Course Title	Research Methods and Methodology				
Course Code	HSA-590				
Course Type	Elective				
Level	2nd Cycle				
Year / Semester	2 / 3				
Teacher's Name	Course Lead: Dr Elena Critselis Course Contributors: • Dr Christiana Demetriou • Dr Costas Constantinou • Dr Neophytos Stylianou				
ECTS	10	Lectures	16	Interactive learning activities	23
Course Purpose and Objectives	The main objectives of the course are to: • Assess the needs for conducting a research study in the context of Public Health and generate relevant and testable research questions. • Systematically search for evidence in the literature using the appropriate search engines and databases (e.g. PubMed Health, Cochrane Library) and critically evaluate the existing literature, identifying gaps in knowledge on topics relevant to Public Health. • Conduct quantitative (epidemiological) research, by choosing the most appropriate study design (observational or interventional), applying a suitable sampling method, performing accurate variable assessment, applying the right data analysis technique and generating and presenting results appropriately, as well as deriving relevant conclusions. • Design qualitative research studies, involving participant observations, individual interviews, and focus groups for answering a research question in the context of Public Health. • Write up a complete research proposal and prepare a grant application for funding in national and international funding bodies. Specifically, the learning objectives of the course are to: • Equip students with the knowledge and skills to conduct a needs assessment relevant to Public Health. • Link public health needs assessment to research. • Equip students with the knowledge and skills to generate testable research questions. • Conduct systematic literature search for existing evidence. • Equip students with the knowledge and skills to choose the most appropriate quantitative observational study design for answering research questions relevant to Public Health. • Equip students with the knowledge and skills to choose the most appropriate quantitative interventional study design for answering research questions relevant to Public Health. • Equip students with the knowledge and skills to estimate sample size				

	requirements for a quantitative research study by performing a power analysis. • Equip students with the knowledge and skills to choose the most appropriate sampling method for a given research scenario relevant to Public Health. • Equip students with the knowledge and skills to perform accurate variable assessment for a given research scenario relevant to Public Health. • Equip students with the knowledge and skills to choose the most appropriate and applicable statistical technique for a given research scenario relevant to Public Health. • Equip students with the knowledge and skills to choose the most appropriate way for presenting research findings and deriving conclusions relevant to Public Health. • Equip students with the knowledge and skills for writing up a proposal for conducting a research project relevant to Public Health. • Explain in detail the major qualitative research methods used in social and behavioural research and equip students with the ability to apply these for answering relevant Public Health issues. • Equip students with the knowledge and skills for writing up a scientific research article relevant to Public Health. • Equip students with the knowledge and skills for preparing an oral presentation of original research findings relevant to Public Health. • Equip students with the knowledge and skills for effectively communicating research findings relevant to Public Health to the media and lay audiences.
Learning Outcomes	After completion of the course students are expected to be able to: 1. Identify and examine issues compromising public health and assess the needs for conducting a research study to address these. 2. Generate relevant and testable research questions in the context of Public Health. 3. Systematically search for evidence using the appropriate search engines and databases (e.g. PubMed Health, Cochrane Library). 4. Critically evaluate the existing literature and identify and examine gaps in knowledge on topics relevant to Public Health. 5. Choose the most appropriate study design for answering specific research questions relevant to Public Health. 6. Design quantitative observational research studies for answering a research question in the context of Public Health. 7. Design quantitative interventional research studies for answering a research question in the context of Public Health. 8. Estimate sample size requirements by performing study power analysis. 9. Choose the most appropriate sampling method for a given research scenario relevant to Public Health. 10. Perform accurate variable assessment for a given research scenario relevant to Public Health. 11. Choose the right data analysis technique for a given research scenario

	relevant to Public Health. 12. Perform statistical analysis and generate appropriate results for a given research scenario relevant to Public Health. 13. Present study results appropriately for a given research scenario relevant to Public Health. 14. Derive conclusions based on study findings. 15. Write up a complete research proposal and prepare a grant application for funding in national and international funding bodies. 16. Demonstrate deep understanding and apply the major methodologies involved in qualitative research, relevant to social and behavioural sciences in the context of Public Health. 17. Design qualitative research studies involving participant observations for answering a research question in the context of Public Health. 18. Design qualitative research studies involving individual interviews for answering a research question in the context of Public Health. 19. Design qualitative research studies involving focus groups for answering a research question in the context of Public Health. 20. Write-up a scientific article presenting original study findings relevant to Public Health. 21. Perform an oral presentation on original study findings relevant to Public Health. 22. Communicate study results and conclusions to the media and lay audiences.		
Prerequisites	HSA-511	Required	HSA-596
Course Content	1. Assessing needs for conducting a research study relevant to Public Health 2. Generating research questions and systematically searching and critically evaluating the existing literature 3. Designing the appropriate quantitative study for answering a research question I: observational research 4. Designing the appropriate quantitative study for answering a research question II: interventional research 5. Estimating sample size requirements (power analysis) 6. Quantitative study conduct I: Choosing the most appropriate sampling method 7. Quantitative study conduct II: Performing accurate variable assessment 8. Quantitative Study conduct III: Choosing the right statistical technique and performing analysis 9. Quantitative study conduct IV: Results presentation and deriving conclusions in quantitative research 10. Writing up a research proposal and applying for funding 11. Design and analysis in qualitative research		

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<tr><td></td><td>12. Communication of results and conclusions I: article write-up
13. Communication of results and conclusions II: oral presentation
14. Communication of results and conclusions III: media and lay audiences</td></tr>
<tr><td>Teaching Methodology</td><td>This programme is delivered via distance learning (online) and includes recorded lectures, interactive online tutorials (Webinars) and discussion forums, as well as online exercises and other activities.</td></tr>
<tr><td>Bibliography</td><td>Required Textbooks / Reading:
<table>
<tr><th>Title</th><th>Author(s)</th><th>Publisher</th><th>Year</th><th>ISBN</th></tr>
<tr><td>Concepts of Epidemiology: Integrating the ideas, theories, principles, and methods of epidemiology (3 ed.)</td><td>Raj S. Bhopal</td><td>Oxford University Press</td><td>2016</td><td>978-019873 9685</td></tr>
<tr><td>Epidemiology in Medicine 1st Edition</td><td>Hennekens (Author), Julie E. by Charles H. Buring (Author)</td><td>Sherry L. Mayrent (Editor)</td><td>1987</td><td>978-031635 6367</td></tr>
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Recommended Textbooks / Reading:
<table>
<tr><th>Title</th><th>Author(s)</th><th>Publisher</th><th>Year</th><th>ISBN</th></tr>
<tr><td>Mastering Public Health: A Postgraduate Guide to Examinations and Revalidation, (2nd ed.)</td><td>Lewis G, Sheringham J, Bernal JL, Crayford T</td><td>CRC Press</td><td>2014</td><td>978-144415 2692</td></tr>
<tr><td>Research methods in community medicine: surveys, epidemiological research, programme</td><td>Abramson, J. H.</td><td>Wiley</td><td>2008</td><td>978-047098 6615</td></tr>
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	evaluation, clinical trials				
	Research Methods in Health: Investigating Health and Health Services	Ann Bowling	Open University Press	2009	978-0335233649
	Doing a Systematic Review: A Student's Guide (1st ed.)	Boland A, M, Cherry G, Dickson R.	SAGE Publications Ltd	2013	978-1446269688
	Cochrane Handbook for Systematic Reviews of Interventions (Ver. 5.1.0)	Higgins JPT, Green S.	The Cochrane Collaboration	2011	978-0470699515
	Introduction to Meta-Analysis (1st ed.)	Borenstein M, Larry V. Hedges LV, Higgins JPT, Rothstein HR	Wiley	2009	978-0470057247
	Qualitative Methods in Public Health: A Field Guide for Applied Research (2nd ed.)	Tolley EE, Ulin PR, Mack N, Robinson ET, Elizabeth T. Robinson, Succop SM	Jossey-Bass	2016	978-1118834503
Assessment	• Research proposal PICO/PECO (10%) • Research proposal abstract (10%) • Research proposal for grant application (80%)				
Language	English				