



Internationalization Programs Study Abroad 2020

Course title: **PROMOTING HEALTHY AGEING. INNOVATING FOR DEMENTIA, AGEING ASSESSMENT AND INTERVENTION.**

Teaching period: 6 to 17 July, 2020

Teaching hours: 45

Academic coordinator: Francisco A. Nieto Escámez / M^a Dolores Roldán Tapia

Knowledge area: Psicobiology

1. INTRODUCTION

The demographic change foreseen for the coming years leads us to a markedly aged society in a short / medium term, especially in the most developed countries. A direct consequence of population ageing is the decrease in the quality of life and health status of the population, highlighting the increase in the incidence of cases of dementia such as Alzheimer's disease. In the absence of definitive pharmacological solutions for the treatment of cognitive deterioration and dementia, a multidisciplinary approach is currently proposed as a preventive measure aiming to promote active and healthy ageing. Likewise, evaluation, monitoring and treatment of cognitive, emotional or social interaction problems in neurological pathologies associated with ageing requires the involvement of different disciplines, from neuropsychology to robotics, through nutrition, music, physiotherapy or information technologies, among others.

Researchers and experts in neuropsychological assessment and rehabilitation, physiotherapy, information and communication technologies, robotics, nutrition, music therapy, sexology... present in this course the latest trends for the intervention in the alterations associated with the development of dementia in ageing and its prevention through factors that promote healthy ageing.

The course lasts 2 weeks (45 hours) and is made of theoretical-practical sessions where experts will provide the students with their knowledge as well as research and professional experience. Along with the classes and workshops, we have programmed two visits to the facilities of the University of Almeria, and specialized centers for elderly people with cognitive impairment assistance.



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2. OBJECTIVES

1. To know the appropriate tools for neuropsychological assessment and intervention in ageing.
2. To know how new technologies (robotics, virtual reality, wearables) promote healthy ageing and help intervention in people with cognitive impairment and dementia at different levels.
3. To know which factors promote healthy ageing as a strategy to increase the quality of life of the elderly and prevent cognitive decline and dementia.

3. CONTENT

Modules	Description
MODULE 1: <i>Ageing and cognitive decline</i>	An introduction to the biological and lifestyle factors linked to the development of healthy and pathological ageing. <ul style="list-style-type: none"> ● Neurobiology of healthy and pathological ageing. ● Psychological changes associated with ageing and neurological pathology. ● How our lifestyle influences ageing. ● Cognitive reserve and ageing.
MODULE 2: <i>Neuropsychology applied to ageing</i>	Tools for neuropsychological assessment and diagnosis of cognitive decline and intervention strategies. <ul style="list-style-type: none"> ● Normal ageing vs. cognitive impairment: how to detect it. ● Diagnosis and treatment of the neurological pathology associated with ageing (dementia). ● Daily work with Alzheimer's patients.
MODULE 3: <i>New technologies and ageing</i>	An introduction to new technologies as a fundamental tool in the promotion of active ageing. <ul style="list-style-type: none"> ● APPs to promote active ageing. ● Robotics in the treatment of dementia and as assistive tool for ageing. ● Virtual reality for sensory and cognitive stimulation. ● Wearables for monitoring and assessment of physical activity and physiological response in older adults.



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MODULE 4:
*New lifestyles
for healthy
ageing*

New strategies for the promotion of healthy lifestyles in ageing.

- Nutrition and ageing.
- Promotion of physical activity in senior citizens.
- Encouraging cognitive activity as a healthy lifestyle in ageing.
- Sexology of ageing.
- Healthy psychological styles in ageing.
- Volunteering and social commitment with older adults.
- Animals as therapy and support in ageing.

4. METHODOLOGY

The different modules will be divided into theoretical-practical sessions where an expert will present the state of the art in each of the topics addressed in the course. A set of practical activities for the students will be proposed, either in groups or individually, so the students bring to practice this knowledge. Teachers will provide an introduction on the topic of the session or workshop, and will guide the students through a practical demonstration of the concepts and methodologies worked on.

For the realization of the course, in addition to the academic and professional experience of teachers, students will have access to facilities and technological equipment of the University of Almeria used for evaluation and intervention in healthy and pathological ageing from a neuropsychological point of view.

The course will be taught in Spanish and English. In all the modules there will be information in both languages, when the session is given in Spanish the teaching material will be available in English and vice versa.

At the end of each session a few minutes will be reserved for the students to complete a self-assessment questionnaire that will review the contents and competences worked on. Likewise, at the end of each module a brief satisfaction survey will be carried out by the students.

5. PROFESSIONAL VISITS AND COMPLEMENTARY ACADEMIC ACTIVITIES

1. Visit to the facilities and laboratories of the University of Almeria where students will be shown how to access bibliographic resources, propose research and intervention protocols in Neuropsychology and Health, as well as the application of ICT solutions to promote healthy and independent living, as well as the assessment, prevention and treatment of neurological deterioration. A session of assisted therapy with animals (dogs) will be organized.

2. Visit to Classijazz Almeria where various music therapy workshops will be held, along with activities related to dance and movement as therapy and promotion of active and healthy ageing.



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6. ASSESSMENT

Attendance and participation in the sessions of the course.
Completion of a self-assessment questionnaire.

7. LECTURERS

Francisco Nieto Escámez (UAL). Professor Contracted Doctor of the Psychobiology Area of the University of Almería. Researcher of the Neuropsychological Evaluation and Rehabilitation Center (CERNEP). Expert in the use of new technologies (virtual reality and wearables) in sensory, motor and cognitive neurorehabilitation. His current lines of research are focused on the use of Virtual Reality for neurorehabilitation of neurodevelopmental problems (amblyopia) and sensory stimulation strategies in ageing and dementia.

M^a Dolores Roldán Tapia (UAL). Professor of Psychobiology at the University of Almería. Researcher of the Neuropsychological Evaluation and Rehabilitation Center (CERNEP). Expert in neuropsychology of ageing. She has directed different summer courses on neuropsychology and ageing. She has coordinated several international cooperation programs linked to the promotion of healthy ageing. She is a pioneer in the study of genetic and environmental factors involved in cognitive reserve and ageing.

Inmaculada Fernández Agis (UAL). Professor of Basic Psychology at the University of Almería. She is director of the Neuropsychological Evaluation and Rehabilitation Center (CERNEP) and head of the Sexological Studies Unit of the University of Almería. She is specialist in neuropsychology and sexology of ageing.

José Mata Ferrón (UAL). Master's Degree in Sciences of the Nervous System and PhD student in Medical Sciences Doctoral Program. His current research and thesis line is focused on the application of new technologies for cognitive and emotional stimulation in healthy and pathological ageing. His master's degree research was linked to the design of virtual reality-based protocols for motor rehabilitation in acquired brain damage.

Ángeles Hoyo (UAL). Electronic Engineer specialized in robotics, Master's Degree in Industrial Engineering. PhD student at the Automatics, Robotics and Mechatronics group, she has received numerous awards including the IX Award for Social Involvement in Public Universities of Andalusia. The activity of her research group highlights the use of robots for social purposes.



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Natividad Pardo Palenzuela (Clínica de Neurorehabilitación Neurodem). Psychologist, Master's Degree in Sexology and Neuropsychology. Therapist expert in neuropsychological evaluation and neurorehabilitation.

Desiree Sánchez Nieto (Centro Alzheimer Vivaldi). Master's Degree in General Health Psychology, psychologist at Vivaldi Day Care Unit. Professional psychologist specialized in Alzheimer's patients care.

M^o Dolores Martínez Marín (Clínica de Neurorehabilitación Neurodem). Dietitian and nutritionist specialized in brain damage, ageing and dementia.

Julia del Rocio Campos Martínez (Clínica de Neurorehabilitación Neurodem). Diploma in Physiotherapy. Neurophysiotherapist specialized in brain damage and cognitive impairment.

Carmen Huete Gallardo (Junta de Andalucía). Music Teacher and Bachelor of Psychology. University Master's Degree and Master's Degree in Musical Education for Educators. She has been part of the educational department of the City of Granada Orchestra. She has taught different courses and conferences on didactic concerts and musical training for educators.

Patricia Grau (C.S.M. Granada). Professor of the Conservatory of Music of Granada, Master of Performing Arts and Diploma in Contemporary Dance. She has participated in different multidisciplinary research groups at the University of Granada and as a choreographer and stage director in numerous shows. She has collaborated in different research projects for the use of dance and movement as a strategy to promote active ageing.

María Molina (Divercan, Fisiodog). Physiotherapist specialized in assisted therapy with animals with experience in several healthcare centers (CEDAEN and Association Friends of Alzheimer of Almeria).

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