Teaching guide

IDENTIFICATION DETAILS

Degree:	Pharmacy
Scope	Pharmacy
Faculty/School:	Experimental Sciences
Course:	PUBLIC HEALTH
Type:	Compulsory
ECTS credits:	9
Year:	5
Code:	2554
Teaching period:	Ninth semester
Subject:	Social Pharmacy
Module:	Legislation and Social Pharmacy
Teaching type:	Classroom-based
Language:	Spanish
Total number of student study hours:	225

SUBJECT DESCRIPTION

Public health is the area of science that is responsible for ensuring the health and well-being of the population. It is related to other areas of knowledge in health sciences such as epidemiology, biostatistics, research and health management. It includes aspects related to the prevention of the disease, the promotion and protection of the health and quality of life of the population.

Epidemiology is the study of how diseases are distributed in populations and of the factors that influence or determine their distribution' (L Gordis). Epidemiology concepts are very useful for understanding aspects related to the health-disease binomial.
The contents of the course are necessary for any clinical professional when it comes to interpreting scientific literature. In addition, the study designs and the epidemiological method are very useful for carrying out clinical

and public health research projects.

GOAL

Know that the health of the population is conditioned by a set of socioeconomic, environmental, genetic and lifestyle determinants, in order to be able to establish strategies for health protection, disease prevention and promotion of healthy lifestyles, as well as to know the set of tools for addressing public health problems. The specific purposes of the course are:

The specific aims of the subject are:

FE1.-To know the pattern of morbidity and mortality of the population of developed and less developed societies, and the risk factors inherent to it||FE2.-To know the set of strategies for the prevention of the disease and for the protection and promotion of health in different areas and population groups.

FE3.-To train students to integrate epidemiological, demographic and environmental health fundamentals into the diagnosis of population health as tools for addressing public health problems.

FE4.-Enable students to critically read scientific articles related to public health

PRIOR KNOWLEDGE

It is recommended that the student be familiar with the contents of subjects already taken in the pharmacy degree related to this subject, such as biostatistics, introduction to research, chemistry, physics, microbiology, parasitology, botany, toxicology, immunology, etc.

COURSE SYLLABUS

A.-Masterclass
Module I. Introduction to Public Health. Basic Concepts in Public Health.
1.-Conceptual framework of public health
2.-Determinants of health
3.-Description of health status and its determinants in populations.
4.-The pharmacist and public health
5.-The General Public Health Act
6.-Epidemiological and public health surveillance
Module II. Public health tools.
7.-Demography and public health
8.-Mortality. Standardization of rates
9.-Introduction to epidemiology. Characteristics of epidemiological studies
10.-Epidemiological method. Application of epidemiology in research and other disciplines

11.-Frequency, association and impact measures
12.-Types of study: Descriptive epidemiology, observational epidemiology and experimental analytical
13.-Clinical Epidemiology. Early diagnosis
14.-Causal criteria in epidemiology
15.-Errors and biases in epidemiology
16.-Confusion and interaction
Module III. Public Health Strategies
17.-Natural history of the disease. Levels of prevention. Immunization and screening.
18.-Health Protection: Environmental Health. History. Environmental health strategy. Programmes of action
19.-Health Protection: Food Safety. Food poisoning and foodborne outbreaks.
20.-Health protection: Instruments of action: legislation, inspection, audits, risk assessment.
21.-Health promotion. Health education. Health programs.
Module IV. -Public Health Actions.
22-Epidemiology of the most relevant communicable diseases and their prevention.
23.-Epidemiology of the most relevant non-communicable diseases and their prevention.
24.- Habits and lifestyles. Risky behaviors and addictions.
Module IV. Organization and management of health services.
25.- Organization and structure of health systems. The National Health System in Spain.
26.-Health Information Systems
27.-Health Economics.
28.-Global Health.
B.- Case method. Seminars
The EpiInfo or Jamovi computer program for public health.
Epidemiological surveillance: about a real case.
Study of epidemiological outbreaks: food outbreak Environmental health.
Exposure to harmful agents: about a real case.
Obesity Prevention: NAOS Strategy (Nutrition, Physical Activity and Obesity Prevention).
C.-Problem based learning. Practical exercises
Critical reading. Study design (type of designs and measures of frequency, association and impact).
Standardization of rates by age. Analysis of epidemiological data in public health.
Case-control study and cross-sectional studies.
Analysis of epidemiological data in public health. Cohort study and clinical trials.
D.- Individual work projects:
Management of a disease subject to epidemiological surveillance. Development of a health topic to choose from.
Bibliographic search, writing, editing and public presentation.
E.-Technical visits Visits to centers of interest will be organized to learn about all the activities they provide.

EDUCATION ACTIVITIES

AFPN1.-Study of theory, exercises and problems: They will consist of master classes given by the teacher in which the theoretical foundations of the subject will be developed. Students will be provided with the necessary teaching material, available through the subject's website. During the course of the classes, there will be material of various kinds prepared by the teacher. The program is designed sequentially, in which the concepts and skills acquired in one lesson have an impact on the following.

The exercises and problems are aimed at the in-depth discussion and analysis of different methodological aspects of the syllabus.
AFPN3.-Preparation of papers: They are proposed as a complement to theoretical classes and their open methodology will allow a more active interaction with students. During these sessions, epidemiological bulletins and scientific articles will be discussed, among others. In addition, the student will be guided in the preparation of the works required by the teacher and they will be presented publicly. Topics of interest in public health will be addressed using various materials such as case studies, real problems, etc., applying the most appropriate methodologies.
AFPN4.-Preparation of tutoring: A schedule will be allocated in which, at the request of the student or at the initiative of the teacher, doubts will be resolved, the questions raised by the students will be discussed in order to guide their learning of the subject, or other aspects related to the subject will be discussed.

DISTRIBUTION OF WORK TIME

TEACHER-LED TRAINING ACTIVITIES	INDIVIDUAL WORK
94 Horas	131 Horas

Cross Skills

To develop criteria for problem-solving and decision-making both on a professional and personal level.

To nurture an attitude of intellectual curiosity and a quest for truth in all areas of life.

To be able to approach a subject by means of rigorous, profound and comprehensive thought.

To be able to assess knowledge acquired.

To be able to apply the theoretical knowledge learnt in the of solving problems and practical cases linked to the various subjects.

LEARNING RESULTS

Learn oral and written communication techniques, acquiring skills that allow users of pharmaceutical establishments to be informed in intelligible terms appropriate to various cultural levels and social environments.

To know the foundations of public health and to intervene in health promotion activities, disease prevention at the individual and collective levels and contribute to health education, recognizing the determinants of health in the population, both genetic and those dependent on sex and lifestyle, demographic, environmental, social, economic, psychological and cultural.

Know the principles and scientific methodology applied to pharmaceutical sciences, including the history and social function of Pharmacy.

Basic knowledge of the National Health System, of health legislation in general and specifically that related to drugs, medical devices and pharmaceutical assistance.

SPECIFIC LEARNING RESULTS

Identify and analyze the fundamental aspects of health, Public Health, Epidemiology, Environmental Health and Food Safety, Education and Health Promotion. Design, plan and evaluate general methods of prevention and health protection, health determinants and indicators, and basic knowledge of Public Health and Health Promotion and Education. Describe the epidemiology and prevention of communicable and non-communicable diseases. Identify and describe the basic concepts of environmental health and food safety. Distinguish between different environmental factors and their relationship to health. To know the possibilities offered by the health economy in decision-making

Apply the process of generating technical-scientific information. Demonstrate the ability to search for, obtain, synthesize and process bibliographic and technical information. Identify the parts of the scientific work and apply the bibliographic citations. Identify and use bibliographic sources.

Distinguish and apply the most essential methodological tools in the field of Public Health that serve as the basis for actions Identify, differentiate and apply knowledge about the epidemiological method and demography||Differentiate Public Health strategies, health programs and health organization.

LEARNING APPRAISAL SYSTEM

REGULAR EVALUATION SYSTEM
This system is the priority one, it is applicable to all students and is based on continuous evaluation.
The course is passed when a FINAL GRADE of 5.0 is reached
Class attendance is mandatory. Unjustified non-attendance or above 80% leads to the loss of 10% corresponding to the Degree of Participation (see below).
On the other hand, attendance at all practical sessions (regardless of where they take place: laboratory, computer rooms, simulation tunnel, visits to centers, etc.) is also mandatory. The unjustified absence of any of these sessions leads to the loss of the right to an internship evaluation in the ordinary call and a suspension of the course. Students in this situation should immediately contact the teacher.
The FINAL GRADE of the subject will be obtained from the following tests:
SE1.-Written tests (60%): Written final evaluation test on the contents presented in the theoretical sessions and exercises and problems. The exam will consist of several parts: test-type questions with multiple answers, short questions to be developed, practical exercises, etc. Each of the parts that constitute the exam must be passed. The score of the theoretical exam will be the average of the grades obtained in each of the parts.
SE2.-Daily activities and exercises (10%): Includes the resolution of public health problems based on epidemiology, health risk assessment and other methodologies. For them to be considered in the note, the proposed exercises must be submitted in date and form.
IF 3. Individual and group work (20%): Preparation of a document and public oral presentation of it to classmates, on a topic of interest in public health, applying knowledge about bibliographic and epidemiological review methods, etc., acquired in theoretical classes. The document must be submitted and the oral presentation made, in date and

form.
SE4.-Attendance and participation in face-to-face classroom activities (10%): Participation in activities proposed during theoretical classes. The correct resolution of the proposed problems, the ability to interrelate theoretical concepts, the adequate synthesis of ideas and their oral and written expression, the development of skills in the critical reading of an article or scientific report and the participation and willingness to carry out the proposed exercises in case and problem solving methods will be assessed.
It should be noted that class attendance is mandatory and therefore, students will only be evaluated for this Test when they have attended at least 80% or more of all classes.
To pass the subject, the student must obtain a minimum score of 5 in SE1, SE2 and SE3, respectively, from the evaluation of the subject.
Students who do not pass the subject in the ordinary call will have an extraordinary call to recover the parts (SE1, SE2 and SE3) that they have not passed. The grades for the extraordinary call will be kept for students who have passed any of the parts (SE1, SE2 and SE3) in the ordinary call.
ALTERNATIVE EVALUATION SYSTEM This system is intended for repeat students who do not take advantage of the ordinary evaluation system because they cannot attend classes on a regular basis, who must contact the teacher to request to take advantage of this system. Students must: i) submit the tasks and activities of SE2 (10%) and SE (20%) in a timely manner; ii) take the exams for the subject, SE1 (60% of the grade). Each of the parts that constitute the SE1 (exam) must be passed. The score of the theoretical exam will be the average of the grades obtained in each of the parts. It is necessary to obtain a minimum score of 5.0 in each of the tests.
IMPORTANT Plagiarism, as well as the use of illegitimate means in evaluation tests, will be sanctioned in accordance with the University's Evaluation Regulations and Coexistence Regulations.

ETHICAL AND RESPONSIBLE USE OF ARTIFICIAL INTELLIGENCE

1.- The use of any Artificial Intelligence (AI) system or service shall be determined by the lecturer, and may only be used in the manner and under the conditions indicated by them. In all cases, its use must comply with the following principles:
a) The use of AI systems or services must be accompanied by critical reflection on the part of the student regarding their impact and/or limitations in the development of the assigned task or project.
b) The selection of AI systems or services must be justified, explaining their advantages over other tools or methods of obtaining information. The chosen model and the version of AI used must be described in as much detail as possible.
c) The student must appropriately cite the use of AI systems or services, specifying the parts of the work where they were used and describing the creative process followed. The use of citation formats and usage examples may be consulted on the Library website(https://www.ufv.es/gestion-de-la-informacion_biblioteca/).
d) The results obtained through AI systems or services must always be verified. As the author, the student is responsible for their work and for the legitimacy of the sources used.
2.- In all cases, the use of AI systems or services must always respect the principles of responsible and ethical use upheld by the university, as outlined in the Guide for the Responsible Use of Artificial Intelligence in Studies at UFV. Additionally, the lecturer may request other types of individual commitments from the student when deemed necessary.
3.- Without prejudice to the above, in cases of doubt regarding the ethical and responsible use of any AI system or service, the lecturer may require an oral presentation of any assignment or partial submission. This oral evaluation shall take precedence over any other form of assessment outlined in the Teaching Guide. In this oral defense, the student must demonstrate knowledge of the subject, justify their decisions, and explain the development of their work.

BIBLIOGRAPHY AND OTHER RESOURCES

Basic

Martínez González MA Public Health Concepts and Preventive Strategies. A manual for health sciences .2023 3rd edition

Hernández I., Lumbreras B. Manual of Epidemiology and Public Health for degrees in Health Sciences 3rd edition

Piédrola Gil, et al. Preventive Medicine and Public Health 12th edition

Martínez Navarro et al. Public Health 1st edition

by Irala J et al Applied Epidemiology 2nd edition
(by Irala J et al Applied Epidemiology 2nd edition , ||Gordis L Epidemiology 5th edition)

Rothman K Modern Epidemiology 1st edition
(Rothman K Modern Epidemiology 1st edition , ||Pan American Health Organization (PAHO) The control of communicable diseases.2024 21st edition)

Martín Olmedo P et al. Health Risk Assessment. Methodological guide. Practical applications of ER methodology in health due to exposure to chemicals. 1st edition

Additional

Ministry of Health https://www.sanidad.gob.es/

Carlos III Health Institute https://www.isciii.es/Paginas/Inicio.aspx

European Center for Disease Prevention and Control (ECDC) https://www.ecdc.europa.eu/en

Centers for Disease Control and Prevention https://www.cdc.gov/spanish/index.html

World Health Organization (WHO) https://www.who.int/es

Spanish Society for Public Health and Health Administration (SESPAS)
(Spanish Society for Public Health and Health Administration (SESPAS) , https://sespas.es/)