



## **Attachment 1: Course Syllabus Template**

### **Degree Programme in MEDICINE AND SURGERY**

*Academic Year 2026/2027*

**INTEGRATED COURSE (I.C.):** GENERAL HYGIENE

**NUMBER OF CFU (ECTS credits):** 6

**SSD (Academic Discipline Code):** MEDS-24/B

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### **PREREQUISITE COURSES**

Biology, Statistics

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Students are expected to have basic knowledge of microbiology, immunology and general pathology, as well as basic knowledge of descriptive and inferential statistics, including ratios, proportions, percentages, and the main measures of frequency and association.

## **LEARNING OBJECTIVES**

The learning objectives include knowledge of the concepts of health and disease and their determinants; knowledge of the mechanisms underlying the infection and transmission of communicable diseases; primary and secondary prevention strategies and methods; disinfection and sterilisation procedures; and prevention and control measures for communicable diseases. Students will also acquire knowledge of the foundations of general, descriptive, analytical and investigative epidemiology, as well as an understanding of the purposes of health services and their organisational models at international, national and local levels.

## **EXPECTED LEARNING OUTCOMES**

### **Knowledge and Understanding**

By the end of the course unit, students should be able to:

- define health;
- define disease;
- describe the determinants of health, including individual, behavioural, environmental, social and economic determinants;
- define primary, secondary and tertiary prevention;
- describe prevention strategies and methods;
- demonstrate knowledge of hygiene in physical, biological and social environments;
- describe patient hygiene and the hospital environment;
- demonstrate knowledge of the main methods for the prevention and control of communicable diseases;
- demonstrate knowledge of the foundations of epidemiology and epidemiological methodology;
- demonstrate basic knowledge of demography and health statistics;
- describe the epidemiology of communicable and non-communicable diseases;
- understand key issues related to global health and the determinants of health;
- demonstrate knowledge of emerging public health challenges, from antimicrobial resistance to Planetary Health;
- understand the principles and objectives of health services organisation;
- describe health service organisational models, including through international comparisons;
- demonstrate knowledge of the different levels of healthcare;
- describe hospital organisation;
- understand the principles of health and social care integration and their applications;
- identify and describe examples of community-based and territorial health services;
- understand the mechanisms of health planning at national and regional levels;
- describe the foundations and principles of health planning at supranational level.

### **DD1: Knowledge and Understanding**

At the end of the course unit, students will be able to apply the knowledge acquired to their professional practice, placing their work within the broader framework of the health system. They will be able to critically assess epidemiological information in order to adopt an evidence-based approach to professional practice and will acquire basic competencies in health intervention planning.

**DD2: Applying Knowledge and Understanding**

At the end of the course unit, students will be able to apply the knowledge acquired in medicine and use epidemiological information to develop an evidence-based approach to clinical practice.

**DD3: Making Judgements**

By the end of the course unit, students will be able to formulate general assessments on the topics addressed through the discussion of scientific articles and practical examples.

**DD4: Communication Skills**

By the end of the course unit, students will be able to use the terminology acquired accurately, appropriately and competently.

**DD5: Learning Skills**

At the end of the integrated course unit, students will have acquired learning skills and methods enabling them to further develop and expand their knowledge and competencies within the field, including through consultation of scientific literature, databases and specialised websites.

**COURSE CONTENT****Epidemiology**

- **Epidemiology:** definition and historical background; evolution of the concept of cause and effect; causal relationship networks; risk factors; exposure and association; Hill's criteria.
- **Demography and basic statistics:** demographic transition; population ageing; demographic trends and determinants of health.
- **New perspectives on the definition of health:** from ICD to ICF; multidimensionality and the doctor–patient relationship.
- **Determinants of health:** nutrition, income and education; social networks; technologies and assistive devices.
- **Measures in epidemiology:** ratios, proportions and rates; incidence and prevalence rates; confounding factors and standardised rates; bias and random error; sample size calculation.
- **Investigative epidemiology:** case-control studies; cohort studies; controlled clinical trials; odds ratio, relative risk and attributable risk; aetiological fraction.
- **Screening:** definition; requirements related to the healthcare system, disease and test; sensitivity, specificity, positive and negative predictive values; applications.
- **Scientific literature:** writing, reading and critical appraisal of a scientific article.

**General Hygiene**

- **General and applied hygiene:** definition of health and disease; definition of primary, secondary and tertiary prevention; health promotion.
- **Burden of non-communicable diseases:** lifestyles; health and economic impact of chronic diseases; epidemiological transition worldwide, in Europe and in Italy; databases providing data on chronic diseases (GBD, Osservasalute).
- **Vaccination.**
- **Antimicrobial resistance and One Health.**
- **Planetary Health:** planetary health and the impact of the environment on human health.

- **Digital Health:** principles, tools and applications of digital technologies for prevention; further applications for health promotion and the improvement of health services.
- **Physical environmental hygiene:** air, water, soil, noise and ionising radiation.
- **Biological environmental hygiene:** microorganisms and food.
- **Social environmental hygiene:** urbanisation and housing.
- **Patient and hospital hygiene:** asepsis, antisepsis, disinfection, disinfestation, sterilisation, healthcare waste and occupational risks.
- **Epidemiology and prevention and control of communicable diseases:** notification, diagnostic assessment and isolation.

### Health Services Organisation and Planning

- **Organisation of health services:** principles and objectives of health services organisation; health service organisational models, including international comparisons; levels of healthcare; hospital organisation; health and social care integration; community-based and territorial health services; health planning at national and regional levels; supranational health planning.

### TEACHING METHODS

The course unit consists of **60 hours of classroom-based teaching**, organised into lessons lasting between 2 and 3 hours, according to the academic calendar.

Classroom-based teaching includes theoretical lectures and seminars focusing on the in-depth analysis of case studies. **2.5 hours of practical activities are provided for each ECTS credit.**

### ASSESSMENT METHODS

Achievement of the learning objectives will be assessed through a written examination. The written test will consist of multiple-choice questions, with a maximum of two open-ended questions.

The final grade will be expressed on a scale of **30**. The examination will include questions covering the topics addressed during the course. The score assigned to each question will be clearly indicated on the examination paper.

A correct answer to all questions will result in a score of 31, corresponding to **30 with honours (30 cum laude)**.

The examination will be assessed according to the following criteria:

#### Fail

Significant deficiencies and/or inaccuracies in knowledge and understanding of the topics; limited analytical and synthesis skills; absent or frequently incorrect reasoning.

#### 18–20

Barely sufficient knowledge and understanding of the topics, with possible inaccuracies; sufficient analytical and synthesis skills and sufficient independent judgement.

#### 21–23

Routine knowledge of the topics; adequate analytical and synthesis skills, with coherent and logical reasoning.

#### 24–26

Good knowledge and understanding of the topics; good analytical and synthesis skills; reasoning expressed rigorously.

#### 27–29

Comprehensive knowledge of the topics; strong analytical and synthesis skills; good independent judgement.

**30–30L**

Excellent level of knowledge and understanding; outstanding analytical and synthesis skills and independent judgement; original arguments expressed with full command of specialist terminology.

**SUPPORTING LEARNING ACTIVITIES**

In addition to theoretical teaching, selected topics and case studies will be explored through in-depth thematic sessions, seminars and practical activities.

**RECOMMENDED TEXTBOOKS AND BIBLIOGRAPHY**

- Teaching materials provided by the lecturers.
- *Health Systems in Transition (HiT) series* of the European Observatory on Health Systems and Policies. Italy: Health System Review 2022, Vol. 24, No. 4, December 2022.
- Bonita, R., Beaglehole, R., Kjellström, T. & World Health Organization. (2006). *Basic Epidemiology*, 2nd ed. World Health Organization.