

Course Title	Epidemiology I				
Course Code	MPH 601				
Course Type	Compulsory				
Level	Masters (2 nd Cycle)				
Year / Semester	1 st year / 1 st semester				
Teacher's Name	TBA				
ECTS	10	Lectures / week	N/A	Laboratories / week	None
Course Purpose and Objectives	<p>The course's objective is to help students understand the basic concepts of epidemiology. The course will introduce the basic descriptive statistics for the documentation of the frequency of diseases, as well as the importance of correct sampling for the avoidance of random and systematic errors during an epidemiologic research. Further, this course will cover measures of outcome frequency and measures of association that are used in epidemiologic studies, as well as the concepts of internal and external validity of outcomes. Finally, this course will cover the subject and design of different epidemiologic studies.</p>				
Learning Outcomes	<p>Upon completion of this course students should be able to:</p> <ul style="list-style-type: none"> • Describe the basic concepts of epidemiology, such as determinant, confounder, mediator, sample • Measure the frequency of several outcomes in health sciences • Calculate the suitable measures of association in epidemiological studies • Recognise and describe the different types of epidemiological studies • Plan and carry out epidemiological studies • Implement the basic principles of sampling in epidemiological studies • Explain and apply systematic reviews • Search for the suitable evidence on the Internet 				
Prerequisites	None	Required	None		
Course Content	<p>Epidemiology is the study of the frequency, the distribution, and the determinants of different diseases and other conditions that are related to health in specific populations. In order for health scientists to apply rational and correct healthcare they must have knowledge of at least the basic principles of Epidemiology. Epidemiology, basically, concerns the design and implementation of studies with the smallest error possible, while providing the</p>				

	<p>required mathematical procedures for the analysis of observations that emerge from epidemiologic studies. The correct implementation of epidemiologic principles is necessary to draw precise and valid conclusions. The content of Epidemiology has been expanded to a great extent and as a scientific activity it aims to contribute not only to the prevention of diseases, but also to the therapy and rehabilitation, that is, to the entire spectrum of healthcare.</p> <p>The objective of Epidemiology is to measure the frequency of the occurrence of different outcomes in health sciences and to estimate the characteristics that determine this frequency. These characteristics are mentioned as <i>determinants</i>, a term that tends to replace the wrong term <i>risk factors</i>. Therefore, Epidemiology studies associations, and in particular associations that connect determinants to the different outcomes frequency. Hence, the subject of Epidemiology is a frequency association that might be causative, diagnostic or prognostic. In this way, Epidemiology aims to contribute to Public Health promotion and to the implementation of rational and correct healthcare.</p> <p>Content</p> <p>Units</p> <ul style="list-style-type: none"> • Introduction to epidemiology and the basic concepts of epidemiology • Sampling • Simple descriptive statistics • The concept of random and systematic error • Measures of outcome frequency • Measures of association • Standardisation • The concepts of the determinant, the confounder, the mediator factor and the confounder • Stratification and statistical adjustment internal and external validity • Types of studies: Cross-sectional studies • Types of studies: Case-Control studies • Types of studies: Cohort studies • Types of studies: Clinical trials
Teaching Methodology	Distance Learning
Bibliography	<p>Educational Handbook:</p> <p>Basic epidemiology (2006) 2nd Edition Author: R Bonita, R Beaglehole, T Kjellström World Health Organization</p>

	<p>Recommended reading:</p> <p>Charles, H., Hennekens, CH., Buring, JE. (1987). <i>Epidemiology in Medicine</i>. Little, Brown and Co.</p> <p>Rothman, KJ., Greenland, S., Lash, TL. (2008). <i>Modern Epidemiology</i>. Philadelphia: Lippincott Williams & Wilkins.</p> <p>Kleinbaum, DG., Lawrence, LK., Morgenstern, H. (1982). <i>Epidemiologic research: principles and quantitative methods</i>. Lifetime Learning Publications, Belmont, California.</p> <p>MacMahon, B. and Trichopoulos, D. (1996). <i>Epidemiology: Principles & Methods</i>. 2nd ed. Boston, Little, Brown.</p> <p>Rothstein, HR., Sutton, AJ., Borenstein, M. (2005). <i>Publication bias in meta-analysis: prevention, assessment and adjustments</i>. John Wiley & Sons, London.</p> <p>Webb, P. and Bain, C. (2011). <i>Essential Epidemiology: An Introduction for Students and Health Professionals</i>. 2nd Edition. Cambridge University Press, Cambridge.</p> <p>RECOMMENDED SCIENTIFIC JOURNALS:</p> <p>Epidemiology American Journal of Epidemiology European Journal of Epidemiology International Journal of Epidemiology Journal of Epidemiology and Community Health (BMJ Journals)</p>				
Assessment	<table> <tr> <td>Examinations</td> <td>50%</td> </tr> <tr> <td>On-going evaluation</td> <td>50%</td> </tr> </table>	Examinations	50%	On-going evaluation	50%
Examinations	50%				
On-going evaluation	50%				
Language	English				