

## Degree in Medicine and Surgery

Integrated teaching: **General Hygiene**

SSD: **MEDS-24/B**

Total number of CFU: **6**

**Professor responsible:** Prof.ssa Maria Rosaria Gualano

### PROFESSORS:

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### 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



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- 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
- Know the basics of new public health challenges, from antimicrobial resistance to planetary health
- principles and objectives of the healthcare organization;
- models of organization of the health service; and comparison at an international level;
- 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.



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## 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 seroprohylaxis.
- Fundamentals on antimicrobial resistance and planetary health

### **Organization and planning in health**

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

### **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 assessment of the achievement of the educational objectives will be carried out through a written exam. The written test will consist of multiple choice questions (there will also be a maximum of 2 open ended questions). The final grade will be expressed on a scale of thirty. The exam will include questions on topics that will be discussed during the lessons. The score for each question will be indicated on the exam. Correctly answering all questions will result in a score of 31, equivalent to a top grade of 30 with laude.

Hence, the whole examination will be evaluated as it follows:

- Insufficient: severe poor knowledge of the subject, very limited skill in the analysis of specific items. Insufficient: severe poor knowledge of the subject, very limited skill in the analysis of specific items.
- Insufficient: severe poor knowledge of the subject, very limited skill in the analysis of specific items. 18-20: knowledge of the subjects of sufficient quality characterized by frequent imperfections. Analysis and reasoning skills of sufficient quality.
- Insufficient: severe poor knowledge of the subject, very limited skill in the analysis of specific items. 21-23: standard knowledge of the specific subject; analysis and reasoning skill of acceptable quality.
- Insufficient: severe poor knowledge of the subject, very limited skill in the analysis of specific items. 24-26: good knowledge of the subjects and good analysis and reasoning skills; arguments are expressed in a rigorous way.



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- Insufficient: severe poor knowledge of the subject, very limited skill in the analysis of specific items. 27-29: very good knowledge of the specific scientific subjects, valid analysis and reasoning skills, significant skill in making judgements.
- Insufficient: severe poor knowledge of the subject, very limited skill in the analysis of specific items. 30-30L: outstanding knowledge of the specific knowledge of the scientific tasks. Exceptional analysis, reasoning and making judgments skills.

### **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.
- Health Systems in Transition (HiT) series of the European Observatory on Health Systems and Policies. Italy: health system review 2022 Vol. 24 No. 4, released Dec 2022  
<https://eurohealthobservatory.who.int/publications/i/italy-health-system-review-2022>
- 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>