UNIVERSITÀ DEGLI STUDI DI PALERMO

DEPARTMENT	Biomedicina, Neuroscienze e Diagnostica avanzata
ACADEMIC YEAR	2018/2019
BACHELOR'S DEGREE (BSC)	BIOMEDICAL LABORATORY TECHNIQUES
INTEGRATED COURSE	OCCOPATIONAL AND PREVENTIVE MEDICINE - INTEGRATED COURSE
CODE	15505
MODULES	Yes
NUMBER OF MODULES	3
SCIENTIFIC SECTOR(S)	MED/44, MED/42, MED/01
HEAD PROFESSOR(S)	MATRANGA DOMENICA — Professore Ordinario — Univ. di PALERMO
OTHER PROFESSOR(S)	TRAMUTO FABIO — Professore Associato — Univ. di PALERMO MATRANGA DOMENICA — Professore Ordinario — Univ. di PALERMO LACCA GUIDO — Ricercatore — Univ. di PALERMO
CREDITS	9
PROPAEDEUTICAL SUBJECTS	
MUTUALIZATION	
YEAR	3
TERM (SEMESTER)	1° semester
ATTENDANCE	Mandatory
EVALUATION	Out of 30
TEACHER OFFICE HOURS	**LACCA GUIDO** Monday 11:00 13:00 Dipartimento Promise Istituto di Medicina del Lavoro **MATRANGA DOMENICA** 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 **TRAMUTO FABIO** 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, 133Piano 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, 133Piano 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, 133Piano terra

DOCENTE: Prof.ssa DOMENICA MATRANGA

PREREQUISITES	The student must have the skills and knowledges required to overcome the admission test.
LEARNING OUTCOMES	Knowledge and ability to understand At the end of the course, students will need to demonstrate: • knowledge and ability to understand descriptive statistics, probability and assessment of diagnostic tests accuracy • knowledge and ability to understand simple statistical tests and confidence intervals • knowledge and ability to understand the epidemiological and frequency measurements in health-care setting; • ability to understand the theoretical and practical differences in epidemiological study models; • knowledge of the different modes of transmission and spread of infectious diseases and related prophylaxis and prevention methods; • knowledge of the biological risk assessment for health-care workers in laboratory activities; • knowledge of the etiology, pathogenesis and social impact of the most common occupational diseases; • ability to identify and describe the legislative indications characterizing prevention and safety in the workplace. Ability to apply knowledge and understanding 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. Making judgments The students will be able to independently meet the professional issues related to the knowledge of the course. In particular, they will: • 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. • 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). Communication skills 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. Learning capacity 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.
ASSESSMENT METHODS	Structured exam made of a written test for Medical Statistics and an oral test for Occupational Medicine and General and Applied Hygiene. The exam aims to assess knowledge and comprehension of all the topics, autonomy of making judjments, ability to use the acquired knowledge, appropriate language. The written test of Medical Statistics consists of 2 practicals and 3 open and synthetic questions about theory that aim to evaluate the "knowledge" and the "know-how" acquired by the student, about all topics included in the programme, with regards to the suggested references and the materials provided by the teacher. The oral exams of for Occupational Medicine and General and Applied Hygiene 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 and it is obtained as the weighted average of the assessments obtained at each module. 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 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.
TEACHING METHODS	Teaching is based on lectures and practice, also with informatics aid and supported by slides, downloadable by the unipa website.

MODULE
GENERAL AND APPLIED HYGIENE

Prof. FABIO TRAMUTO

SUGGESTED BIBLIOGRAPHY

Vitale F, Zagra M. Igiene, epidemiologia e organizzazione sanitaria orientate per problemi - Con accesso online. Elsevier - Masson
Ricciardi W. Igiene, medicina preventiva e sanita' pubblica. Idelson – Gnocchi
Barbuti S, Belelli E, Fara GM, Giammanco G. Igiene. Moduzzi Editore

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

EDUCATIONAL OBJECTIVES OF THE MODULE

The Hygiene module aims to:
a) present, analyze and discuss the theoretical and practical methods of prevention, monitoring and control to improve the population's health status.
b) provide scientific and professional knowledge in the fields of preventive medicine, health education and health promotion, the organization of environmental and epidemiological studies.

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	
Scansetti-Piolatto-Perrelli “Medicina del Lavoro” Minerva Medica Ed. Torino Lorenzo Alessio, Pietro Apostoli "Manuale di medicina del lavoro e igiene industriale" - Piccin-Nuova Libraria	
AMBIT	10731-Attività formative affini o integrative
INDIVIDUAL STUDY (Hrs)	45
COURSE ACTIVITY (Hrs)	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	
AMBIT	10337-Scienze propedeutiche
INDIVIDUAL STUDY (Hrs)	45
COURSE ACTIVITY (Hrs)	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	Sources of health data
2	Basic concepts: qualitative and quantitative characters, discrete and continuous characters, scales of measurement: nominal, ordinal, intervals and ratio
2	Data presentation: frequency and quantity distributions. Graphical representations
4	Measures of mean and variability with exercises
4	Elements of probability theory. Bayes Theorem. Measures of accuracy of diagnostic tests. Roc Curves
3	Theoretical distributions: Gauss and Binomial distribution, with exercises
2	Central Limit Theorem. Sample distributions of sample mean, with exercises
2	Statistical estimate of the mean
2	Statistical tests of significance for the mean

Hrs	Practice
2	Practice on the use of health databases
4	Practice on preparation of tables and graphics to describe and summarize data