



MEDICAL STATISTICS	
Enrollment year	2019/2020
Academic year	2019/2020
Regulations	DM270
Academic discipline	MED/01 (MEDICAL STATISTICS)
Department	DEPARTMENT OF PUBLIC HEALTH, NEUROSCIENCE, EXPERIMENTAL AND FORENSIC MEDICINE
Course	ENVIRONMENT AND WORKPLACE PREVENTION TECHNIQUES
Curriculum	PERCORSO COMUNE
Year of study	1°
Period	1st semester (01/10/2019 - 17/01/2020)
ECTS	2
Lesson hours	23 lesson hours
Language	Italian
Activity type	WRITTEN TEST
Teacher	VILLANI SIMONA (titolare) - 2 ECTS
Prerequisites	The course is part of the students' basic training, together with Physics and Epidemiology, preparatory to the lessons and activities in the Prevention field. To better follow the course, the student must have attended the tutorial courses and acquired the basic knowledge of mathematics, filling eventually gaps.
Learning outcomes	<p>The course aims to provide the methodological principles for a scientific approach to the study of health and disease of a population. It is the first step in the knowledge that an operator in the field of prevention must have in order that the scientific research carried out is correctly set and evaluated.</p> <p>In detail, the course aims to develop the theoretical and practical knowledge of the most frequent basic statistical methodologies (knowledge and comprehension), as well as the ability to correctly apply this knowledge both to new experimental situations and to published</p>

	<p>research studies (ability to apply knowledge and comprehension). At the end of the course the student will be able to independently perform basic statistical analyses and communicate in an appropriate way the findings, as well as to understand and critically evaluate the published evidences in relation to their work context.</p>
Course contents	<p>Introduction to Statistic and research planning. Variability and chance. Population, sample and sampling methods: - non-probabilistic and probabilistic methods (simple random sampling; stratified random sampling; cluster sampling; multiple-stage sampling). - Sampling and sample size (touch on). - Sheet for data collection. Data organization: database and dataset. Tools for descriptive analysis and interpretation of data - Description of statistical unit and type of variables. Frequency distribution for qualitative and quantitative variables. Graphics. - Descriptive statistics: o mean, median, mode, centiles, o range variance, standard deviation, coefficient of variation o skewness and kurtosis - Correlation coefficient and simple linear regression - Normal distribution. - Inferential statistics: o Test of hypothesis o Parametric unpaired t-test. o Chi-squared test.</p>
Teaching methods	<p>The course is organised in lectures and practical exercises. With the problem solving approach, the fundamental elements of Medical Statistics will be addressed.</p>
Reccomended or required readings	<p>Any Biostatistics or Medical Statistics manual may be used. In particular: - Lantieri P, Risso D, Ravera G. Statistica medica per le professioni sanitarie. McGraw-Hill. - Triola, Triola. Fondamenti di Statistica per le discipline biomediche. Pearson, 2017. - Daniel, Cross. Biostatistica. Concetti di base per l'analisi statistica dell'area medico-sanitaria. III Edizione 2019 (Capitoli 1-3; 7). Useful material will be on Kiro platform.</p>
Assessment methods	<p>The examination will be written with a problem solving approach. The student must demonstrate not only to know and correctly apply the techniques of analysis (knowledge and skills), but to be able to interpret the results obtained and communicate in a scientifically correct way the evidences form the analyses (competence). Three closed questions on theory aspects are also provided.</p>
Further information	<p>The Professor takes appointments (Dept. of Public Health, Experimental and Forensic Medicine, U.O. of Biostatistics and Clinical Epidemiology, Via Forlanini 2, e-mail: svillani@unipv.it), usually on Tuesday.</p>
Sustainable development	

