

Radiology diagnosing imaging and radiotherapy techniques

INTEGRATED COURSE: MEDICAL AND CLINICAL SCIENCES II

CFU: 6

SSD: MED/10; MED/11; MED/12

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MODULE: DISEASES OF THE RESPIRATORY SYSTEM

CFU: 2

SSD: med/10

PROFESSOR: COPPOLA Angelo e-mail: angelo.coppola@unicamillus.org

MODULE: DISEASES OF THE CARDIOVASCULAR SYSTEM

CFU: 2

SSD: MED/11

PROFESSOR: VETTA Francesco e-mail: francesco.vetta@unicamillus.org

MODULE: GASTROENTEROLOGY

CFU: 2

SSD: MED/12

PROFESSOR: D'OFFIZI Gianpiero e-mail: gianpiero.doffizi@unicamillus.org

PREREQUISITES

Basic knowledge of the principles of anatomy and pathophysiology of cardiovascular, gastrointestinal and respiratory system

LEARNING OBJECTIVES

The aim of the integrated course is to provide students with all the tools for an adequate knowledge of epidemiology, etiopathogenetic determinants and prognosis, as well as diagnostic and therapeutic algorithms of the main diseases of the respiratory, cardiovascular and digestive system.

LEARNING OUTCOMES

At the end of the course students should have acquired an adequate knowledge of the main clinical, diagnostic and therapeutic aspects of the pathologies treated by the single modules of the integrated course.

Knowledge and understanding

Students will be required to gain full mastery of the diagnostic and therapeutic pathways of organ diseases treated in the individual modules of the course.

Applying knowledge and understanding

Students will have to show sufficient familiarity in identifying, even during exercises held within the courses, the various phases of clinical governance.

Communication skills

Students, during the integrated course, should become fully familiar with the terminology used for the various methods of investigation and therapy.

Making judgements

At the end of the integrated course students must have acquired the clinical methodology to guarantee full autonomy of judgement in the clinical decision-making algorithms proposed by the individual modules.

COURSE SYLLABUS

Respiratory diseases

SSD: MED/10

- 1 Introduction to pathologies of the respiratory system. Special anatomy and physiology of the respiratory system, clinical semeiotics of the main symptoms and signs of respiratory diseases.
- 2 Techniques and basic principles of interpretation of laboratory tests and respiratory pathophysiology, respiratory function tests, arterial blood gas analysis and oximetry; walk test; polygraphic monitoring during sleep.
- 3 Respiratory infectious diseases: community acquired (CAP) and nosocomial (HAP) pneumonia, pneumonia in the immunocompromised host, aspiration pneumonia (ad ingestis), lung abscess.
- 4 Pulmonary tuberculosis. Definition, epidemiology, risk factors, pathophysiology, pathological anatomy, clinical and instrumental diagnosis, natural history, complications and therapy
- 5 Lung Cancer: definition, epidemiology, risk factors, pathophysiology, pathological anatomy, clinical and instrumental diagnosis, natural history, complications and therapy
- 6 Acute and chronic respiratory failure. Definition, epidemiology, risk factors, pathophysiology, pathological anatomy, clinical and instrumental diagnosis, natural history, complications and therapy.
- 7 Pulmonary embolism, pulmonary arterial hypertension and other pathologies of the pulmonary circulation: definition, epidemiology, risk factors, pathophysiology, pathological anatomy, clinical and instrumental diagnosis, natural history, complications and therapy.
- 8 Diffuse infiltrative lung diseases: idiopathic pulmonary fibrosis, sarcoidosis and other pulmonary interstitial diseases.

- 9 Bronchial asthma and respiratory immunoallergic diseases: definition, epidemiology, risk factors, pathophysiology, pathological anatomy, clinical and instrumental diagnosis, natural history, complications and therapy
- 10 Chronic obstructive pulmonary disease (COPD): definition, epidemiology, risk factors, pathophysiology, pathological anatomy, clinical and instrumental diagnosis, natural history, complications and therapy
- 11 Pleural Pathology: pleurisy and pleural effusions; pneumothorax; mesothelioma.
- 12 Bronchiectasis. Definition, epidemiology, risk factors, pathophysiology, pathological anatomy, clinical and instrumental diagnosis, natural history, complications and therapy.
- 13 Obstructive sleep apnea syndrome (OSAS). Definition, epidemiology, risk factors, pathophysiology, pathological anatomy, clinical and instrumental diagnosis, natural history, complications and therapy.

Cardiovascular diseases

SSD: MED/11

1. Recalls of Anatomy and Physiology of the Cardiovascular System
2. Principles of electrocardiography
3. Principles of echocardiography
4. Ischemic Heart Disease :
 - a) Pathophysiology of Myocardial Ischemia
 - b) Chronic Coronary Syndromes,
 - c) Acute Coronary Syndromes
 - d) Instrumental Diagnostics.
5. Heart failure:
 - a) Pathophysiology and classification of heart failure
 - b) Heart failure with preserved systolic function
 - c) Heart failure with reduced systolic function
 - d) The arrhythmic risk in heart failure.
 - e) Non-pharmacological therapy of heart failure
6. Heart Valve Diseases
 - a) Rheumatic Disease, and degenerative heart disease
 - b) Mitral Stenosis,
 - c) Mitral Insufficiency
 - d) Aortic Stenosis
 - e) Aortic Insufficiency
 - f) Tricuspid and Pulmonary Diseases
 - g) Imaging techniques

7. Cardiomyopathies:
 - a) Hypertrophic Cardiomyopathy
 - b) Dilated Cardiomyopathy
 - c) Restrictive Cardiomyopathy
 - d) Right Ventricular Arrhythmogenous Dysplasia

8. Arrhythmias
 - a) Atrial Fibrillation
 - b) Supraventricular paroxysmal tachycardias
 - c) Ventricular tachycardia

9. Instrumental techniques
 - a) Coronary CT scan
 - b) Cardiac MRI
 - c) Nuclear methods
 - d) Cardiac catheterization and angiocardiology

Gastroenterology

SSD: MED/12

1. Review of anatomy, physiology and immunity of gastrointestinal system
2. Critical approach to patients with symptoms and signs
 - a. abdominal pain
 - b. dysphagia and other esophageal symptoms
 - c. dyspepsia
 - d. nausea and vomiting
 - e. diarrhea
 - f. intestinal gas
 - g. fecal incontinence
 - h. constipation
 - i. gastrointestinal bleeding
 - j. jaundice

3. Esophagus
 - a. gastroesophageal reflux and its complications
 - b. esophageal disorders caused by infection

4. Stomach and duodenum
 - a. gastritis and peptic ulcer
 - b. helicobacter pylori
 - c. tumors of the stomach

5. Pancreas
 - a. acute and chronic pancreatitis
 - b. tumors of the pancreas

6. Biliary Tract
 - a. gallstones disease
 - b. sclerosing cholangitis and pyogenic cholangitis
 - c. endoscopic and radiologic treatment of biliary disease (seminar)

7. Liver
 - a. biochemical liver tests
 - b. infections of the liver
 - c. alcoholic liver disease
 - d. non-alcoholic liver disease
 - e. drug-induced liver disease
 - f. cirrhosis and complications
 - g. liver tumors
 - h. liver transplantation
 - i. liver biopsy and diagnosis of fibrosis (seminar)

8. Small and Large Intestine
 - a. gut microbiota
 - b. infectious diarrhea and intestinal protozoa
 - c. celiac disease
 - d. inflammatory bowel diseases
 - e. tumors of large intestine
 - f. gastrointestinal endoscopy procedure (seminar)
9. Psycosocial Factors in gastrointestinal disease

COURSE STRUCTURE

The course, lasting a total of 60 hours, is divided into 3-hour lessons, during which the main topics of the course programme will be dealt with, using methods of interaction with students with the support of multimedia material.

COURSE GRADE DETERMINATION

The final examination will be based on a written and an oral section. The written part will be preparatory to admission to the oral phase and is based on three tests (one for each course teaching), each with 10 multiple-choice questions. In order to be admitted to the oral test, the student will have to pass 60% of the questions asked for each course. Each exact question corresponds to one point, while the wrong question will not result in additional deductions to the total score which, therefore,

may be a maximum of 10/10. If the student does not pass the quizzes of one or two teachings, he or she will not be admitted to the oral phase, but will have the right to keep the result of the written tests passed for the following sessions, in which he or she will have to reappear only for the written tests not passed. The oral test will allow the student to acquire an overall partial score of up to 20 for each teaching, to which the score of the previous written test will be added, to obtain the overall score expressed in thirtieth. The average of the scores given will represent the final grade. In the opinion of the Professors, students who have achieved a score of 30/30, on the basis of the overall evaluation and any further questions, may also be awarded cum laude.

OPTIONAL ACTIVITIES

Any additional seminars and meetings with students in small groups

READING MATERIALS

MED/10

Harrison's Principles of Internal Medicine, 20e J. Larry Jameson, Anthony S. Fauci, Dennis L. Kasper, Stephen L. Hauser, Dan L. Longo, Joseph Loscalzo

MED/12

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For further details, to consult:

Sleisenger & Fordtran's Gastrointestinal and Liver Disease Ed. Saunders

Didactic material from the lessons