

## 26772 - Infectious Diseases, Geriatrics and Emergencies

### Syllabus Information

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**Academic Year:** 2020/21

**Subject:** 26772 - Infectious Diseases, Geriatrics and Emergencies

**Faculty / School:** 104 - Facultad de Medicina

**Degree:** 304 - Degree in Medicine

**ECTS:** 9.0

**Year:** 3

**Semester:** Second semester

**Subject Type:** Compulsory

**Module:** ---

## 1.General information

### 1.1.Aims of the course

#### INFECTIOUS DISEASES

The subject "Infectious Diseases" is integrated in the subject "Infectious Pathology, Geriatrics and Emergencies". Within it, Infectious Diseases represents one of the subjects with serious pathological processes, potentially curable, with great incidence and repercussion in the vital prognosis of the population and in the usual medical practice.

The specific objectives are:

- 1º.- Contribute to the prevention of infectious diseases.
- 2º.- Collaborate in health education
- 3º.-Recognize, diagnose and guide the therapeutic management of the main infectious diseases
- 4º.- Manage the main symptoms and complications derived from the disease and its treatment.
- 5º.- Acquire skills in the recognition and treatment of Emergencies in infectious pathology

#### GERIATRICS

Knowing the aging process and the most common physical, psychological, social and environmental context of their specificity. Know the main geriatric syndromes.

Acquiring the ability to recognize the most frequent changes in symptoms and signs of disease (those commonly studied in General Medical Practice) as they happen during geriatric age.

Acquiring skills for clinical reasoning based on symptoms and signs in order to request additional tests to formulate accurate diagnoses.

Acquiring skills to adapt clinical and therapeutic decisions to frail and ill elderly population.

Learn the main preventive indications of geriatric syndromes and the most common diseases, taking into account the reality of the old man or woman and his or her environment, history and life expectancies.

Encourage inclusive strategies of treatment for the elderly, their families and people around them.

#### EMERGENCIES

Emergencies provide the student with the necessary resources to recognize the symptoms and failure signs of our organism vital systems (circulatory, respiratory, kidney, neurological and metabolic) which accompany the most frequent serious diseases. They also provide training to monitor essential physiological variables and clinical data in order to assess the evolution and the response to the treatment.

General objectives:

- 1.- To diagnose and adequately treat cardiopulmonary arrest.
- 2.- To recognize and guide the therapeutic management of severe clinical pictures which most frequently occur in practice.
- 3.- To know the importance of the monitoring in the evaluation of the severity and control of the patients.
- 4.- To know the usefulness of ECG, Chest X-ray, chest and brain CT Scan, blood gas test and analytical data to the urgent evaluation of the severe patient.

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

## INFECTIOUS DISEASES

The learning of infectious diseases should favor the acquisition of professional values and appropriate behaviors that allow the student to approach from an integral and multidisciplinary perspective the problems of the Infectious Pathology of the population in its preventive, diagnostic and therapeutic aspects.

## GERIATRICS

Learning of Geriatrics within the disciplines of the Degree is needed for scientific and social reasons. The ultimate goal is that physicians can, in their social environment, provide better service for elderly patients and doing so from scientific basis.

Knowing the content of the specialty of Geriatrics, the usefulness of geriatric comprehensive assessment and the more common assessment scales.

Geriatric care levels meet the criteria for hospital admission in both emergency and other units, and the composition and performance of interdisciplinary teams, to ensure continuity of care and care for the elderly and their caregivers

## EMERGENCIES

Emergencies take part in the group of medical-surgical specialties in the Medicine degree and they aim to:

1.- Initiate in the knowledge of the diseases which are accompanied by any vital organ failure, facilitating the relation and multidisciplinary work with other areas and subjects.

2.- Provide the necessary medical knowledge in order to evaluate the severity of a patient vital urgency and their initial assistance

### 1.3.Recommendations to take this course

#### Infectious Pathology

The learning of infectious diseases should favor the acquisition of professional values and appropriate behaviors that allow the student to approach from an integral and multidisciplinary perspective the problems of the Infectious Pathology of the population in its preventive, diagnostic and therapeutic aspects.

Given the clinical nature of the subject, it is necessary to have completed and passed the subjects corresponding to the first 4 semesters of the Degree of Medicine and fundamentally microbiological diagnostic and therapeutic procedures and there is incompatibility (collected in the Degree Report of this Faculty) with the subject Semiology and Pathophysiology, so it must have been passed before to be able to enroll in it.

## 2.Learning goals

### 2.1.Competences

Upon passing the subject, the student will be more competent to ...

#### BASICS:

CB1. That students have demonstrated to possess and understand knowledge in an area of study that starts from the base of general secondary education, and is usually found at a level that, although supported by advanced textbooks, also includes some aspects that imply knowledge coming from the forefront of his field of study

CB2 That students know how to apply their knowledge to their work or vocation in a professional manner and possess the skills that are usually demonstrated through the elaboration and defense of arguments and the resolution of problems within their area of study

CB3 That students have the ability to gather and interpret relevant data (usually within their area of study) to make judgments that include a reflection on relevant social, scientific or ethical issues.

CB4 That students can transmit information, ideas, problems and solutions to a specialized and non-specialized public.

CB5 That the students have developed the necessary learning skills to undertake later studies with a high degree of autonomy.

#### SPECIFIC:

CE50 Know the main infectious agents and their mechanisms of action  
CE51 Recognize, diagnose and guide the management of the main infectious pathologies in the different organs and devices  
CE59 Recognize the characteristics of the pathology prevalent in the elderly  
CE61 Recognize, diagnose and guide the management of life-threatening situations  
CE67 Know how to perform basic and advanced life support maneuvers

#### TRANSVERSAL COMPETENCES:

1. Capacity for analysis and synthesis
2. Capacity for organization and planning
3. Troubleshooting
4. Decision making
5. Team work
6. Work in an interdisciplinary team
7. Critical thinking
8. Ethical commitment
9. Self-directed learning

## 2.2.Learning goals

### INFECTIOUS PATHOLOGY

Carry out the patient's clinical history, oriented to infectious diseases, paying special attention to the epidemiological antecedents.

Be able to guide the precise complementary tests according to the profitability and risk in order to establish the etiological diagnosis and prognosis.

Prepare presumptive diagnoses based on the previous data and propose differential diagnoses.

Propose therapeutic schemes, selecting potentially applicable antimicrobials in the empirical treatment of infections according to their location, potentially implicated agents and clinical suspicion.

Apply prophylactic and personal and community control measures to prevent the spread of infectious diseases, especially those that constitute serious public health problems.

### GERIATRICS

Successfully pass the subject of Geriatrics must involve achieving the following results:

Knowing the main physical, psychological and social peculiarities of the elderly.

Address personal circumstances of the environment in which of the elderly person's life develops.

To know the main geriatrics syndromes and the etiopathogenic, pathophysiological and clinical features that the most common adult diseases occur with ageing.

Get used to including in the assesment of the elderly, in addition to the syndrome, disease and etiology, social and demographic data (family, social, environmental environment, etc ...) that may influence the recovery, maintenance and improvement of their health.

Knowing the nuances necessary for indications of treatment in relation to age.

Knowing the most common preventive measures for the elderly in relation to their health.

Acquire habits for a comprehensive approach and empathic relationship with the elderly

Know most adequate facilities for caring the elderly, establish criteria for hospital admission, emergency referral and stay in other units. Manage interdisciplinary teams, to ensure the continuity of care and care for the elderly and their caregivers

Geriatrics learning within the disciplines of the Degree is justified for scientific and social reasons. Professional will acquire, in their social environment, skills to provide better service as a physician as well as to be able for working in multidisiplinary teams.

The application of scientific methodology at this stage of life (taking into account the changes brought about by age) has revealed the benefit of refine diagnostic, therapeutic and preventive measures, as well as the doctor-patient relationship in terms of the elderly .

Social Motivation: The growing proportion of the elderly population and the fact that the disease is more frequent in general at this stage of life, leads to the fact that, in the normal activity of modern medical, demand of care from elderly groups is increasingly steadily.

### EMERGENCIES

## 2.3.Importance of learning goals

### INFECTIOUS DISEASES

The importance of infectious diseases stems from the fact that infectious disease is one of the leading causes of morbidity and mortality both globally and in our environment. The acquisition of knowledge, skills and competencies in this field allows a better management of patients affected by infectious diseases, extending the scope of their competence to the field of public health.

### GERIATRICS

The practice of medicine in any of their especialities a deep knowledge of aging process and the morphological, functional, psychological and social changes experienced by the elderly, as well as different health care resources available.

### EMERGENCIES

The knowledge in emergencies will qualify the student for the global assistance of the most frequent clinical pictures which are accompanied by vital risk and it will establish the basis for a proper utilization of the available resources and the relation with other specialities.

Multidisciplinary assistance will encourage teamwork and facilitate the integral formation of the student.

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

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

#### INFECTIOUS DISEASES

The complete evaluation is done by:

1. Written exam with multiple choice questions on the topics developed in the theoretical classes and group activities. This exam consists of 30 multiple-choice questions with four distractors and a single valid answer. A penalty of 0.25 points is applied for each wrong answer. The result will be 60% of the final grade
2. Resolution of a clinical problem according to several questions (normally 5 or 6). It assumes 30% of the final grade.
3. The work developed and the obligatory oral presentation of the tasks carried out on different clinical assumptions related to the subject of the group work, as well as the participation in the programmed workshops will be valued. It will be up to 10% of the final grade.

During the semester of activity, students will be distributed in groups to perform tutoring tasks according to the following plan:

Assignment of a clinical case for each work group

Tasks: Discuss the case in group and prepare the presentation with PPT on the appointed day. Review the necessary knowledge for the discussion and specific points indicated.

The attendance to Workshops and Seminars is mandatory, requiring a minimum attendance of 80%.

#### GERIATRICS

1) Multiple choice questions from the theoretical program, taught in lectures and seminars. This examination consists of 25 multiple choice questions with four distractors, with only one true answer (65% of the final mark). Every five lessons an additional test with 5 cases will be held (15% of the final mark). Both parts account for **80%** of the final mark. The questions can be asked in clinical format regardless of the clinical cases of the following section (see below).

2) Resolution of clinical cases assessed by several tests:

- First, attendance at seminars and practices is mandatory and must reach a minimum of 80%.
- Secondly, by resolution of 5 clinical cases, in a format similar to test that evaluates the theoretical and held in conjunction with the 25 questions the theoretical test (15% of the final mark).
- Thirdly, it is also taken in consideration oral presentation and / or active participation in the discussion of clinical cases during the seminars, in small groups throughout the semester.

- After the week of seminars a test containing 3 clinical problems to be solved will be held (5% of the final mark)  
The weight of the evaluation of these three sections, altogether accounts for **20%** of the final mark.

## EMERGENCIES

Complete evaluation is done by:

1. Theoretical themes evaluation: it will be carried out by means of a multiple-choice test regarding the issues explained in the theoretical lectures and group activities. Such exam will consist of 40 multiple-choice questions with 4 options and only one correct answer. The result will constitute 85% of the final grade.
2. Workshop evaluation: they will be evaluated by the resolution of 3 practical cases. Its weighting in the final grade will be 10%
3. Mentored works: they will constitute 5% of the final range and will be made from the clinical cases included in the digital course of the subject included in the Anillo Digital Docente (ADD), Moodle 2 platform. Assistance to Workshops and Seminars is mandatory, a minimum assistance of 80% being required, in order to be authorized to take exam in the June call.

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

### 4.1. Methodological overview

The methodology followed in this course is oriented towards the achievement of the learning objectives promote the acquisition of knowledge of infectious diseases, emergencies and geriatrics.

A wide range of teaching and learning tasks are implemented, such as lectures, practice sessions, assignments, and autonomous work.

Students are expected to participate actively in the class throughout the semester.

Classroom materials will be available via Moodle. These include a repository of the lecture notes used in class, the course syllabus, as well as other course-specific learning materials, including a discussion forum.

Further information regarding the course will be provided on the first day of class.

### 4.2. Learning tasks

The course includes the following learning tasks:

#### INFECTIOUS PATHOLOGY

- Theory sessions Whole group sessions of 50 minutes each one. The professor will explain the theoretical contents, which are available in advance on the virtual platform Moodle.
- Seminars. They are used to discuss and debate practical and theoretical issues related to the syllabus of the subject. They are made with small groups of students
- Workshops. Sessions where students work with case studies and problem-solving tasks.

#### GERIATRICS

For learning Geriatrics there are several types of educational activities:

- Theoretical classes
- Seminars based on clinical solving problems
- Assistance to an Acute Geriatric Unit
- Assistance to a nursing home

#### EMERGENCIES

- Theory sessions. Whole group sessions of 50 minutes each one. The professor will explain the theoretical contents, which are available in advance on the virtual platform Moodle.
- Seminars. They are used to discuss and debate practical and theoretical issues related to the syllabus of the subject. They are made with small groups of students.
- Workshops . Sessions where students work with case studies and problem-solving tasks.

### 4.3. Syllabus

The course will address the following topics:

- 1. Sepsis
- 2. Fever of unknown origin
- 3. Immune-compromised infection
- 4. HIV infection I
- 5. HIV infection II
- 6. CNS infections
- 7. Infections due to mycobacterium

- 8. Clostridium infections
- 9. Infections due to rickettsia and borrelia
- 10. Flu
- 11. Antimicrobial use I
- 12. Antimicrobial use II
- 13. Hospital nosocomial infections
- 14. Plasmodium infection
- 15. Other tropical infections

#### Seminars

- 1. Patient with HIV infection
- 2. Patient with sexually transmitted disease
- 3. Clinical guidance before consultation due to infectious pathology
- 4. Infection of the traveler and the immigrant
- 5. Patient on antibacterial treatment

#### Workshops

Assignment of a clinical case for each work group

#### GERIATRICS

##### Theoretical sessions

- Aging: definition epidemiology, etiology and cell biology. Syndromes of premature aging.
- Typology of elderly. Fragility and dependence.  
Presentation forms of the disease in the elderly.  
Diagnosis and treatment of the elderly. Functional assessment.
- Instability and falls.
- Immobility and its complications. Pressure ulcers.
- Urinary and fecal incontinence. Constipation.
- Geriatric Psychiatry.  
Nutrition in the elderly.  
Iatrogenic and polypharmacy in the elderly.  
Model for Social Care in Aragon. Resources for the elderly.  
Ethical issues: Responsibility of health and non-health workers around seniors. Rights of dependent elderly and the sick. Geriatric care at the end of life.

#### Seminars

Hip fracture  
Agitation  
Memory loss  
Pluripathology  
Enteral feeding  
Hyperosmolar coma

Engineering in helping the elderly.  
Preventing loss of independence in the elderly. Occupational therapy. Functional recovery.  
Retirement, socioeconomic conditions. The Dependence law

#### EMERGENCIES

##### Theoretical sessions

- 1/ Emergencies and intensive care, organization and triage in the ER
- 2/ Monitoring
- 3/ Attitude towards major catastrophes
- 4/ Severity scales in the critical patient
- 5/ Acute coronary syndrome
- 6/ Acute cardiac insufficiency
- 7/ Thromboembolic disease
- 8/ Acute respiratory infection
- 9/ Patient with neurological focality
- 10/ Brain death and organ donation
- 11/ Septic patient in emergencies
- 12/ Acute renal failure

- 13/ Evaluation of the patient with gastrointestinal bleeding
- 14/ Patient with head trauma
- 15/ Attention of polytraumatized patient

#### Seminars

- 1/ Patient with chest pain
- 2/ Patient in shock
- 3/ Syncope in Emergencies
- 4/ Patient with headache
- 5/ Evaluation of the patient in coma
- 6/ Evaluation of the patient with acute abdominal pain
- 7/ Febrile syndrome in emergencies

#### Workshops

- 1/ Basic CPR
- 2/ ECG and arrhythmias I
- 3/ ECG and arrhythmias I
- 4/ Oxygen therapy and ventilatory support.

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

The theoretical classes are taught from Monday to Friday from February 11 to May 30

The period of distribution of the groups of practices includes from February 18 to May 24

The exam dates of the June session are:<https://medicina.unizar.es/horarios>, <https://medicina.unizar.es/tercer-curso#horario5>

The date of the second examination session is September: Infectious, Gerontology and Emergencies

Further information concerning the timetable, classroom, office hours, assessment dates and other details regarding this course will be provided on the first day of class or please refer to the "Facultad de Medicina? website and the Degree website (<http://medicina.unizar.es>, <http://moodle2.unizar.es>).

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

[http://biblos.unizar.es/br/br\\_citas.php?codigo=26772&year=2020](http://biblos.unizar.es/br/br_citas.php?codigo=26772&year=2020)