



# UNIVERSITÀ DEGLI STUDI DI PALERMO

<b>DEPARTMENT</b>	Biomedicina, Neuroscienze e Diagnostica avanzata		
<b>ACADEMIC YEAR</b>	2021/2022		
<b>BACHELOR'S DEGREE (BSC)</b>	BIOMEDICAL LABORATORY TECHNIQUES		
<b>INTEGRATED COURSE</b>	OCCOPATIONAL AND PREVENTIVE MEDICINE - INTEGRATED COURSE		
<b>CODE</b>	15505		
<b>MODULES</b>	Yes		
<b>NUMBER OF MODULES</b>	3		
<b>SCIENTIFIC SECTOR(S)</b>	MED/44, MED/42, MED/01		
<b>HEAD PROFESSOR(S)</b>	MATRANGA DOMENICA	Professore Ordinario	Univ. di PALERMO
<b>OTHER PROFESSOR(S)</b>	TRAMUTO FABIO	Professore Associato	Univ. di PALERMO
	MATRANGA DOMENICA	Professore Ordinario	Univ. di PALERMO
	LACCA GUIDO	Ricercatore	Univ. di PALERMO
<b>CREDITS</b>	9		
<b>PROPAEDEUTICAL SUBJECTS</b>			
<b>MUTUALIZATION</b>			
<b>YEAR</b>	3		
<b>TERM (SEMESTER)</b>	1° semester		
<b>ATTENDANCE</b>	Mandatory		
<b>EVALUATION</b>	Out of 30		
<b>TEACHER OFFICE HOURS</b>	<p><b>LACCA GUIDO</b> Monday 11:00 13:00 Dipartimento Promise Istituto di Medicina del Lavoro</p> <p><b>MATRANGA DOMENICA</b> Friday 12:00 13:30 Stanza della docente, Dipartimento di Promozione della Salute, Materno-Infantile, Medicina interna e specialistica di eccellenza "G. D'Alessandro", Via del Vespro, 133, piano terra</p> <p><b>TRAMUTO FABIO</b> Monday 14:00 16:00 Dipartimento di Promozione della Salute, Materno-Infantile, Medicina Interna e Specialistica di Eccellenza "G. D'Alessandro" AOUP "P. Giaccone" Via del Vespro, 133 Piano terra Wednesday 14:00 16:00 Dipartimento di Promozione della Salute, Materno-Infantile, Medicina Interna e Specialistica di Eccellenza "G. D'Alessandro" AOUP "P. Giaccone" Via del Vespro, 133 Piano terra Friday 14:00 16:00 Dipartimento di Promozione della Salute, Materno-Infantile, Medicina Interna e Specialistica di Eccellenza "G. D'Alessandro" AOUP "P. Giaccone" Via del Vespro, 133 Piano terra</p>		

<b>PREREQUISITES</b>	The student must have the skills and knowledges required to overcome the admission test.
<b>LEARNING OUTCOMES</b>	<p>Knowledge and ability to understand</p> <p>At the end of the course, students will need to demonstrate:</p> <ul style="list-style-type: none"> <li>• knowledge and ability to understand descriptive statistics, probability and assessment of diagnostic tests accuracy</li> <li>• knowledge and ability to understand simple statistical tests and confidence intervals</li> <li>• knowledge and ability to understand the epidemiological and frequency measurements in health-care setting;</li> <li>• ability to understand the theoretical and practical differences in epidemiological study models;</li> <li>• knowledge of the different modes of transmission and spread of infectious diseases and related prophylaxis and prevention methods;</li> <li>• knowledge of the biological risk assessment for health-care workers in laboratory activities;</li> <li>• knowledge of the etiology, pathogenesis and social impact of the most common occupational diseases;</li> <li>• ability to identify and describe the legislative indications characterizing prevention and safety in the workplace.</li> </ul> <p>Ability to apply knowledge and understanding</p> <p>The knowledge gained by the students with the course "Statistica Medica, Medicina del Lavoro e della Prevenzione" will constitute a wealth directly spendable in the working world of both public and private laboratories. The comprehension and the ability to apply the knowledge acquired during the course, will allow the students to manage the laboratory procedures with autonomy and critical sense, in terms of prevention and control of transmissible infectious diseases, and possible occupational risks of physical and chemical nature. Students will be able to use the acquired competencies to read and do critical appraisal of the most important literature of their work field, they will have the ability to analyse, synthesize, argue and establish critical connection skills, with concern to the topics of the course.</p> <p>Making judgments</p> <p>The students will be able to independently meet the professional issues related to the knowledge of the course. In particular, they will:</p> <ul style="list-style-type: none"> <li>• be able to rationally and independently deal with issues related to the professional knowledge of the course and to deal with issues regarding the laboratory through a correct scientific approach.</li> <li>• be able to assess and implement preventive/corrective measures in professional practice and in issues concerning the discipline (management of risk from biological infectious agents in a professional context, human health effects from exposure to environmental pollutants, risk assessment and risk control of chemical and biological hazards in the workplace).</li> </ul> <p>Communication skills</p> <p>Students will be able to communicate clearly and without ambiguity their conclusions as well as the knowledge and rationale to specialist and nonspecialists. The following learning objectives have to be acquired: • scientific and experimental communicative methodology in the context of health promotion and occupational medicine. • ability to manage all biomedical investigations in respect and protection of human health.</p> <p>Learning capacity</p> <p>Students/graduates must have developed adequate learning capacity, interpretation and evaluation of risks associated with specific diagnostic biomedical and research contexts. In addition, the ability to interact with different databases, specialized scientific publications and legislation related disciplines of the course, will allow to address the innovations and updates in the field of disease prevention and occupational hazards, with autonomous learning, analysis and resolution of problems related to their specific professional field.</p>
<b>ASSESSMENT METHODS</b>	<p>The exam is an oral test. The exam aims to assess knowledge and comprehension of all the topics, autonomy of making judgments, ability to use the acquired knowledge, appropriate language. At the middle of the Module of Medical Statistics, students will undergo an interim test, with the aim to evaluate the comprehension of treated topics till that moment. If lessons timetable should be respected without delay, it is possible another final test, immediately after the end of lessons. The oral exam will consist of an interview that is to ascertain the possession of skills and subject knowledge provided by the course. The candidate will have to answer at least two-three questions posed orally, on all parties covered by the program, with reference to the recommended texts. The assessment is carried out of thirty. The pass mark will be reached when the student shows knowledge and understanding of the subjects at least in general terms; furthermore, the student will also have to show presentation and argumentative skills as to allow the transmission of his/her knowledge to the examiner. Below this threshold, the examination will be insufficient. The more, however, the student will be able to find own connections between the topics of</p>

	<p>the course and be able to go into detail on the subject of discipline, the more the assessment is positive. The assessment is done according to the following scheme: A – A+ (Excellent)=30-30 cum laude=Excellent knowledge of teaching contents; students should show high analytical and synthetic capabilities and should be able to apply their knowledge to solve highly complex problems. B (Very good)=27-29=Very good knowledge of the teaching contents and excellent language control; students should show analytical and synthetic skills and be able to apply their knowledge to solve problems of medium and, in some cases, even higher complexity. C (Good)=24- 26=Good knowledge of teaching contents and good language control; the students should be able to apply their knowledge to solve problems of medium complexity D (Satisfactory)=21-23=Average knowledge of the teaching contents, in some cases limited to the main topic; acceptable ability to use the specific discipline language and independently apply the acquired knowledge. E (Sufficient)=18-20=Minimum teaching content knowledge, often limited to the main topic; modest ability to use the subject specific language and independently apply the acquired knowledge. F (Fail)=1-17=Lack of an acceptable knowledge of the main teaching content knowledge; very little or no ability to use the specific subject language and apply independently the acquired knowledge.</p>
<b>TEACHING METHODS</b>	Teaching is based on lectures and practice, also with informatics aid and supported by slides, downloadable by the unipa website.

<p style="text-align: center;"><b>MODULE</b> <b>GENERAL AND APPLIED HYGIENE</b> <i>Prof. FABIO TRAMUTO</i></p>	
<b>SUGGESTED BIBLIOGRAPHY</b>	
<p>Vitale F, Zagra M. Igiene, epidemiologia e organizzazione sanitaria orientate per problemi - Con accesso online. Elsevier - Masson ISBN-13: 978-8821434242  Ricciardi W. Igiene, medicina preventiva e sanita' pubblica. Idelson – Gnocchi ISBN-13: 978-8879475624  Barbuti S, Bellelli E, Fara GM, Giammanco G. Igiene. Moduzzi Editore ISBN-13: 978-8865210413  Dispense fornite dal docente (cartacee e/o digitali)</p>	
<b>AMBIT</b>	10731-Attività formative affini o integrative
<b>INDIVIDUAL STUDY (Hrs)</b>	45
<b>COURSE ACTIVITY (Hrs)</b>	30
<b>EDUCATIONAL OBJECTIVES OF THE MODULE</b>	
<p>The Hygiene module aims to:</p> <p>a) present, analyze and discuss the theoretical and practical methods of prevention, monitoring and control to improve the population's health status.</p> <p>b) provide scientific and professional knowledge in the fields of preventive medicine, health education and health promotion, the organization of environmental and epidemiological studies.</p>	

## SYLLABUS

Hrs	Frontal teaching
3	Frequency measures of health events Proportions, rates and ratios. Prevalence and incidence
6	The risk in epidemiology: risk measures and calculation methods Epidemiological studies: descriptive and analytical observational studies, clinical trials Systematic errors and random errors in epidemiology
9	Health promotion and disease prevention. General epidemiology of infectious diseases Host-parasite relationships - General prophylaxis of infectious diseases Disinfection, sterilization and disinfestation
6	Biological risk assessment in health-care workers Epidemiology and prevention of airborne infectious diseases Epidemiology and prevention of enteric infectious diseases Epidemiology and prevention of sexually transmitted infectious diseases
3	Quality of atmospheric air (indoor and outdoor) Effects of air pollution on human health
3	Quality of water for human consumption Water consumption and human health risks Drinking water treatment

## MODULE OCCUPATIONAL MEDICINE

*Prof. GUIDO LACCA*

### SUGGESTED BIBLIOGRAPHY

Lorenzo Alessio, Pietro Apostoli "Manuale di medicina del lavoro e igiene industriale" - Piccin-Nuova Libreria ISBN: 978-88-2992-020-4

Lacca G., Miceli A., Bastone S. "Compendio di Medicina del Lavoro" Ed. Minerva Medica 2019 ISBN: 978-88-7711-987-2

<b>AMBIT</b>	10731-Attività formative affini o integrative
<b>INDIVIDUAL STUDY (Hrs)</b>	45
<b>COURSE ACTIVITY (Hrs)</b>	30

### EDUCATIONAL OBJECTIVES OF THE MODULE

Identification of issues related to environmental conditions of work, preventive interventions for resolution. Knowledge of the rules that protect workers' health.

## SYLLABUS

Hrs	Frontal teaching
3	Hygienic principles
3	Risk assessment
3	Accidents at work and occupational disease. Other forms of insurance
3	The physical hazards (ionizing and non-ionizing radiation, noise, vibration, electricity, ROA)
3	The chemical risks (chemicals, carcinogenic, mutagenic)
3	The biological risks (occupational infections)
6	The organizational risks (manual handling of loads, VDU, awkward postures)
3	Stress indices and thermal comfort
3	The evaluation of work-related stress

## MODULE MEDICAL STATISTICS

*Prof.ssa DOMENICA MATRANGA*

### SUGGESTED BIBLIOGRAPHY

Libro di testo

Triola MM Triola MF, Statistica per le discipline biosanitarie, Pearson

ISBN: 9788891902580

ISBN: 9788891912091 (Ed. digitale)

<b>AMBIT</b>	10337-Scienze propedeutiche
<b>INDIVIDUAL STUDY (Hrs)</b>	45
<b>COURSE ACTIVITY (Hrs)</b>	30

### EDUCATIONAL OBJECTIVES OF THE MODULE

The course is aimed to introduce the statistical methodology useful to the skills of the health professional. Students will be introduced to the elementary concepts of descriptive statistics, probability calculation and measurement of accuracy of diagnostic tests.

## SYLLABUS

Hrs	Frontal teaching
3	Basic concepts: qualitative and quantitative characters, discrete and continuous characters, scales of measurement: nominal, ordinal, intervals and ratio
3	Data presentation: frequency and quantity distributions. Graphical representations
3	Measures of central tendency
3	Measures of variability and shape
4	Elements of probability theory. Bayes Theorem. Measures of accuracy of diagnostic tests. Roc Curves
2	Ripetibility and reproducibility studies
3	Theoretical distributions: Gauss and Binomial distribution, with exercises
3	Central Limit Theorem. Sample distributions of sample mean, with exercises
3	Statistical estimate of the mean and the frequency, with exercises
Hrs	Practice
3	Data analysis using Excel