- **Indicate the most frequent or serious causes of localized and generalized lymphadenopathy**

- **Describe the different morphologic and clinical features of HL.**
- **Describe the onset framework of HL (considering the medical history, physical examination and alterations in blood tests).**
- **Suggest a diagnostic pathway to reach the stage of clinical action.**
- **Illustrate the natural history and indicate the main therapeutic options, including chemotherapy, radiotherapy, targeted agents and immunotherapy.**

Non-Hodgkin Lymphoma 1

- **Describe the epidemiology, risk factors and the classification of non-Hodgkin lymphoma.**
- **Molecular pathophysiology of non-Hodgkin lymphoma.**

Non-Hodgkin Lymphoma 2

- **Describe the clinical features (signs and symptoms, laboratory findings, radiological findings) of non-Hodgkin lymphoma.**
- **Describe the diagnosis and staging of non-Hodgkin lymphoma.**

Non-Hodgkin Lymphoma 3

- **Suggest a diagnostic pathway to reach the stage of clinical action.**
- **Illustrate the natural history and indicate the main therapeutic options, including chemotherapy, radiotherapy, targeted agents and immunotherapy.**

Immunotherapy for Lymphoid Malignancies

- **Illustrate cell-based immunotherapy (CAR-T cells; stem cell transplantation)**
- **Illustrate antibody-based immunotherapy (Bi-specific T-cell engagers)**

RESPIRATORY DISEASES COURSE

OVERVIEW

The lungs and the respiratory system are actually far more complex than many other organs and apparatus. The lungs must play multiple roles, gases exchanges, oxygen supplementation, removing of wastes, toxins, and defense against hostile intruders. Nowadays epidemiological data shows that the respiratory diseases are becoming more and more important in terms of morbidity, invalidity and mortality. Lung diseases are not only a killer but an impressive number of patients are now living worldwide with a chronic pulmonary disease with a terrific impact on hospitalization and general economic impact. Based on these data, the present course tries to focus on the most important aspects of respiratory medicine examining prevalence, risk factors, physiopathological and clinical features of the most important chapters of lung diseases. For more complex diseases or clinical presentations, an integrated approach with other specialists (i.e.: radiologists, pathologists, pharmacologists, ENT…) will be used in order to describe in an accurate way the complexity and the heterogeneity of them.

Learning Objectives – Respiratory Diseases

Chronic Obstructive Pulmonary Disease (COPD).

- **Describe the current definition of the disease**
- **Describe the epidemiology, pathophysiology, diagnosis, symptoms, and prognosis of the disease**
- **Define exacerbation COPD**
- **Define Treatment Strategies according Guidelines**

Asthma

- **Describe the epidemiology, pathophysiology, diagnosis, symptoms, and prognosis of the disease**
- **Describe the asthma allergic pathway**
- **Describe the features of asthma exacerbation**
- **Asthma as an example of Personalized Medicine and Precision Medicine**
- **New Biologic Treatments**
- **Describe the relationship between asthma and rhinitis**

Respiratory Allergies

- **Describe immune Response in Allergy**
- **Describe allergy Onset and Allergy March**
- **Describe allergic Rhinitis & Chronic Rhinosinusitis as Asthma Comorbidities**
- **Describe nasal Polyposis as Asthma Comorbidities**

AIT-Allergen Immunotherapy

- **Definition & Rationale**
- **Allergen Extracts and Routes of administration**
- **Molecular Allergen Diagnosis**
- **AIT Efficacy and current indications**

Pulmonary Function Tests basis & interpretation

- Definition & Rationale of basic tests
- Interpretation of spirometry
- FeNO-Nitric Oxide Exhaled Measure
- DLCO
- Bronchial Hyperresponsiveness

Anaphylaxis & Drug Allergy [illegible]

- Definition & Basic Mechanisms
- Causes and Risks
- Prevention
- Treatment Principles

Interstitial lung diseases

- Clinical overview and general approach (classification)
- Describe Idiopathic Pulmonary Fibrosis (epidemiology, pathophysiology, diagnosis, symptoms, and prognosis)
- Describe Sarcoidosis (epidemiology, pathophysiology, diagnosis, symptoms, and prognosis)
- Describe Pneumoconiosis and hypersensitivity pneumonia (epidemiology, pathophysiology, diagnosis, symptoms, and prognosis)
- Describe peculiar radiological findings in interstitial lung diseases and differential diagnosis
- Describe peculiar pathological findings in interstitial lung diseases
- Pharmacologic approach to interstitial lung diseases

Pneumonia

- Describe Community-Acquired Pneumonia (epidemiology, pathophysiology, diagnosis, symptoms, and prognosis)
- Describe Hospital-Acquired Pneumonia (epidemiology, pathophysiology, diagnosis, symptoms, and prognosis)
- Health Care Acquired Pneumonia
- Pneumonia in ICU patients

OSAS and Sleep disorders

- Describe the changes in Cardiorespiratory System during sleep
- Describe Obstructive Sleep Apnea Syndrome (epidemiology, pathophysiology, diagnosis, symptoms, and prognosis)
- Introduction to Continuous Positive Airway Pressure (CPAP) for OSAS treatment

Primary tumor of the Lung & Pleura

- [illegible]

Cough

- Describe the pathophysiology of cough reflex
- Describe the clinical features of cough
- Main causes and differential diagnosis of cough
- Lower/upper airway disorders inducing cough
- Psychological disorders associated with cough
- Radiological findings in diseases characterized with cough
- Principles of current & Future Treatments

Non pharmacological approach to lung and airway diseases

- Describe the psychological profiles of patients and their attitude the lung and airway diseases
- Treatment adherence to inhaled treatment
- Quality of life in respiratory diseases
- Pulmonary rehabilitation
- Thoracic physiotherapy

Hot Topics in Pulmonary Disease

- COVID-19 interstitial pneumonia
- Prevention strategies for SARS-CoV-2 infection
- SARS-CoV-2 and other respiratory diseases
- Novel treatments for COVID-19

Learning Objectives – Imaging

The topics of the learning objectives will be addressed in specific lectures dedicated to imaging or in multidisciplinary lessons.

Interstitial lung diseases

- To be confident with the anatomy of the secondary pulmonary lobule;
- To describe the typical radiological patterns recognized in interstitial lung diseases using the appropriate terminology.

Emphysema, cystic fibrosis and bronchiectasis

- To become confident with the radiological appearance of emphysema on X-ray and CT;
- To describe the typical radiological appearance of bronchiectasis;
- To illustrate the role of the different imaging modalities in the evaluation of patients with cystic fibrosis.

Pulmonary thrombo-embolism

- To review the diagnostic work-up for patients with suspected pulmonary embolism;
- To learn the basic principles and the clinical use of ventilation/perfusion imaging in thrombo-embolism;
- To illustrate the interventional radiology techniques currently employed to treat pulmonary embolism.

Lung cancer

- To illustrate the use of integrated imaging, like CT and FDG PET, in diagnosis and staging of lung cancer;
- To describe the use of CT and FDG PET in the staging and therapy response assessment of lung cancer should also be known;
- To be familiar with the basic principles of radiation oncology in lung cancer.

The topics listed below will not be covered through lectures and are left to student self-studying. Dedicated readings will be suggested at the end of each lecture.

- Students should be able to analyze a normal chest X-ray and to recognize the main radiologic findings associated to pleuro-pulmonary and mediastinal disorders (in particular consider: broncho-pneumonia, pneumothorax, pleural effusion, acute pulmonary edema and lung cancer).
- Students are required to systematically analyze a CT of the chest and recognize the main anatomical structures.
- Students should be able to illustrate the main imaging modalities and their indications in the evaluation of lung and mediastinal diseases.

Learning Objectives – Pathology

Inflammatory and interstitial lung diseases

- Illustrate the pathological basis of the main inflammatory and interstitial lung diseases with particular emphasis on obstructive pulmonary diseases, chronic diffuse interstitial diseases and pulmonary infection (lobar and bronchopneumonia) and related local, cardiac and systemic complications.
- Illustrate the pathological basis of pulmonary embolism.
- Illustrate the pathological basis of diffuse alveolar damage.

Lung and pleural tumors

- Illustrate the pathogenetic features of pleuro-pulmonary tumor development and the main etiological agents.
- Illustrate how pulmonary tumors arise through a series of morpho-phenotypic and molecular events, and how some of them may be of diagnostic, prognostic or predictive importance.
- Illustrate the main histological and cytopathological approaches to the diagnosis of pleuro-pulmonary tumors.
- Illustrate the main histotypes of pulmonary tumors with regard to epidemiology, gross and microscopical features and behavior with emphasis on the concepts of grading and staging.
- Illustrate which are the main information which have to be reported in a pathological diagnosis of pleuro-pulmonary tumors

Learning Objectives – Pharmacology

Drugs used to treat Asthma and COPD

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SYSTEM II – EXAM

Subjects: Hematology (written exam), Pneumology (written and oral exam), Pathology (written exam), Pharmacology (written exam) and Imaging (written exam)

Written Exam: the written exam is based on a MCQ test divided into 3 blocks of 10 questions for each of the following subjects: Pathology, Pharmacology and Imaging, and 2 blocks of 20 questions for each of the following subjects: Hematology and Pneumology.

To pass the written exam, students must answer at least 60% of all questions, without scoring less than 50% in each specific subject.

Scores of the written exam will be based on the number of questions answered correctly as indicated in the table below:

% of correct answers	**Mark**
>80%	**28/30**
75-80%	**27/30**
70-74%	**25/30**
65-69%	**23/30**
61-64%	**21/30**
60%	**18/30**
<60%	**Fail**

Oral Exam (Pneumology only): all students must take an oral examination. The oral exam is a discussion of one or two key topics in Pneumology related to the Priority Presenting problems Portfolio (PPP Portfolio) as well as the topics explained during the lessons. The student will also be asked to contextualize these topics in a clinical case. The final evaluation of written and oral examinations must be comprised between 21/30 and 28/30

The final score obtained dugr Ḹ " sc Ŀ ed dug heseg eďó uaa D cae