

Academic Year/course: 2021/22

## 25431 - Research Methodology in Health Sciences. Information systems and new technologies

### Syllabus Information

**Academic Year:** 2021/22

**Subject:** 25431 - Research Methodology in Health Sciences. Information systems and new technologies

**Faculty / School:** 127 - Facultad de Ciencias de la Salud

275 - Escuela Universitaria de Enfermería de Huesca

375 - Escuela Universitaria de Enfermería de Teruel

**Degree:** 559 - Degree in Nursing

560 - Degree in Nursing

561 - Degree in Nursing

**ECTS:** 6.0

**Year:** 1

**Semester:** First semester

**Subject Type:** Basic Education

**Module:**

## 1. General information

### 1.1. Aims of the course

The subject and its expected outcomes respond to the following approaches and objectives:

The general objective of the subject is to enable students to search for the most accurate information for the study of nursing care and to apply the scientific method to the study of the healthy and sick population.

These approaches and objectives are aligned with the following Sustainable Development Goals (SDGs) of the United Nations Agenda 2030 (<https://www.un.org/sustainabledevelopment/es/>), so that the acquisition of the learning outcomes of the subject provides training and competence to contribute to some extent to their achievement:

- Health and well-being.
- Gender equality.
- Responsible production and consumption.
- Climate action.
- Quality education

### 1.2. Context and importance of this course in the degree

In recent decades, socio-economic, cultural and environmental changes have had an impact on the emergence of different models of illness, on the presentation of health inequalities and on how to deal with the health-disease process. In order to tackle them, strategies for care, prevention and action at individual and community level, based on scientific evidence, are necessary. The contents included in this subject have been agreed with the teaching staff who teach the subjects Community Nursing I and II. This way of organising the contents should not be understood as something static and immovable, but as something subject to future transformations as a result of changes in the objectives and/or contents, or due to the evolution of this programme over the years.

### 1.3. Recommendations to take this course

There are no previous recommendations for this subject.

As a general rule, the use of mobile phones is forbidden except for teaching purposes.

## 2. Learning goals

### 2.1. Competences

When passing the course, the student will be more competent to...

SC9-Apply information and communication technologies and systems to health care.

SC16-Identify, integrate and relate the concept of health and care, from a historical perspective, to understand the evolution of nursing care.

SC24- Identify the factors related to health and the problems of the environment, in order to care for people in situations of health and illness as members of a community.

SC25- Identify and analyse the influence of internal and external factors on the level of health of individuals and groups.

SC49- Knowing the Spanish Health System.

## 2.2. Learning goals

In order to pass this subject, the student must demonstrate the following results...

- 1- Identify, analyse and discuss the contributions of research methodology in the nursing profession, learning to apply the principles of research and information and the contributions of nursing based on scientific evidence.
- 2- Manage the basic concepts of health and disease and the relative importance of psychosocial and gender determinants in the process of illness of the population and assess the influence of WHO strategies in achieving the Sustainable Development Goals.
- 3- Identify the contributions of Public Health in improving the health of the population and the contribution of the different disciplines.
- 4- Identify, select and use the most relevant bibliographic documentation systems for the review of nursing care aimed at the healthy and sick person and the population.
- 5- Initiate the design of a research project in health sciences, applying the scientific method, placing special emphasis on the formulation of research questions, objectives and hypotheses and on the selection and organisation of the selected scientific information.

## 2.3. Importance of learning goals

In recent decades, there have been changes in nursing methodology based on scientific evidence. In order to approach the planning of nursing care, it is necessary to manage care, prevention and action strategies at individual and community level, based on scientific evidence. This subject provides the basic tools and instruments for the approach of the basic lines of research work applying the scientific method.

## 3. Assessment (1st and 2nd call)

### 3.1. Assessment tasks (description of tasks, marking system and assessment criteria)

Students must demonstrate that they have achieved the learning outcomes by means of two assessment tests specified below:

Procedures

- Tutorial Assessment. Literature review paper (up to 4 points).
- Written exam. Individual test (up to 6 points)

Assessment criteria and levels of demand:

1. Tutorial assessment: this test consists of the completion of a Bibliographic Review Paper with the formulation of Research Questions, Objectives and Hypotheses in the study of a health problem. In groups of six people.
    - Description: The bibliographic review work consists of the elaboration of a bibliographic search in scientific databases, through which they carry out an update of the health problem relevant to Community and Public Health Nursing. Subsequently, the Research Questions, Objectives and Hypotheses must be posed in the study of the health problem.
    - Levels of demand: the work must achieve a minimum score in each of the sections of 40% of that established. If any of the sections is not reached, it will be considered that the minimum requirements have not been met.
    - In the fieldwork, the inclusion and development of the following sections will be assessed:
      - An introduction to the subject of the study, which must include an update on the subject or analysis of the health problem, its importance and magnitude in terms of morbidity, mortality or other indicators and a justification of the study. The development of this section will be carried out with the bibliographic review in the scientific databases explained during the seminars.
      - Formulation of the research questions
      - Formulation of the objectives.
      - Formulation of the hypotheses in the study of the health problem.
- Bibliography: Citations will be included with numbers, in order of appearance in the text and only those used in the preparation of the work will be included. It will include at least the 10 references used in the introduction. Bibliographic citations will be made according to Vancouver standards.
- Weighting in the final grade: 4 points out of 10. In order to pass the course, at least 2 points out of a possible 4 must be obtained in this test. Subsequently, the weighting will be made up to a 3.5 of the section. In order for the group work mark to be added, at least 28 correct answers must be obtained in the objective test. In the case of not passing the test and obtaining a minimum of 2 points in the group work, the grade will be kept for the next 3 exams. The presentation of the work will be assessed through the criteria of the teaching staff (80%) and a co-evaluation of the students (20%). The rubric used by the students for the evaluation will be:

The subject dealt with seemed interesting to you We found it a new subject Yes, although it is a subject that has been dealt with a lot No

The development of the presentation has been enjoyable Yes, we have enjoyed it a lot There have been moments when it has not been enjoyable No

The handling of the topic by the student who gave the presentation seemed to you to be adequate In its entirety, it is clear that he/she has worked on it Sometimes it gave the impression that he/she had not worked on it.

The power point presentation was clear and concise Sometimes it was not well understood and/or in some cases it was long It did not help us at all and/or it was long.  
How would you evaluate the work?

## 2. Written exam. Individual test

- Description: The written exam is an objective test, which will consist of a series of questions of a theoretical or theoretical-practical nature on the material explained in class and/or compulsory readings.
- Theory exam: It will consist of 40 multiple-choice questions, with five possible answers, only one answer will be valid and no negative points will be considered.
- Levels of demand: To pass the subject, you must obtain at least 28 correct answers.
- Criteria: In this test, the answers to the questions posed in the exam will be evaluated as follows:

0 - 4.9 Fail (SS)

5.0 - 6.9 Pass (AP)

7.0 - 8.9 Pass (NT)

9.0 - 10 Outstanding (SB)

- Weighting of the final grade: The grading system will be expressed by means of a numerical grade in accordance with the provisions of art. 5 of Royal Decree 1125/2003 of 5 September (BOE 18 September), which establishes the European credit system and the grading system for official university degrees valid throughout the national territory.

The weighting of the exam will be 6 points out of 10.

To pass the subject it is essential to obtain at least:

- Multiple-choice exam: 28 correct answers (3 points).
- Group work: 2 out of a possible 4 points
- The overall grade obtained from the sum of the two parts must be 5.00 or higher.

## 4. Methodology, learning tasks, syllabus and resources

### 4.1. Methodological overview

- Lectures: 40 h.
- Theoretical-practical seminars: 15 hours. In small groups.

### 4.2. Learning tasks

The program is taught through the following activities:

- Lectures: 50 h.
- Theoretical-practical seminars. 10 h/student. These are developed through a theoretical introduction and subsequent work in smaller groups to encourage discussion, and to answer questions or solve problems. In these seminars, simulated scenarios of practical cases are presented, which are partially elaborated by the teaching staff and must be completed by the students. The selected actions are then discussed. These activities are important in order to achieve the learning outcomes involving bibliographic searches in scientific databases, the initiation of a research project, and problem solving. For the realization of the seminars a document is available for their development.
- Mentoring, for the supervision of the field work and clarification of doubts about the theoretical-practical contents of the topic.
- Presentation of the seminars. Presentation in plenary in the classroom in ppt format, by working groups of six students, of three of the seminars that we consider key in the acquisition of the learning results of this topic.

### 4.3. Syllabus

The program offered to the student to help him/her achieve the expected results comprises the following activities....

-Course "Basic Digital Competence: learn to inform, create and communicate digitally (basic level)". Formerly called "Information and Computer Skills Course".

Taught by the University Library of Zaragoza (BUZ), through the Digital Teaching Ring (ADD)/Moodle Platform. It seeks to ensure the acquisition of transversal competences related to information management and digital competence.

It provides basic training in the following areas:

information and data processing: identify, locate, obtain, store, organize and analyze digital information, assessing its purpose and relevance.

communication and collaboration: communicate in digital environments, share resources through network tools.

content creation: creating and editing new content, integrating previous knowledge, knowing how to apply intellectual property rights and licenses for use.

security: protection of information and personal data, security measures, responsible and safe use.

-Module I. Health Research. Health and public health. Human health and sustainable development. Historical evolution of Public Health. Public Health in Spain. Public health nursing. The process of health and disease and its determinants: biology, ecology and environment, lifestyles, health system. The importance of other determinants: poverty, gender, and globalization. The World Health Organization and Public Health proposals. Primary Health Care, Health Promotion, Healthy Cities and Safe Communities. Health situation in Spain and in the Autonomous Community of Aragon. Comparative analysis with other countries. Interdisciplinarity in Public Health. Interculturality and inequalities in health.

-Module II. Research design in Health Sciences. Research process. Scientific method. Research in health sciences. Sources of bibliographic documentation in Health Sciences. Internet and Public Health. New technologies in health research. Conceptual framework of research. Definition of the research question.

Definition of objectives and hypothesis statement. Design of epidemiological studies. Observational and experimental epidemiological studies. Fundamentals of qualitative research. Scientific writing. Elaboration of a review article.

#### **4.4. Course planning and calendar**

Schedule of face-to-face sessions and presentation of papers

At the beginning of the academic year the dates of the seminars and presentation of the topic will be specified in moodle.

\* Due to the epidemiological situation due to COVID-19, the teaching or part of it could be developed online.

#### **4.5. Bibliography and recommended resources**

- Bhopal, Raj S.: Concepts of epidemiology: integrating introduction the ideas, theories, principles, and methods of epidemiology. 2nd ed. Oxford, Oxford University Press, cop. 2008
- Medicina preventiva y salud pública. Director, Antonio Sierra López. 11ª ed. Barcelona, Masson, 2008
- Salud pública. F. Martínez Navarro. Madrid, Mcgraw-Hill Interamericana, 1997
- Manual de epidemiología y salud pública para grados en ciencias de la salud. Ildefonso Hernández-Aguado [et al.] 2ª ed. Madrid, Editorial Médica Panamericana, 2011
- Argimón Pallás, Josep María, Jiménez Villa, Josep: Métodos de investigación clínica y epidemiológica. 4ª ed. Barcelona, Elsevier, 2012