



UNIVERSITÀ DEGLI STUDI DI PALERMO

DEPARTMENT	Promozione della Salute, Materno-Infantile, di Medicina Interna e Specialistica di Eccellenza "G. D'Alessandro"		
ACADEMIC YEAR	2023/2024		
MASTER'S DEGREE (MSC)	HEALTH PROFESSION OF PREVENTION SCIENCES		
INTEGRATED COURSE	SCIENTIFIC RESEARCH METHODOLOGY - INTEGRATED COURSE		
CODE	23002		
MODULES	Yes		
NUMBER OF MODULES	3		
SCIENTIFIC SECTOR(S)	ING-INF/05, MED/01, MED/50		
HEAD PROFESSOR(S)	TODARO MATILDE	Professore Ordinario	Univ. di PALERMO
OTHER PROFESSOR(S)	SEIDITA VALERIA	Professore Associato	Univ. di PALERMO
	TODARO MATILDE	Professore Ordinario	Univ. di PALERMO
CREDITS	11		
PROPAEDEUTICAL SUBJECTS			
MUTUALIZATION			
YEAR	1		
TERM (SEMESTER)	2° semester		
ATTENDANCE	Mandatory		
EVALUATION	Out of 30		
TEACHER OFFICE HOURS	SEIDITA VALERIA Monday 14:30 15:30 Team dei ricevimenti del docente (codice: ce0vzsz).		
	TODARO MATILDE Monday 14:00 15:00 sede caltanissetta CESPAF		

PREREQUISITES	No specific prerequisites other than administrative ones
LEARNING OUTCOMES	The Integrated Course aims to provide the skills to actively participate in clinical and health research, disseminate its results and apply them in professional practice. Therefore, it is intended to cover topics such as: - Setting a research question from the unmet needs of clinical practice; - Identifying ethical aspects involved in one's own research; - Choosing the most appropriate research methodologies; - Conducting the research in every step. - Conducting the research at every step; - Choose the most appropriate ways to disseminate the results of one's research; - Interpreting the results of clinical and health research published in the scientific literature; - Evaluate the appropriateness of applying research to clinical practice and healthcare organisation Knowledge and understanding The course provides the student with the indispensable basic notions to enable him/her to tackle other topics related to the subject. The student is expected to show participation, interest and an obvious ability to learn in the subject, as well as to be able to update and expand his/her knowledge by drawing independently on texts, scientific articles and databases. Furthermore, the student must also demonstrate the ability to analyse arguments, scientific data and theoretical-practical experiences objectively and autonomously and thus to have developed a critical spirit and approach to the subject. The student must demonstrate the ability to develop discussions on the course of descriptive, analytical and experimental studies and the prevention of infectious and chronic degenerative diseases. The teaching aims to provide students with the basic knowledge and methodological tools required to conduct scientific research and thus understand the procedures, strategies and methods for designing, planning and implementing various epidemiological studies. Ability to apply knowledge and understanding The student must be able to participate actively and skilfully in the collection of environmental and health data in epidemiological studies. Ability to correctly use texts and scientific literature specific to the sector for a continuous updating of knowledge in the specific health field. Ability to correctly use texts and scientific literature specific to the field for continuous updating of knowledge in the specific health field. Ability to learn and follow appropriately, using the knowledge acquired in the course, the subsequent curricular teaching; ability to continue to study independently in order to benefit from in-depth courses, specialist seminars and Masters.
ASSESSMENT METHODS	The assessment test is based on an oral examination of the three disciplines of the teaching (integrated course). The oral examination consists of an interview that will be designed to test knowledge, full comprehension and critical capabilities regarding the topics covered in the integrated course. The assessment is in thirtieths, as shown in the diagram below: - Grade: 30 - 30 with distinction - Assessment: Excellent (ECTS grade A-A+ excellent) Outcome: Excellent knowledge of the teaching content. The student demonstrates high analytical-synthetic ability and is able to apply the knowledge to solve problems of high complexity. - Grade: 27 - 29 - Assessment: Excellent (ECTS grade B very good) Outcome: Excellent knowledge of teaching content and very good command of language. The student demonstrates analytical-synthetic ability and is able to apply knowledge to solve problems of medium and, in some cases, high complexity. - Grade: 24 - 26 - Marking: Good (ECTS grade C Good) Outcome: Good knowledge of teaching content and good command of language. The student is able to apply the knowledge to solve problems of medium complexity. - Grade: 21 - 23 - Assessment: Fair (ECTS grade D satisfactory) Result: Fair knowledge of the teaching content, in some cases limited to the main topics. Acceptable ability to use discipline-specific language and to apply acquired knowledge independently. - Mark: 18 - 20 - Grading: Sufficient (ECTS grade E sufficient) Outcome: Minimal knowledge of the teaching content, often limited to the main topics. Modest ability to use discipline-specific language and to apply acquired knowledge independently. - Grade: 1 - 17 - Assessment: Insufficient (ECTS grade F Fail) Outcome: Does not possess acceptable knowledge of the main teaching content. Very little or no ability to use the language specific to the discipline and to apply the knowledge acquired independently. Examination failed.
TEACHING METHODS	Face-to-face lessons

MODULE
STATISTICS APPLIED TO EVALUATION IN HEALTHCARE

SUGGESTED BIBLIOGRAPHY

- Libro di testo

Triola MM Triola MF Roy J, Fondamenti di statistica per le discipline biomediche, 2022 Pearson Italia, ISBN 9788891915443

Altri Libri consigliati

1. Daniel W.W. Cross C.L., Biostatistica, III Edizione EdiSES, ISBN 978-88-3319-041-9

2. Bacchieri A., Della Cioppa G. Fondamenti di ricerca clinica, Springer ISBN 88-470-0211-7

AMBIT

20432-Scienze propedeutiche| 20435-Scienze statistiche e demografiche

INDIVIDUAL STUDY (Hrs)

68

COURSE ACTIVITY (Hrs)

32

EDUCATIONAL OBJECTIVES OF THE MODULE

The course aims to present the fundamental concepts of statistical methodology aimed at healthcare evaluation. The course is aimed at the knowledge/ understanding of the fundamental concepts of descriptive and inferential statistics. The student will be able to carry out/interpret simple statistical analyses, also through the use of Excel software

SYLLABUS

Hrs	Frontal teaching
3	Elementary concepts: Qualitative and quantitative variables. Discrete and continuous quantitative variables. Variable classification according to the measurement scale: nominal , ordinal, interval, ratio
2	Data representation: Statistical distributions and graphics
3	Measures of central tendency and variability
5	Elements of Probability theory. Bayes theorem. Diagnostic test accuracy measures
4	Theoretical distributions for a random variable: Normal or Gaussian Distribution and Binomial Distribution.
2	Occurrence measures: prevalence and incidence
2	Central limit theorem. Sampling distribution of means and proportions
3	Sample estimation of mean and proportion. Confidence intervals
4	Statistical significance tests of mean and proportion. p-value and statistical power
Hrs	Practice
4	Practicals on statistical data using Excel

**MODULE
CLINICAL RESEARCH AND EBM**

Prof.ssa MATILDE TODARO

SUGGESTED BIBLIOGRAPHY

Dispense e materiale didattico forniti dal Docente

AMBIT	20436-* Scienze della prevenzione nell'ambiente e nei luoghi di lavoro
INDIVIDUAL STUDY (Hrs)	68
COURSE ACTIVITY (Hrs)	32

EDUCATIONAL OBJECTIVES OF THE MODULE

The Integrated Course aims to provide the skills to actively participate in clinical and health research, disseminate its results and apply them in professional practice. Therefore, it is intended to cover topics such as:
Setting a research question starting from the unmet needs of clinical practice; Identifying ethical aspects involved in one's research; Choosing the most appropriate research methodologies; Conducting the research in each of its steps; Choosing the most appropriate ways to disseminate the results of one's research; Interpreting the results of clinical and health research published in the scientific literature; Assessing the appropriateness of applying research to clinical practice and health organisation

SYLLABUS

Hrs	Frontal teaching
2	Critical reading of a scientific article
4	From clinical case to research question
2	Study designs in clinical research
4	The elements of the search protocol
2	Statistics at the service of clinical research
2	Ethical issues in clinical research
4	Clinical trial regulations and ethics committees
4	Management of personal data and biological samples
4	Structure of a scientific article
4	The spill-over of research results into clinical practice

**MODULE
DATA MANAGEMENT, BIG DATA AND ELEMENTS OF COMPUTER SCIENCE**

Prof.ssa VALERIA SEIDITA

SUGGESTED BIBLIOGRAPHY

P. Atzeni, S. Ceri, S. Paraboschi, R. Torlone. Basi di Dati – Modelli e Linguaggi di Interrogazione. McGraw-Hill

AMBIT	20441-Scienze informatiche e interdisciplinari applicate alla gestione sanitaria
INDIVIDUAL STUDY (Hrs)	51
COURSE ACTIVITY (Hrs)	24

EDUCATIONAL OBJECTIVES OF THE MODULE

The objective of the course is to provide the basic concepts necessary for understanding the structure of programmable electronic digital computers, data storage, and the major concepts of Boolean algebra. The course also covers issues related to the design and use of databases for managing and analyzing large amounts of data.

SYLLABUS

Hrs	Frontal teaching
3	Introduction: informatics and the computer.
3	Bits and data storage. Hints of Boole's algebra.
2	Introduction to databases
4	Designing and analyzing a database
2	Introduction to big-data
4	Big-data: processing, correlating and analyzing data
Hrs	Practice
6	Creating and analyzing a database