Course Title	**Master Thesis I - Research planning and Proposal**				
Course Code	**DLSEH551**				
Course type	Elective				
Level	Master				
Year / Semester of study	1st / 2nd				
Teacher's Name	Click or tap here to enter text.				
ECTS	10	Lectures / week		Laboratories/week	
Course Purpose	The aim of the course is to prepare and train students in the elaboration and writing of postgraduate dissertations through the implementation of research proposals. It aims to develop critical competences to address complex scientific issues, is supported by existing literature and encourages the application of knowledge and skills acquired during studies. In addition, it focuses on research methodology, data analysis, inference extraction and scientific writing, preparing students for the successful completion of the study program and the acquisition of the postgraduate degree				
Learning Outcomes	Upon successful completion of the course, students will be able to: - Become familiar with the basic principles of research methodology. - Familiarize themselves with electronic databases for bibliography search. - Effectively search for the appropriate literature on the internet. - Recognize types of scientific work. - Utilize the basic principles of writing scientific papers. - Choose a topic for their Master's thesis and write them. - Clearly articulate the research question. - Design and evaluate questionnaires. - Plan and conduct studies in health sciences. - Write scientific papers. - Raise concerns for further investigations. - Apply the basic principles of statistics and data analysis. - Develop basic knowledge in Biostatistics and its applications in health issues. - Describe and separate data analysis methods. - Apply statistical analyses and methods as appropriate. - Carry out statistical checks and present the results. - Correctly interpret the findings of statistical tests. - Identify the basic methods of qualitative data analysis. - Use a combination of the knowledge, tools and techniques they have been taught. - Effectively identify information resources. - Support their views and ideas with arguments. - They present their findings and achievements in different ways. - Possess the necessary skills in statistical science to evaluate and critically analyze health research plans and strategies.				

Prerequisites			Corequisites	
Course Content	1st Section (week 1 and 2)	The 1st Module will have a duration of 2 weeks and will include material, activities and lectures on the Implementation of a research proposal, Search for bibliography on the internet, Systematic bibliographic review and Topic selection for a postgraduate dissertation.		
	2nd Section (week 3 and 4)	The 2nd Module will last 2 weeks and will include material, activities and lectures on the Fundamentals of Scientific Paper Writing and on Measurement Tools.		
	Section 3 (week 5)	The 3rd Module will last 1 week and will include material, activities and lectures on the Fundamentals of writing a Master's thesis.		
	Section 4 (week 6 and 7)	The 4th Module is an introductory module in Biostatistics and will last 2 weeks and will include material, activities and lectures on the following: - Biostatistics and its applications - Stages of biostatistical studies - Types of variables - Descriptive Statistics - Frequency and affinity tables - Charts - Descriptive statistical measures (Location measures - Dispersion measures) - Normal distribution - Measures of asymmetry and curvature Parametric and non-parametric methods of statistical analysis		
	Section 5 (week 8 and 9)	The 5th Session will last 2 weeks and will include material, activities and lectures on the following: - Inferential Statistics - Methodology of statistical inference Hypothesis tests (x2 – test for independence test, t-test, dispersion analysis, correlation coefficients, regression analysis)		
	Section 6 (week 10)	The 6th Module will have a duration of 1 week and will include material, activities and lectures on Qualitative research and Qualitative data analysis.		
	7th Section (weeks 11, 12 and 13)	The 7th Unit will last 3 weeks and will include material, activities and lectures to utilize the student's knowledge and skills.		
Teaching Methodology	The course is structured and developed based on the principles of distance learning, good practices as well as the guidelines of the Evaluation Body and finally the Pedagogical Framework developed and implemented by our University. Also, through the design and development of distance learning courses, synchronous and asynchronous interaction, communication and collaboration are taken into account at 3 levels: 1) between instructor and student, 2) between students, and 3) between students and content. The course is taught entirely online through the electronic platform Moodle LMS. Mandatory, optional and additional bibliography (e.g. books, articles,			

	links, open educational resources, case studies) in combination with notes, course presentations and suggestions for reading study (bibliography) are available to students through an electronic platform. Also, a variety of appropriate educational material is given through the online platform in the form of presentations with notes, presentations with narration, interactive presentations and videos, interactive learning scenarios, gamification activities, avatars, digital twins, audio files, online quizzes). Various online tools, new and emerging technologies are being exploited: communication tools (e.g. video conferencing, chat rooms), collaboration tools (e.g. discussion forums, blogs, wikis), as well as content development tools. Students are encouraged through the platform and various technological tools to interact with their fellow students and the instructor, in order to become active members of the online learning community created within the framework of the course. Finally, with the use of various technological tools, each student is expected to create his own online learning community. More information about distance learning at Frederick University, the Pedagogical Background developed and implemented, as well as the toolkit used, can be found at the following link. About Distance Learning - Frederick University	
Bibliography	1st	Basic Material • Galanis P. Design methodology of studies. Arch Ell Doctor 2017, 34:559-566. • Galanis P.: Searching for scientific evidence on the internet. Nursing 2013, 52:13- 24. • Galanis P. Basic principles of bibliography search in PubMed. Nursing 2013, 52:25- 34 • Galanis P. Systematic review and meta-analysis. Arch Ell Doctor 2009, 26:826-841. Digital Multimedia Material In this section, the first teleconference will take place in the thematic section of "Research Methodology", which will include lectures on "Implementation of a research proposal", "Presentation of Research Results", "Internet bibliography search" and "Systematic bibliographic review". Also, detailed PowerPoint presentations and electronic material with images and diagrams will be used in order to deepen and better understand the concepts regarding Research Methodology and Bibliography Search. The teleconference will be videotaped and posted on the e-learning platform. Additional material - Rothman KJ. Epidemiology. An introduction. Oxford University Press, New York, 2002. - Galanis P. Research methodology in health sciences. Kritiki Publications, Athens, 2017

| | **2nd** | Basic Material

• Galanis P. Basic principles of writing research articles. Arch Ell Doctor 2014, 31:97-107.
• Galanis P. Writing research articles in health sciences. Arch Ell Doctor 2015, 32:369- 372.
• Galanis P. Bibliographic references. Nursing 2013, 52:253-260.
• Galanis P.: Using the appropriate questionnaire in epidemiological studies. Arch. Ell Doctor 2012, 29:744-755.
• Galanis P. Validity and reliability of questionnaires in epidemiological studies. Arch Ell Doctor 2013, 30:97-110.

Digital Multimedia Material

In this section, detailed PowerPoint presentations will be used to present the theoretical background. This will include lectures on "Fundamentals of Scientific Paper Writing" and "Measurement Tools". Also, electronic material and links to various important measurement tools and questionnaires will be used in order to deepen and better understand these tools.

Additional material

• Galanis P. Writing the title and abstract of a research article. Arch Ell Doctor 2013, 30:734-741.

http://www.casp-uk.net/#!finding-the-evidence/c18lb

http://www.casp-uk.net/#!checklists/cb36

http://www.sfedit.net/newsletters.htm |
| | **3rd** | Basic Material

DISSERTATION WRITING GUIDE
The "Guide for the Writing and Procedures for the Submission of the Postgraduate Thesis" provides in detail all the information in order to help the student of the MSc in Sport Science and Exercise Medicine of Frederick University to prepare, elaborate, submit and successfully support his postgraduate thesis.

• Galanis P. Writing research articles in health sciences. Arch Ell Doctor 2015, 32:369- 372.
• Galanis P. Writing the title and abstract of a research article Arch Ell Iatro 2013, 30(6):734-741
• Galanis P. Bibliographic references. Nursing 2013, 52:253-260.

Digital Multimedia Material |

		In this section, the second teleconference will take place, where the "Basic principles of writing a postgraduate dissertation" will be presented in detail. The thematic unit will include simple PowerPoint presentations and presentations with accompanying notes. The teleconference will be videotaped and posted on the e-learning platform.
	4th	**Basic Material** • Galanis P. Design methodology of studies. Arch Ell Doctor 2017, 34:559-566. • Galanis P. Applications of Statistics in research articles. Arch Ell Doctor 2013, 30(4):491- 498. • Galanis II Sampling methodology in epidemiological studies. Archives of Greek Medicine 2012,29(5):632-637. • Galanis P: Necessary number of patients in randomized clinical trials. Archives of Greek Medicine 2012,29(5):632-637. • Galanis P. Univariate analysis of epidemiological data. Arch Ell Doctor 2014, 31:221- 243. • GALANIS P. Data analysis methodology in health sciences. Applications with IBM SPSS Statistics. Broken Hill Publishers Ltd, Athens, 2014, Chapter 10, p. 95 – 120. Additional material • Apostolakis I., Stamoulis M.A., Exercises in Computational Statistics in Health, Issue A', Papazisis Publications, Athens, 2007, Chapter 6, p. 45 – 67. Digital Multimedia Material In this section, the first teleconference will take place in the thematic section of Biostatistics, which will include lectures for the presentation of the theoretical background, and detailed presentations with PowerPoint and electronic material with images and diagrams will be used in order to deepen and better understand the concepts. The teleconference will be videotaped and posted on the e-learning platform. Additional material - Galanis P. Research methodology in health sciences. Kritiki Publications, Athens, 2017. - Rothman KJ. Epidemiology. An introduction. Oxford University Press, New York, 2002. - Bernard Rosner (2016), Fundamentals of Biostatistics, Eighth Edition, Cengage Learning, USA - David Bowers (2011), Fundamental Concepts in Biostatistics - Introduction for Health Professionals, P.C. Paschalidis Medical Publications, Athens - Apostolakis I., Daras T., M.A. Stamoulis (2007), Exercises in Computational Statistics in Health, Volume A', "Section 8", Papazisis Publications, Athens.

		- Galanis P. Data analysis methodology in health sciences. Applications with IBM SPSS Statistics. Broken Hill Publishers LTD & Paschalides SA, Nicosia, 2015. - Galanis P. Management of variables and data in epidemiological studies. Nursing 2011, 50:132-146. - Gnardellis C., (2013), Data Analysis with IBM SPSS Statistics 21 Papazisis Publications, Athens. - Hand J. Statistics: a very short introduction. Oxford University Press, Oxford, 2008.Shasha D, Wilson M. Statistics is easy. Morgan & Claypool Publishers. Washington, 2008. - Matthews D, Farewell V. Using and understanding medical statistics. 4th ed. Karger, Basel, 2007. - Ktenas E. (2003), Statistics in the field of Health, ZYMEL Publications, Athens. - Bersiris S., Sahlas A. (2016), Applied Statistics with emphasis on Health Sciences, Tziola Publications, Athens. - Rugg G. Using statistics: a gentle introduction. Open University Press, Berkshire, 2007. - Peat J, Barton B. Medical statistics. A guide to data analysis and critical appraisal. BMJ Books, Massachusetts, 2005. - Van Belle G. Fisher L, Heagerty P, Lumley T. Biostatistics. A methodology for the health sciences, 2nd ed. John Willey & Sons, New Jersey, 2001. Wilcox R. Basic statistics. Oxford University Press, Oxford, 2009.
	5th	**Basic Material** • Galanis P. Statistical methods of data analysis. Arch Ell Doctor 2009, 26:699-711 • Galanis P. Multivariate analysis of epidemiological data. Arch Ell Doctor 2009, 26:699-711 • GALANIS P. Data analysis methodology in health sciences. Applications with IBM SPSS Statistics. Broken Hill Publishers Ltd, Athens, 2014, Chapter 15, pp 169 – 176. • Apostolakis I., Stamoulis M.A., Exercises in Computational Statistics in Health, Volume A', Papazisis Publications, Athens, 2007, Chapter 9, p. 91 – 98. • GALANIS P. Data analysis methodology in health sciences. Applications with IBM SPSS Statistics. Broken Hill Publishers Ltd, Athens, 2014, Chapter 23, pp 229 – 236. Additional material - Apostolakis I., Daras T., M.A. Stamoulis (2007), Exercises in Computational Statistics in Health, Volume A', "Section 9-15", Papazisis Publications, Athens. - Galanis P. Statistical methods of data analysis. Arch Ell Doctor 2009, 26:699-711. - Galanis P. Data analysis methodology in health sciences. Applications with IBM SPSS Statistics. Broken Hill Publishers LTD & Paschalides SA, Nicosia, 2015.

		- Gnardellis C., (2013), Data Analysis with IBM SPSS Statistics 21 Papazisis Publications, Athens. - David Machin, Michael J Cambell and Stephen j Walters (2007), Medical Statistics, Fourth E dition, A Textbook for the Health Sciences, John Wiley and Sons Ltd. - Julien Hoffman (2015), Biostatistics for Medical and Biomedical Practitioners, 1st Edition, Academic *Press.* - Maritn Lee Abbott (2016), Statistics in the Social and Health Sciences with SPSS and Excel - Van Belle G. Fisher L, Heagerty P, Lumley T. Biostatistics. A methodology for the health sciences.2nd ed. John Willey & Sons, New Jersey, 2001. Digital Multimedia Material In this section, the second tele-meeting in the thematic section of Biostatistics will take place, which will include lectures for the presentation of the theoretical background, and detailed presentations with PowerPoint and electronic material with images and diagrams will be used in order to deepen and better understand the concepts. The teleconference will be videotaped and posted on the e-learning platform.
	6th	**Basic Material** • Mason, J. (2003). *The conduct of qualitative research*. Kyriazi, N. (scientific editor). Dimitriadou, E. Athens: ed. Greek Letters. • Cohen, L., Manion, L. & Morrison, K. (2008). *Educational research methodology* . Athens: Metaichmio. *[Chapters 22, 23]* **Supplementary Material** A tutorial posted for the utilization of interview data for qualitative analysis (https://www.youtube.com/watch?v=DRL4PF2u9XA) is utilized Our students are usually more familiar with quantitative research than their undergraduate studies since they usually attend a course in statistics. This bibliography gives them the opportunity to get acquainted with qualitative research and especially different ways of handling and analyzing qualitative research data. **Digital Multimedia Material** Take advantage of a simple power point presentation. We want this week to focus the attention of the participants on the great individual project that has already been posted and discussed last week.
	7th	For the educational needs of this unit, the material of all previous modules is used

ΔΙΠΑΕ
CYQAA

ΦΟΡΕΑΣ ΔΙΑΣΦΑΛΙΣΗΣ ΚΑΙ ΠΙΣΤΟΠΟΙΗΣΗΣ ΤΗΣ ΠΟΙΟΤΗΤΑΣ ΤΗΣ ΑΝΩΤΕΡΗΣ ΕΚΠΑΙΔΕΥΣΗΣ
THE CYPRUS AGENCY OF QUALITY ASSURANCE AND ACCREDITATION IN HIGHER EDUCATION

Assessment	The evaluation of the course includes activities of continuous / formative assessment (formative), self-evaluation (self-evaluation and debriefing / final evaluation (summative). Specifically, the evaluation of this course includes the following: final written exam, 2 evaluation assignments, 2 evaluative online interactive discussions, various weekly educational activities such as interactive activities, interactive presentations/ videos and self-assessment activities. From the above, the following are scored: • Task 1 – Biostatistics (20%) • Task 2 – Biostatistics (20%) • Participation in online training activities (forums) (10%) • Final Project – Examination – Implementation of a research proposal (50%) All assignments are assigned and delivered to the online platform, as well as plagiarism checking through the turnitin tool. The final exam is developed by the instructor and completed by the students on a special platform used exclusively for the exams.
Language	Greek/English