



# UNIVERSITÀ DEGLI STUDI DI PALERMO

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| <b>DEPARTMENT</b>                   | Scienze e Tecnologie Biologiche, Chimiche e Farmaceutiche                                                                                                                                                                                                                                       |                      |                  |
| <b>ACADEMIC YEAR</b>                | 2021/2022                                                                                                                                                                                                                                                                                       |                      |                  |
| <b>MASTER'S DEGREE (MSC)</b>        | MOLECULAR AND HEALTH BIOLOGY                                                                                                                                                                                                                                                                    |                      |                  |
| <b>SUBJECT</b>                      | HYGIENE                                                                                                                                                                                                                                                                                         |                      |                  |
| <b>TYPE OF EDUCATIONAL ACTIVITY</b> | B                                                                                                                                                                                                                                                                                               |                      |                  |
| <b>AMBIT</b>                        | 50505-Discipline del settore biomedico                                                                                                                                                                                                                                                          |                      |                  |
| <b>CODE</b>                         | 03795                                                                                                                                                                                                                                                                                           |                      |                  |
| <b>SCIENTIFIC SECTOR(S)</b>         | MED/42                                                                                                                                                                                                                                                                                          |                      |                  |
| <b>HEAD PROFESSOR(S)</b>            | MAIDA CARMELO<br>MASSIMO                                                                                                                                                                                                                                                                        | Professore Associato | Univ. di PALERMO |
| <b>OTHER PROFESSOR(S)</b>           |                                                                                                                                                                                                                                                                                                 |                      |                  |
| <b>CREDITS</b>                      | 6                                                                                                                                                                                                                                                                                               |                      |                  |
| <b>INDIVIDUAL STUDY (Hrs)</b>       | 100                                                                                                                                                                                                                                                                                             |                      |                  |
| <b>COURSE ACTIVITY (Hrs)</b>        | 50                                                                                                                                                                                                                                                                                              |                      |                  |
| <b>PROPAEDEUTICAL SUBJECTS</b>      |                                                                                                                                                                                                                                                                                                 |                      |                  |
| <b>MUTUALIZATION</b>                |                                                                                                                                                                                                                                                                                                 |                      |                  |
| <b>YEAR</b>                         | 1                                                                                                                                                                                                                                                                                               |                      |                  |
| <b>TERM (SEMESTER)</b>              | 2° semester                                                                                                                                                                                                                                                                                     |                      |                  |
| <b>ATTENDANCE</b>                   | Mandatory                                                                                                                                                                                                                                                                                       |                      |                  |
| <b>EVALUATION</b>                   | Out of 30                                                                                                                                                                                                                                                                                       |                      |                  |
| <b>TEACHER OFFICE HOURS</b>         | <b>MAIDA CARMELO<br/>MASSIMO</b><br>Monday    09:30   11:30   Dipartimento di Scienze per la Promozione della Salute,<br>sezione di Igiene, Via del Vespro 133.<br>Thursday   09:30   11:30   Dipartimento di Scienze per la Promozione della Salute,<br>sezione di Igiene, Via del Vespro 133. |                      |                  |

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| <b>PREREQUISITES</b>          | In order to address the study of hygiene, the student must possess basic knowledge on the biological and physiopathological mechanisms of the cell aimed at understanding the pathological aspects for humans and safeguarding the health of the community. Furthermore, basic knowledge of physiology is necessary in order to understand and deepen the dynamics for the promotion of human health, basic knowledge of microbiology to understand the ecology and epidemiology of care-related infections and antibiotic resistance.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>LEARNING OUTCOMES</b>      | <p>Knowledge and understanding</p> <p>At the end of the course the student must have acquired an adequate knowledge of the basic epidemiological methodology to be able to organize and analyze data related to biomedical phenomena and in particular inherent to human health.</p> <p>Ability to apply knowledge and understanding</p> <p>At the end of the course the student will be able to carry out environmental and health risk assessment pathways for the population.</p> <p>Autonomy of judgment</p> <p>At the end of the course the student will be able to obtain a correct interpretation of the results emerging from the epidemiological surveys on environmental and human health.</p> <p>Communication skills</p> <p>The educational path aims to make students able to interpret and communicate appropriately information regarding the main prevention objectives concerning individual and collective health.</p> <p>Learning skills</p> <p>The student must be able to analyze health and hygiene problems from a preventive point of view by means of a careful retrospective and prospective analysis aimed at promoting health factors and preventing diseases, reducing risk factors or eliminating the causes of them .</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>ASSESSMENT METHODS</b>     | <p>The candidate will have to answer at least two/three orally posed questions for each module that constitutes the integrated course, on all parties of the program, in compliance to the recommended texts. The final examination aims to evaluate whether the student has knowledge and understanding of the topics, has acquired the ability and independent judgment to interpret concrete cases. The sufficiency will be threshold when the student shows knowledge and understanding of the issues at least in broad outline, and has minimal application skills in order to solve concrete cases; It must also possess skill in exhibition and argumentative to allow the transmission of his knowledge to the examiner. Below this threshold, the examination will be insufficient. The more, however, the examinee with his ability 'argumentative and expository able to interact with the examiner, and the more his knowledge and ability applications go into detail of the discipline of verification, the more assessment will be positive . The assessment is carried out of thirty.</p> <p>In detail, the vote will be based on the following principles:</p> <p>Excellent (30-30 Honours) - Excellent knowledge of the topics, excellent properties of language, good capacity analytic, students and able to apply knowledge to solve problems proposed.</p> <p>Very Good (26-29) - Good knowledge of the topics, full ownership of the language, the student and able to apply knowledge to solve problems proposed.</p> <p>Good (24-25) - Basic knowledge of the main topics, discrete properties of language, with limited ability to independently apply the knowledge to the solution of the proposed problems.</p> <p>Satisfactory (21-23) - has not fully mastered the main teaching subjects but it has the knowledge, satisfactory property language, poor ability to independently apply the knowledge gained.</p> <p>Sufficient (18-20) - Minimum basic understanding of the main topics of teaching and technical languages, very little or no ability to independently apply the knowledge gained.</p> <p>Insufficient - It does not have an acceptable knowledge of the contents of the topics covered in the teaching.</p> |
| <b>EDUCATIONAL OBJECTIVES</b> | <p>The educational objectives of the teaching of Hygiene for students can be summarized as follows:</p> <ul style="list-style-type: none"><li>• provide knowledge on the concept of health promotion;</li><li>• provide notions of epidemiology, a branch of Hygiene that represents the fundamental tool for identifying the causes and risk factors of disease, the protective factors for human health, as well as the transmission and spreading of diseases within the population , with particular reference to environmental matrices;</li><li>• provide knowledge on the main disease prevention interventions (both infectious and non-infectious): removal of the causes of damage to health; removal of risk factors; strengthening of health factors. Particular reference will be made to the control of living and working environments considering the fundamentals of prevention concerning chemical, biological and physical risk as well as environmental legislation.</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

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| <b>TEACHING METHODS</b>       | Frontal lessons and laboratory experiences.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>SUGGESTED BIBLIOGRAPHY</b> | <p>BARBUTI S, BELLELLI E, FARA GM, GIAMMANCO G. - Igiene e medicina preventiva. Monduzzi, Bologna. ISBN: 9788832361278</p> <p>EUDES LANCIOTTI - Igiene per le professioni sanitarie, Mc Graw Hill, 2012. ISBN: 8838626596</p> <p>F VITALE, M ZAGRA - Igiene, epidemiologia e organizzazione sanitaria orientate per problemi, Elsevier - Masson. ISBN: 8821434249</p> <p>Durante lo svolgimento del corso altri riferimenti bibliografici ed eventuale altro materiale didattico aggiornato viene fornito dal docente stesso.</p> |

## SYLLABUS

| <b>Hrs</b> | <b>Frontal teaching</b>                                                                                                                                                                                                                                              |
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| 2          | Introduction to the course. History of hygiene, definition and purpose of the discipline. Health promotion and disease prevention                                                                                                                                    |
| 2          | Population demography, structure and development. Health concept and its determinants. Indicators of health of a population: rates (morbidity, mortality, lethality).                                                                                                |
| 4          | Epidemiology of infectious diseases. Trends of infectious diseases among the population: epidemic, pandemic and sporadic                                                                                                                                             |
| 2          | Epidemiological studies: types of epidemiological studies, study design, data source. Descriptive epidemiology                                                                                                                                                       |
| 2          | Epidemiological studies: analytical epidemiology                                                                                                                                                                                                                     |
| 2          | Epidemiological studies: experimental and evaluative epidemiology. Health indicators                                                                                                                                                                                 |
| 2          | Prevention of pathological events; Primary, secondary and tertiary prevention: objectives and strategies                                                                                                                                                             |
| 4          | Prophylaxis and general prevention of communicable diseases. Disinfection, sterilization and disinfestation. The nonspecific and specific defenses of the guest. The antibody response of the host.                                                                  |
| 4          | Vaccinations: Vaccination schedules and vaccination schedule in Italy.                                                                                                                                                                                               |
| 6          | Health-care associated infections: definitions, characteristics, epidemiology. Health care associated infections: surveillance and control strategies: prevalence studies, vaccine prophylaxis, seroprophylaxis, chemoprophylaxis. Antibiotic resistance             |
| 2          | Standard precautions: hand washing, personal protective equipment, biological cabins                                                                                                                                                                                 |
| 2          | The surveillance systems for community and nosocomial infections                                                                                                                                                                                                     |
| 4          | Biological risk in health care assistance                                                                                                                                                                                                                            |
| 2          | Health education                                                                                                                                                                                                                                                     |
| 2          | Indicators of air quality; Characteristics, changes and criticalities of the main airborne pollutants. Indoor pollution.                                                                                                                                             |
| 6          | Water in nature and sources of supply. Organoleptic, chemical, physical and microbiological characteristics of water intended for human consumption and bathing water. Water purification treatment. Environmental legislation. Water pollution and health reflexes. |
| 2          | Wastewater as an epidemiological surveillance tool                                                                                                                                                                                                                   |
| <b>Hrs</b> | <b>Practice</b>                                                                                                                                                                                                                                                      |
| 6          | Exercises in the infection surveillance laboratory related to the assistance on infection prevention aspects in the nosocomial environment                                                                                                                           |