



UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

SYLLABUS DEL CORSO

Igiene e Medicina Preventiva

2627-3-I0301D015-I0301D063M

Aims

The course aims to provide students with the methodological skills and knowledge necessary to understand public health dynamics, analyze the needs of the population, and apply health prevention strategies.

Contents

The module will focus on the following topics:

- Introduction to public health;
- The evolution of the concept of health;
- Determinants of health;
- Principles, concepts, and tools of epidemiology;
- Public health tools: primary, secondary, and tertiary prevention.

Detailed program

1. Foundations of Public Health and Global Health
Introduction to Public Health:

- Definition, history, and fields of application of Public Health.
- Evolution of the concept of health and disease:
- Moving beyond the classical biomedical model: health as bio-psycho-social well-being (World Health Organization).
- Demographic and Epidemiological Transition

Determinants of Health:

- Categories of determinants: behavioral, biological, environmental, and socio-economic.

2. Principles, Concepts, and Tools of Epidemiology

Introduction to epidemiology:

- Definition, objectives, and scopes of epidemiology (descriptive, analytical, experimental).

Measures of frequency in epidemiology:

- Prevalence: definition, calculation (point and period prevalence), and influencing factors.
- Incidence: definition, calculation (cumulative incidence and incidence rate), and relationship with prevalence.

Design and types of epidemiological studies:

- Descriptive Observational Studies: case reports, case series, cross-sectional (or prevalence) studies, and ecological (correlational) studies.
- Analytical Observational Studies: Case-control studies and Cohort studies.
- Experimental (or Interventional) Studies: Randomized Controlled Trials (RCTs). Concepts of blinding (single, double-blind) and randomization.
- Evidence synthesis studies: Systematic literature reviews and Meta-analyses.

Measures of association and effect:

- The concept of risk factor
- Measures of effect: ABSOLUTE RISK, ATTRIBUTABLE RISK (or risk difference), RELATIVE RISK (or risk ratio), POPULATION ATTRIBUTABLE RISK, POPULATION ATTRIBUTABLE FRACTION, and the ODDS RATIO.

3. Public Health Prevention Strategies and Tools

Prevention in Public Health:

- Definition of prevention and general objectives (eradication, elimination, disease control). Infectious diseases (transmission of an infection, R_0 and R_t).
- Primary Prevention (Destruction of pathogens, Limiting the spread of pathogens, and Strengthening individual and population defenses against infection).
- Secondary Prevention and screenings.
- Tertiary Prevention.

Prerequisites

None

Teaching form

Lectures

Textbook and teaching resource

Signorelli C (editor). Igiene e Sanità Pubblica. SEU, Roma, 2017

The teacher will provide other educational materials

Semester

Second semester

Assessment method

The assessment of learning and acquired skills is carried out through a written multiple-choice examination, aimed at verifying both the theoretical understanding of Public Health and Prevention concepts, and the logical-mathematical ability to apply epidemiological methods.

- Computer-based (or paper-based) multiple-choice test. Each question presents 4 or 5 options, with only one correct answer.
- Number of questions: 31 questions, evenly distributed across the main macro-topics of the program.
- Maximum duration: 45 minutes.

Office hours

By appointment required by mail

Sustainable Development Goals

GOOD HEALTH AND WELL-BEING
