UNIVERSITÀ DI PAVIA

Anno Accademico 2020/2021

MEDICAL STATISTICS AND BIOMETRY

Enrollment year	2020/2021
Academic year	2020/2021
Regulations	DM270
Academic discipline	MED/01 (MEDICAL STATISTICS)
Department	DEPARTMENT OF PUBLIC HEALTH, NEUROSCIENCE, EXPERIMENTAL AND FORENSIC MEDICINE
Course	DIETISTIC
Curriculum	PERCORSO COMUNE
Year of study	1°
Period	(01/10/2020 - 22/01/2021)
ECTS	2
Lesson hours	16 lesson hours
Language	Italian
Activity type	WRITTEN TEST
Teacher	FERRARO OTTAVIA ELEONORA - 2 ECTS
Prerequisites	The course is part of the students' basic training together with Physics, preparatory to the lessons and activities in the haelthcare field. To better follow the course, the student must have basic knowledge of mathematics of scientific high schools' program. It is mandatory for Statistics for research and technology course.
Learning outcomes	The course of Medical statistics and Biometry aims to provide the methodological principles for a scientific approach to the study in healthcare field. It is the first step in the knowledge that an operator in the healthcare field must have in order that the scientific research carried out is correctly set and evaluated. In detail, the course aims to develop the theoretical and practical knowledge of the most frequent descriptive statistical methodologies (knowledge and comprehension), as well as the ability to correctly apply this knowledge both to new experimental situations and to published

	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.
Course contents	Introduction to Statistic and research planning. Variability and chance. Planning of a research. Research Protocol. - Population, sample and sampling methods (non-probabilistic and probabilistic); - Experimental and Observational studies design - 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: mean, median, mode, centiles, range variance, standard deviation, coefficient of variation. - Normal distribution.
Teaching methods	The course is organised in lectures and practical exercises. With the problem solving approach, the fundamental elements of Medical Statistics will be addressed. Practical exercises aim to the interpretation and comprehension of evidences deriving from the right application of methods medical statistics.
Reccomended or required readings	- 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 - MC Whitlock, D Schluter. ANALISI STATISTICA DEI DATI BIOLOGICI. Zanichelli. - Swinscow & Campbell. Le basi della Statistica per le Scienze bio-mediche. X Edizione. Minerva Medica.
Assessment methods	The examination will be written with a problem solving approach and integrated with Statistics for research and technology. 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.
Further information	The Professor takes appointments (Dept. of Public Health, Experimental and Forensic Medicine, U.O. of Biostatistics and Clinical Epidemiology, Via Forlanini 2, e-mail: paola.borrelli@unipv.it).
Sustainable development goals - Agenda 2030	$lbl_legenda_sviluppo_sostenibile