Teaching Guide					
Identifying Data					2021/22
Subject (*)	Research Methodology in Gerontology			Code	653540006
Study programme	Máster Universitario en Xerontoloxía				
Descriptors					
Cycle	Period	Year		Type	Credits
Official Master's Degree	1st four-month period	First		Obligatory	4
Language	Spanish				
Teaching method	Face-to-face				
Prerequisites					
Department	Fisioterapia, Medicina e Ciencias Biomédicas				
Coordinador	Maseda Rodríguez, Ana Belén		E-mail	ana.maseda@udc.es	
Lecturers	Maseda Rodríguez, Ana Belén		E-mail	ana.maseda@udc.es	
Web	estudos.udc.es/es/subject/4540V01/4540006				
General description	This subject will address the methodology of research applied to gerontology to solve problems in the field, obtaining valid and reliable results. The aim is to introduce the student to the methodological bases for carrying out and publishing scientific works. It will comprise 2 main parts, research (methodology and handling of instruments, techniques, design, etc.) and documentation (articles, presentation and writing of papers, bibliographic citations, etc.).				

Contingency plan	1. Modifications to the contents No changes will be made 2. Methodologies *Teaching methodologies that are maintained - Master session - Directed discussion - Oral presentation - Seminary - Troubleshooting - Multiple response test - Internships through ICT - Supervised works - Objective proof - Personalized attention *Teaching methodologies that are modified Master classes and seminars will take place virtually through the Microsoft Teams platform. Oral presentations by students will also be made through Teams. The objective test would be performed using Moodle. The personalized attention for the tutoring of the supervised works will be done through Microsoft Teams, Moodle and by email. 3. Mechanisms of personalized attention to the alumnado - Email: Daily. Of use to make queries, request virtual meetings to solve doubts and to follow up on the supervised works. ? Moodle: Daily. According to the need of the students. They have "thematic forums associated with the topics" of the subject, to formulate the necessary consultations. ? Teams: 1 weekly session in group for the advancement of the theoretical contents and of the works supervised in the time slot that has assigned the matter in the calendar of classrooms of the faculty. 1 monthly session (or more as demanded by the students), for follow-up and support in the realization of the "supervised works". This dynamic allows a normalized follow-up and adjusted to the needs of the learning of the alumnado to develop the work of the matter. - In case the students have problems of connection to the internet will be able to use the telephone route. 4. Changes in the evaluation The percentages of evaluation are maintained, specified in the teaching guide, performing the exam virtually through the Moodle tool and the oral presentation of the supervised work by the students through Microsoft Teams. *Evaluation observations: The same ones that appear in the teaching guide are maintained, except that: - The references to the computation of the attendance, which will be carried out according to the sessions that were face-to-face until the moment in which the face-to-face activity was suspended and from there the attendance to the virtual classes will be considered in the schedule previously established with the students. - If necessary, the July opportunity will be subject to the same criteria as the 1st chance. 5. Modifications of the bibliography or webgraphy No changes will be made. They already have all the working materials in a digitized form in Moodle.

Study programme competences / results	
Code	Study programme competences / results
A1	To be able to recognize the main pathologies and geriatric syndromes through the application of new and innovative work methodologies adapted to the field of gerontology
A8	Know how to apply and integrate the knowledge acquired, the understanding of these, its scientific foundation and its problem-solving capabilities in social and socio-sanitary environments and defined in an imprecise way, including multidisciplinary contexts both researchers and professionals in the field of gerontology

B1	Possess and understand knowledge that provides a basis or opportunity to be original in the development and/or application of ideas, often in a research context
B2	That students know how to apply the knowledge acquired and their ability to solving problems in new or little-known environments within broader (or multidisciplinary) contexts related to gerontology and geriatrics
B3	That students are able to integrate knowledge and face the complexity of making judgments from information that, being incomplete or limited, includes reflections on the social and ethical responsibilities linked to the application of their knowledge and judgments.
B4	That students know how to communicate their conclusions ? and the knowledge and ultimate reasons that support them ? to specialized and non-specialized audiences in a clear and unambiguous way
B5	That students possess the learning skills that allow them to continue studying in a way that will be largely self-directed or autonomous
C1	Adequate oral and written expression in the official languages
C2	Mastering oral and written expression in a foreign language
C3	Using ICT in working contexts and lifelong learning
C4	Acting as a respectful citizen according to democratic cultures and human rights and with a gender perspective

Learning outcomes			
Learning outcomes	Study programme competences / results		
- Understand the methodological aspects to follow in the formulation and development of research in gerontology.	AJ1 AC1	BC1 BC2 BC3 BC4 BC5	CC1 CC2 CC3 CC4
- Apply this knowledge in research in gerontology, design of experiments, etc.	AJ6 AR3	BJ1 BJ1 BJ1 BJ1 BR1	CC14 CC14 CC14 CC14
- Scientifically reasoning works in the area of gerontology, being able to discuss information, interact and draw conclusions, presenting reports and conclusive works.	AJ6 AR3	BJ1 BJ1 BJ1 BJ1 BR1	CC14 CC14 CC14 CC14
- Communicate in a scientific way, knowledge of the area of gerontology in all fields (teaching, social, research), written, oral or visual in scientific articles, seminars, congresses, communications, master classes, ...	AJ6 AR3	BJ1 BJ1 BJ1 BJ1 BR1	CC14 CC14 CC14 CC14
- Develop learning skills to undertake studies and research in the area of gerontology, with the ability to design and structure a research work.	AJ6 AR3	BJ1 BJ1 BJ1 BJ1 BR1	CC14 CC14 CC14 CC14

Contents	
Topic	Sub-topic

PART I. DOCUMENTATION IN GERONTOLOGY. FORMS OF SCIENTIFIC COMMUNICATION	Item 1. Scientific documentation. Definition and types Item 2. The scientific article. structure Item 3. bibliography. Vancouver/APA style. Electronic citations. Item 4. General recommendations for the publication of originals. Common requirements of biomedical journals Item 5. Impact factor and other quality indices of publications and authors Item 6. Databases and electronic journals. Internet Item 7. Other forms of research disclosure Item 8. Presentation of results: oral communications and posters at scientific events. Techniques and skills for presenting results
PART II. RESEARCH IN GERONTOLOGY	Item 9. scientific research. Concepts and fundamentals. Scientific methodology Item 10. Own reports: characterization and supports. Laboratory notebook. Reports. Material registration. Techniques for data collection Item 11. epidemiology. Risk factors Item 12. Types of research Item 13. Sample size and random selection Item 14. Research design. Stages of scientific work: identification of the problem, formulation of hypotheses Item 15. Variables and statistical tests for the analysis of an investigation Item 16. Research in Gerontology. The doctorate. Financing of projects

Planning				
Methodologies / tests	Competencies / Results	Teaching hours (in-person & virtual)	Student?s personal work hours	Total hours
Oral presentation	A1 A8 B1 B2 B3 B4 B5 C1 C2 C4	4	10	14
Problem solving	A1 A8 B1 B2 B3 B4 B5 C2 C4	0	2	2
Multiple-choice questions	A1 B1 B2 B3 B4 B5 C2 C1	0	4	4
ICT practicals	A1 A8 B1 B2 B3 B4 B5 C1 C2 C3 C4	4	4	8
Supervised projects	A1 A8 B1 B2 B3 B4 B5 C1 C2 C3 C4	0	30	30
Objective test	A1 A8 B1 B2 B3 B4 B5 C4	4	10	14
Guest lecture / keynote speech	A1 A8 B1 B2 B3 B4 B5 C1 C2 C3 C4	24	0	24
Personalized attention		4	0	4
(*)The information in the planning table is for guidance only and does not take into account the heterogeneity of the students.				

Methodologies	
Methodologies	Description
Oral presentation	Intervention inherent to the teaching-learning processes based on verbal exposure through which students and teachers interact in an orderly way, proposing questions, making clarifications and exposing topics, works, concepts, facts or principles in a dynamic way.
Problem solving	Technique by means of which a specific problematic situation has to be solved, from the knowledge that was worked on, which can have more than one possible solution.
Multiple-choice questions	It is objective to formulate a question in the form of a direct question or incomplete statement, and several options or alternatives for answers that provide possible solutions, of which only one of them is valid.

ICT practicals	Methodology that allows students to learn effectively, through practical activities (demonstrations, simulations, etc.) the theory of a field of knowledge, through the use of information and communication technologies. ICT is an excellent support and channel for the treatment of information and practical application of knowledge, facilitating learning and the development of skills by students.
Supervised projects	Methodology designed to promote the autonomous learning of students, under the tutelage of the teacher and in varied scenarios (academic and professional). It refers primarily to learning the "how to do things". It is an option based on students taking responsibility for their own learning. This teaching system is based on two basic elements: the independent learning of the students and the monitoring of that learning by the teacher-tutor.
Objective test	Written test used for the evaluation of learning, whose distinctive outline is the possibility of determining whether or not the answers given are correct. It is a measuring instrument, elaborated rigorously, that allows to evaluate knowledge, capacities, skills, performance, aptitudes, attitudes, intelligence, etc. It is applicable for both diagnostic, formative and summative evaluation. The objective test can combine different types of questions: multiple-choice, ordering, short-answer, discrimination, complete, and/or association questions. It can also be constructed with a single type of one of these questions.
Guest lecture / keynote speech	Oral exhibition complemented by the use of audiovisual media and the introduction of some questions addressed to students, in order to transmit knowledge and facilitate learning. The master class is also known as a "lecture", "expository method" or "master class". This last modality is usually reserved for a special type of lesson taught by a teacher on special occasions, with a content that supposes an original elaboration and based on the almost exclusive use of the word as a means of transmitting the information to the audience.

Personalized attention	
Methodologies	**Description**
Guest lecture / keynote speech Supervised projects Oral presentation	Since it is an eminently practical subject, in which the overcoming of the same is linked to the correct use of the information received in the presentation of research papers, the personal work of the student is a fundamental part of the evaluation of the same, assuming a number of hours (minimum) similar to the face-to-face hours in the classroom. The personalized attention to the student will help to complete in an individualized way his training, mainly in the use of the scientific databases necessary for the realization of the supervised works, the realization and discussion of the tests proposed during the course, as well as the examination and the comments of text to present. In the case of supervised works this attention becomes especially relevant so that the student can deliver a work suitable to overcome the subject.

Assessment			
Methodologies	**Competencies / Results**	**Description**	**Qualification**
Multiple-choice questions	A1 B1 B2 B3 B4 B5 C2 C1	The student must perform mandatory exercises related to the teaching taught in the course.	10
Guest lecture / keynote speech	A1 A8 B1 B2 B3 B4 B5 C1 C2 C3 C4	The student must attend the proposed classes and seminars. In case the student has more than 3 faults, a more extensive research work should be done: < 3 faults- 20 citations; 4- 6 faults: 40-citations; 7-9 faults: 60 citations; >10 faults: 80 citations. 5% of the final grade will be given to those students with 3 or fewer faults.	5
Supervised projects	A1 A8 B1 B2 B3 B4 B5 C1 C2 C3 C4	The student, at the end of the course must deliver a research work or bibliographic review of high quality, evaluating the structure and form of the same, the use of relevant scientific works (minimum of 20 bibliographic references, of which at least 80% will be in English) and the quality and innovation of the proposed topic. This work will have a value of 40% on the total final grade (10% oral presentation and 30% quality of the work).	40
Objective test	A1 A8 B1 B2 B3 B4 B5 C4	There will be a global examination of the subject.	30

Oral presentation	A1 A8 B1 B2 B3 B4 B5 C1 C2 C4	The student must make an oral presentation of a research paper in poster format. It will have a value of 15% on the total final grade, evaluating the organization and information, pronunciation and intonation, vocabulary, mastery of the subject and clarity of ideas.	15

Assessment comments
To pass the subject must pass both the objective test and the supervised work. The supervised work (written), that is, 30% of the total grade of the subject, may be validated in the event that the student prepared a scientific article to publish in a prestigious journal or has already published it, on which he/she must make an oral presentation (10%). SUPERVISED WORKS: Case of detecting fraud, copy or plagiarism in the writing of the work of the asignatura, will imply a suspense in the opportunity of evaluation affected (0,0) and direct reference to the next opportunity. This attitude will be communicated to the Academic Committee and to the rest of the professors of the title. In the event that the irregularity is reiterated in a 2nd evaluation, the Commission may request the Rector the temporary or perpetual expulsion of the student of the Master studied.

Sources of information	
Basic	- American Psychological Association (2020). Publication manual of the American Psychological Association (7th. Ed.). Washington, D.C.: APA - Burgos Rodríguez, R. (1998). Metodología de investigación y escritura científica en clínica. Granada: Escuela Andaluza de Salud Pública - Carrasco, J.L. (1995). El método estadístico en la investigación médica. Madrid: Ciencia 3 - Domenech, J.M. (1999). Métodos estadísticos en ciencias de la salud. Barcelona: Signo - Fernández Ríos, L. & Buela-Casal, G. (2009). Standards for the preparation and writing of Psychology review articles. International Journal of Clinical and Health Psychology, 9(2), 29-344 - García Roldán, J.L. (1995). Cómo elaborar un proyecto de investigación. Alicante: Universidad de Alicante - Hulley, S.B. & Cummings, S.R. (1993). Diseño de la investigación clínica-un enfoque epidemiológico. Barcelona: Doyma - Lodeiros Seijo, C. (2002). Manual práctico para la redacción y crítica de un artículo científico. Venezuela: Ediciones UDO / Fundacite Anzoategui - Millán Calenti, J.C. (2006). Principios de Gerontología y Geriatría. Madrid: McGraw-Hill Interamericana - Mira, J.J., Gómez, J., Aranaz, J. & Pérez, E. (1998). Auditoría de historias clínicas: ¿cuál es el tamaño adecuado de la muestra?. Todo Hospital, 140: 58-64 - Pita, S. (2015). Metodología de la investigación. Disponible en: http://www.fisterra.com/mbe/investiga/index.asp - Rius, F. & Barón, F.J. (2005). Bioestadística. Madrid: Thomson - Sentís, J., Pardell, H., Cobo, E. & Canela, J. (2003). Manual de bioestadística (3ª ed.). Barcelona: Masson
Complementary	

Recommendations
Subjects that it is recommended to have taken before
Subjects that are recommended to be taken simultaneously
Subjects that continue the syllabus
Master`s Dissertation. Clinical Specialty/653540010 The Research Project in Gerontology/653540017
Other comments

Books and manuals adapted to the subject and other bibliographical references, computer media and audiovisual mediaKnowledge of technical English is recommended because it will be necessary to read articles and scientific papers in English.To help achieve a sustainable immediate environment and meet the strategic objective 2 of the "IV Action Plan of the Green Campus FCS Program (2020-2022)", the documentary work that is carried out in this subject:a) Mostly will be requested in virtual format and computer support(b) If made on paper:- No plastics will be used.- Face-to-face prints will be made.- Recycled paper will be used.- Drafts will be avoided.

(*)The teaching guide is the document in which the URV publishes the information about all its courses. It is a public document and cannot be modified. Only in exceptional cases can it be revised by the competent agent or duly revised so that it is in line with current legislation.