

Degree in Medicine and Surgery Integrated

Course of General Hygiene

SSD: **MED/42**

CFU: **6**

Professors' name:

- LEONARDO PALOMBI (1CFU) e-mail: leonardo.palombi@unicamillus.org
- FAUSTO CICCACCI (3CFU) e-mail: fausto.ciccacci@unicamillus.org
- MANCINELLI SANDRO (2 CFU) e-mail: sandro.mancinelli@unicamillus.org

PREREQUISITES

Basic concepts of microbiology, immunology and general pathology are needed.

LEARNING OBJECTIVES

Learning objectives of the teaching are concepts of health and illness and their determinants, the strategies and methods of primary and secondary prevention, the knowledge of the mechanisms of infection and transmission of infectious diseases, the systems of disinfection and sterilization and the prophylaxis of infectious diseases, the bases of general, descriptive, analytical and investigative epidemiology, the aims of the health system and organizational models at international, national and local level.

LEARNING OUTCOMES

knowledge and understanding

At the end of this teaching the student will be required to know:

definition of health and of illness

- determinants of health: individual, behavioral, environmental, social and economic
- definition of prevention: primary, secondary and tertiary prevention
- prevention strategies and methods
- Know the hygiene of physical, biological and social environments
- Describe the hygiene of the patient and the hospital environment
- Know the main methods of prophylaxis of infectious diseases
- Know the basics of epidemiology and epidemiological methodology
- Have basic knowledge of demography and health statistics
- Describe the basics of the epidemiology of infectious and non-infectious diseases
- Know the issues related to global health and health determinants
- principles and objectives of the healthcare organization;
- models of organization of the health service;
- levels of assistance;
- hospital organization;
- principles of socio-health integration and its applications
- examples of services on the field;
- health planning mechanisms at national and regional level;
- fundamentals and principles of health planning at the international level.

Applying knowledge and understanding

At the end of the course the student will be able to use the knowledge acquired in the context of his profession, in order to include his work in the global framework of the health system, he/she will have the means to evaluate the information provided by epidemiology in order to have an evidence-based approach to the profession and he/she will have basic knowledge of health intervention

planning.

communication skills

At the end of the teaching the student should be able to use the terminology acquired with competence and appropriateness.

making judgements

At the end of the teaching the student should be able to carry out general assessments on the topics covered.

Learning skills

The student will have acquired skills and learning methods suitable for the deepening and improvement of their skills. At the end of the course, the student will have developed the ability to deepen the topics through the consultation of the scientific literature.

COURSE SYLLABUS

Epidemiology

- Epidemiology: Definition and historical background; from Aristoteles to the modern idea of causality; risk factors; exposure and association; Badford Hill criteria.
- Demography fundamentals: demographic transition; ageing; demographic trends and health determinants; new perspectives in health definitions; ICD and ICDHI; multidimension and the doctor-patient relationship
- Health statistics fundamentals: measures of central tendency; frequency distribution; measures of statistical dispersion; fundamentals of probability; fundamentals of a sample size calculation
- Determinants of health: nutrition, income, education; incidence and prevalence; confounding factors and standardized rates; random and systematic bias.
- Epidemiological investigation: case-control studies; cohort studies; randomized controlled trials; Odds Ratio, relative risk, attributable risk and etiologic fraction.
- Screening: definition; system, disease and test requirements; sensibility and specificity, negative and positive predictive value; applications

Hygiene

- General and applied hygiene: definition of health and disease: definition of primary, secondary and tertiary prevention; Health promotion;
- Hygiene of the physical environment: air, water, soil, climate, ionizing radiation;
- Hygiene of the biological environment: microorganisms, foods;
- Hygiene of the the social environment: urbanization, housing;
- Hygiene of the patient and hospital hygiene: asepsis, antisepsis, disinfection, disinfestation, sterilization, hospital waste, hospital infections, occupational risks;
- Prophylaxis of infectious diseases: notification, diagnostic assessment, isolation, vaccination and seroprophyllaxis.

Organization and planning in health

- Organization of health systems: principles and aims of health organization; organization models of health service; levels of assistance; organization of the hospital; social and health integration; local services; health planning at national and regional level; international health planning.

Epidemiology: definition and purpose of epidemiology; notes on demography and health statistics; epidemiological methodology: rates, mortality and morbidity measures, prevalence and incidence, association measures; descriptive, analytical and investigative epidemiology, transversal, retrospective and prospective investigations; experimental and general epidemiology of infectious diseases and non-infectious diseases; global health and health determinants.

COURSE STRUCTURE

The course is structured in 60 hours of frontal teaching structured in lessons lasting between 2 and 4 hours based on the academic calendar.

The lectures will include theoretical lessons and seminars of case studies.

COURSE GRADE DETERMINATION

The evaluation of the achievement of the educational objectives will be performed with a written exam, followed by an oral exam. The written test will consist of 15 questions with multiple choice answers. For each correct answer 2 points will be awarded and the final grade will be given by the sum of the scores of the individual questions. To access the oral exam, the student must have obtained a mark in the written test of at least 14 points.

During the oral exam the Commission will evaluate the student's ability to apply the acquired knowledge, the communication skills developed in the field of organization and programming in health and the basic judgment autonomy on the topics treated according to what is indicated in the Dublin descriptors.

OPTIONAL ACTIVITIES

In addition to the theoretical teaching activity, some themes and case studies will be discussed with monographic insights.

READING MATERIALS

- Material provided by the teacher.
- Bonita, Ruth, Beaglehole, Robert, Kjellström, Tord & World Health Organization. (2006). Basic epidemiology, 2nd ed. World Health Organization. <https://apps.who.int/iris/handle/10665/43541>