

**COURSE DATA****Data Subject**

<b>Code</b>	33994
<b>Name</b>	Bases for Public Health
<b>Cycle</b>	Grade
<b>ECTS Credits</b>	4.5
<b>Academic year</b>	2022 - 2023

**Study (s)**

<b>Degree</b>	<b>Center</b>	<b>Acad. year</b>	<b>Period</b>
1103 - Degree in Food Science and Technology	Faculty of Pharmacy and Food Sciences	3	Second term

**Subject-matter**

<b>Degree</b>	<b>Subject-matter</b>	<b>Character</b>
1103 - Degree in Food Science and Technology	26 - Public health bases	Obligatory

**Coordination**

<b>Name</b>	<b>Department</b>
ORTEGA AZORIN, CAROLINA	265 - Prev. Medicine, Public Health, Food Sc.,Toxic. and For. Med.
SORLI GUEROLA, JOSE VICENTE	265 - Prev. Medicine, Public Health, Food Sc.,Toxic. and For. Med.

**SUMMARY**

To acquire the basic concepts on the health and determinants of the health, levels of prevention and actions of protection and promotion of the health, and its link with the Sustainable Development Objectives (SDO). To know the epidemiology and its application in the studies in the field of the Science and Technology of the Food. To identify the key aspects of the promotion of the health and the education for the health, fundamentally related to the field of the Science and Technology of the Food, as well as to know the principal health programs in the different stages of the life. To know the epidemiology of the principal contagious and not transmissible diseases, its prevention and control, principally, in relation to the technology of the food. To know the relation between the environment and the health. To know the sanitary Spanish system, services and management



## PREVIOUS KNOWLEDGE

### Relationship to other subjects of the same degree

There are no specified enrollment restrictions with other subjects of the curriculum.

### Other requirements

Knowledge of the subjects given during the first two years of degree, fundamentally Statistics, Microbiology and Nutrition, Chemical Analysis, Parasitology, as well as the basic matters of Physics, Chemistry and, Biochemistry

## OUTCOMES

### 1103 - Degree in Food Science and Technology

- Capacidad de interpretar datos relevantes.
- Develop skills to undertake further study.
- Poseer y comprender los conocimientos en el área de Ciencia y Tecnología de los Alimentos.
- The ability to transmit ideas, problems and solutions within the study area of modern languages and their literatures.
- Saber aplicar esos conocimientos al mundo profesional, contribuyendo al desarrollo de los Derechos Humanos, de los principios democráticos, de los principios de igualdad entre mujeres y hombres, de solidaridad, de protección del medio ambiente y de fomento de la cultura de la paz.
- Manage by-products and waste.
- Carry out staff training.
- Asesorar científica y técnicamente a la industria alimentaria y a los consumidores.
- Know the basic concepts of health and public health.
- Know and assess the determinants of health.
- Acquire knowledge of the epidemiological method and its application to the field of food.
- Know the methods and means of health education.
- Know the relationship between environment and health.
- Know the techniques and applications of environmental health and industrial hygiene in the field of food industry.
- Know health promotion and disease prevention strategies.
- Acquire knowledge on epidemiology and prevention of communicable and non-communicable diseases.
- Know about planning and prevention of occupational risks.



- Know about health care planning and organisation.

## LEARNING OUTCOMES

At the end of the course the pupil must be capable of:

- To apply the concepts of the Public Health in general and in related disciplines, especially, in the area of the degree of Science and Technology of the Food
- To know the organizational and normative environment of the Public Health in Spain comparing the characteristics with other sanitary systems, and its commitment to the 2030 Agenda and the Sustainable Development Objectives.
- To analyze critically the information in the epidemiological studies
- To realize calculations to obtain measures of frequency of disease - health, measure of association and of impact. To be able to interpret the obtained results.
- To detect and to correct the principal random and systematic errors in the epidemiological studies, as well as to value its influence for the results and its practical application.
- To interpret the results of metanalysis and of the different measures which are in use in the evaluation of diagnostic tests.
- To distinguish the different pollutants of the environment and to interpret the measurements realized by the different equipments to take decisions brings over of the convenience of preventive measures or of control. Evaluation of the impact of the pollutants in the health.
- To collaborate in the prevention and control of contagious diseases across the knowledge of his mechanism of transmission and strategies of prevention and control for general and particular level for those more relevant diseases.
- To collaborate in the prevention and control of the chronic diseases and accidents acting as sanitary educator on the ways of life and the environmental factors, as well as of sanitary assistance.
- To analyze opportunities and challenges raised by new or changeable situations in relation to the Public Health
- In general, one tries to promote the capacity of analysis and synthesis in the resolution of problems and capture of decisions in the field of Science and Technology of the Food



## DESCRIPTION OF CONTENTS

### 1. General Concepts in Public Health

Unit 1: Concept of Health, Public Health, Determinants of the Health, and its link with the Sustainable Development Objectives.

Unit 2: Sanitary Demography

Unit 3: Food and Health.

Unit 4: Lifestyle as determinants of health: Tobacco, Physical exercise. Education for Health

Unit 5: Information systems.

Unit 6: Spanish Health system.

### 2. Epidemiological studies

Unit 7: Concepts and uses of the Epidemiology. Types of epidemiological studies. Measures of frequency.

Unit 8: Descriptive Studies: Cross-sectional studies and ecological studies.

Unit 9: Studies of cases and controls.

Unit 10: Studies of cohorts.

Unit 11: Studies of intervention.

Unit 12: Measures of association and impact.

Unit 13: Errors in the epidemiological studies: random and Systematic errors

Unit 14: Systematic Reviews and Metanalysis.

Unit 15: Evaluation of diagnostic tests. Sensibility, Specificity and Predictive Values. Curves ROC.

Unit 16: Genomic Epidemiology. Nutritional epidemiologic.

### 3. Environment and health

Unit 17: Environmental Health and Food industry, and its link with the related Sustainable Development Objectives.

Unit 18: Sterilization and disinfection. Physical and chemical methods. Principal technologies.

Disinfestations and rat-extermination. Pesticides: characteristics

### 4. Infectious diseases and Chronic diseases

Unit 19: General Epidemiology of the contagious diseases. Concept of control and eradication. Immunization

Unit 20: Diseases of intestinal transmission. Epidemiology and prevention.

Unit 21: Diseases of respiratory transmission. Epidemiology and prevention.

Unit 22: Diseases of transmission for contact. Concept. Classification.

Epidemiology and prevention of the hepatitis and AIDS.

Unit 23: Diseases transmitted by arthropods and emergent Epidemiology and Prevention.

Unit 24: Chronic diseases. Epidemiology and prevention especially related to the food.

Unit 25: Epidemiology and prevention of the cardiovascular diseases.

Unit 26: Epidemiology and prevention of the cancer.



Unit 27: Epidemiology and prevention of the obesity and diabetes. Concept of obesity. Concept of diabetes. Types. Descriptive epidemiology. Factors of risk and prevention of the diabetes

## WORKLOAD

ACTIVITY	Hours	% To be attended
Theory classes	34,00	100
Computer classroom practice	5,00	100
Seminars	2,00	100
Tutorials	1,00	100
Development of group work	5,00	0
Development of individual work	7,50	0
Study and independent work	45,00	0
Readings supplementary material	10,00	0
<b>TOTAL</b>	<b>109,50</b>	

## TEACHING METHODOLOGY

The theoretical contents will be given across lessons composed in a dialogue with the students promoting the participation of the student across questions

These theoretical meetings will have the complement of the tutorships (4 hours) and virtual tutorships.

During the development of the classes, the contents of the subject will be linked to the Sustainable Development Objectives of the 2030 Agenda, with the explanation of these concepts and examples of their applications. This will address the importance of these concepts with the goal that students acquire the knowledge and skills to understand the relevance of these SDO and their relationship with the subject.

The coordinated seminars carried out in this subject will promote the relationship of the thematic developed in the seminars with the Agenda of the Sustainable Development Objectives, assessing the consideration of the gender and social perspective inclusion, as well as inequalities and other approaches considered in that agenda.

In the practical meetings in the informatic lessons, student must use methodology based on learning by resolution of problems .The work will be promoted in group that will allow the development of capacities of communication and oral coherent and logical expression.





## EVALUATION

- a) Accomplishment of a test written to guarantee the knowledge and comprehension of the minimal theoretical and practical contents established for the matter (70%). The exam will be a test with 40 questions. Each question answered correctly will be scored with 0.2 points, and each question answered incorrectly will subtract 0.05 points. In this activity, the student must get a minimal qualification (5/10) in order to pass the subject.
- b) Evaluation of the work realized in coordinated seminars (10%).
- c) Evaluation of the informatic practice lessons (10%). In the informatic practices, the capacity for the resolution of the raised problems will be evaluated.
- d) Evaluation of the work realized during the tutorships and other activities realized during the class (10%).

Must it be reminded that student attendance to coordinated tutorials and seminars is mandatory. No attendance to them without a cause will lead to a failed subject.

For repeating students, attendance at tutorials or coordinated seminars will not be necessary, keeping the note of said attendance from the previous year.

## REFERENCES

### Basic

- Argimón Pallas JM, Jiménez Villa J. Métodos de investigación clínica y epidemiológica. 4ª edición. Barcelona. Elsevier, 2013.
- Serra-Majem L, Aranceta J. Nutrición y Salud Pública. Métodos, bases científicas y aplicaciones. 2ª ed. Barcelona: Elsevier-Masson, 2006.
- Hernández-Aguado I, Lumbreas-Lacarra B. Manual de Epidemiología y Salud Pública para grados en ciencias de la Salud. 3ª edición. Madrid: Medica Panamericana, 2018.

### Additional

- Martínez-González MA, Sánchez-Villegas A, Toledo Atucha E, Faulín Fajardo J. Bioestadística amigable. 3ª edición. Elsevier, 2014
- Fernández-Créhuet Navajas J, Gestal Otero J, Domínguez Rojas V, Delgado Rodríguez M, Bolumar Montrull F, Herruzo Cabrera R, Serra Majem L, Rodríguez Artalejo F (dirs.). Medicina Preventiva y Salud pública. 12ª ed. Barcelona: Elsevier-Masson, 2016.
- Royo Bordonada MA. Nutrición en Salud Pública. Madrid: Escuela Nacional de Sanidad, Instituto de Salud Carlos III, 2017.