><td></td><td>More specifically:
All submitted work must be original and adhere to the academic integrity and plagiarism policies of the universities
Proper citation and reference are required for all sources, including texts, images, and digital materials.
Plagiarism, whether intentional or unintentional, may result in penalties according to institutional regulations.
Assignments and written work will be checked using plagiarism detection software (e.g. Turnitin) to ensure academic honesty.
Students are encouraged to review similarity reports and correct any citation issues before final submission.
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(4) Students are free to use Artificial Intelligence</td><td>The use of AI is permitted if the following requirements are met. Students may use AI tools to support their learning and assignment preparation, provided the instructor approves it and the student adheres to the guidelines for acceptable use. Students should maintain academic integrity by critically evaluating AI-generated content, clearly referencing/acknowledging the tool used and describing how it was used, and citing all sources and literature that informed the final work.</td></tr>
<tr><td>ORGANISATION OF TEACHING
The mode and methods of teaching are described in detail.
Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, work placements, clinical practice, art workshop, interactive teaching, educational visits, project, essay writing, artworks, etc.
The student's study hours for each learning activity are stated, as well as the hours of independent study, according to the principles of the ECTS.</td><td><table><tr><th>Activity</th><th>Semester Workload</th></tr><tr><td>Placement in the service/organization</td><td>600</td></tr><tr><td>Participation in supervision</td><td>45</td></tr><tr><td>Case study and analysis</td><td>20</td></tr><tr><td>Report writing and presentation of work</td><td>20</td></tr><tr><td>Independent study</td><td>65</td></tr><tr><td>Total Course</td><td>750</td></tr></table></td></tr>
</table>

STUDENT ASSESSMENT *Description of the assessment method Language of assessment, methods of assessment, formative or summative assessment, multiple choice questions test, short answer questions, essay questions, problem solving, written work, essay/report, oral examination, public presentation, laboratory assignment, clinical examination of patient, art interpretation, other Specifically-defined evaluation criteria are given, and if and where they are accessible to students.*	The evaluation language is English. Students are assessed by the supervisor using a specific assessment form that is accessible to students based on the following criteria (each of which has a specific weighting in the overall grade): ▪ The quantitative and qualitative performance of the students and the extent to which they took advantage of the opportunities and stimuli provided by the overall field experience (presence in the service/organization and group supervision). ▪ The conscious effort to develop a climate of cooperation with the members of the supervision team, the staff of the service/organization, and the people served. ▪ The degree of the student's participation in the field experience/internship and their attitude of consistency, responsibility, and initiative. ▪ The development of the student's professional skills. ▪ The gradual acquisition of a professional attitude and awareness of self-awareness issues. ▪ The students' timely response to written reports and presentations of their work During the semester, as part of group supervision, an interim assessment (which includes a self-assessment by the student) and a final assessment are carried out.

5] RECOMMENDED-BIBLIOGRAPHY

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229 and Society: Proceedings of the Panhellenic Conference of the ECCC: ATE

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