



UNIVERSITÀ DI PISA

SYSTEMIC PATHOLOGY IV

LAURA CARROZZI

Anno accademico

2023/24

CdS

MEDICINE AND SURGERY

Codice

030FF

CFU

8

Moduli	Settore/i	Tipo	Ore	Docente/i
CARDIOCHIRURGIA	MED/23	LEZIONI	12.50	ANDREA COLLI
CHIRURGIA TORACICA	MED/21	LEZIONI	12.50	FRANCA MELFI
MALATTIE DELL'APPARATO CARDIOVASCOLARE	MED/11	LEZIONI	37.50	ROSALINDA MADONNA
MALATTIE DELL'APPARATO RESPIRATORIO	MED/10	LEZIONI	37.50	LAURA CARROZZI

Learning outcomes

Knowledge

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The student completing this course will be able to understand the mechanisms responsible for most relevant cardiac and pulmonary conditions, will be able to identify symptoms and signs associated with cardiopulmonary diseases and will know the most appropriate diagnostic tests and investigations.

Assessment criteria of knowledge

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During the oral exam the student must be able to demonstrate his/her knowledge of the course material and be able to discuss the reading matter thoughtfully and with propriety of expression.

Methods:

- Final oral exam

Skills

Teaching methods

Delivery: blended learning

Learning activities:

- attending lectures
- participation in seminar
- Laboratory work

Attendance: Mandatory

Teaching methods:

- Lectures
- Seminar
- laboratory

Assessment criteria of skills

Student competencies will be evaluated by analyzing clinical cases related to the topic during class. The assessment criteria will include classroom participation, comprehension, presentation skills, independent judgment, and argumentative abilities.

Behaviors

The student will develop sensitivity to issues related to the topic, gaining the ability to form personal opinions and engage in reasoned



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discussions based on their deductions.

Assessment criteria of behaviors

Presentation and discussion of case reports will be regarded as endpoints to verify student's behaviors concerning the disease.

Prerequisites

For a better understanding of course topics, it is recommended that students' background will include biochemistry, biology, human anatomy, physiology, pathology, and microbiology.

Syllabus

CARDIOVASCULAR DISEASES (CHANNEL L-Z)

1. Classification of heart and vessel diseases and cardiovascular epidemiology
2. The cardiac cycle and electro-mechanical correlations
3. Cardiac arrest
4. The most common cardiological emergencies: acute pulmonary edema; shock; arrhythmias; syncope; pulmonary embolism; cardiac tamponade; aortic dissection. - Cardiopulmonary resuscitation
5. Rhythm disturbances 1: bradyarrhythmias and tachyarrhythmias
6. Rhythm disturbances 2: Atrial fibrillation
7. Heart failure - pathophysiology and clinic
8. Valvulopathies 1: Rheumatic disease - Mitral valve disease - Pulmonary and tricuspid valve diseases and multiple valvulopathies
9. Valvulopathies 2: Diseases of the aortic valve
10. Arteriosclerosis, atherosclerosis and coronary heart disease
11. Pathophysiology, prevention and therapy notes of atherothrombosis
12. Acute coronary syndromes
13. Chronic ischemic heart disease
14. Systemic arterial hypertension
15. Pulmonary hypertension
16. Mycardiopathies (idiopathic dilated cardiomyopathy, hypertrophic cardiomyopathy, restrictive cardiomyopathies, arrhythmogenic cardiomyopathy, Takotsubo) and myocarditis
17. Endocarditis
18. Diseases of the pericardium and tumors of the heart
19. Congenital heart disease - classification and pathophysiology
20. Diseases of the aorta and peripheral arteriopathies (of the lower limbs, carotid, kidney)
21. Arterial and venous thromboembolism

THORACIC SURGERY (L-Z CHANNEL)

1. PNEUMOTHORAX
2. BULLOUS EMPHYSEMA - AERIAL CYSTS
3. LUNG CANCER: CLASSIFICATION, CLINICAL, DIAGNOSIS AND STAGING
4. PLEURO-PULMONARY SUPPURATIVE DISEASES
5. THYMIC PATHOLOGY
6. MEDIASTINAL TUMOURS
7. THORACIC TRAUMA
8. PLEURAL MESOTHELIOMA
9. SURGICAL SEMEIOTICS OF THE CHEST
- 10.

RESPIRATORY DISEASES (L-Z CHANNEL)

1. Notes on pulmonary anatomy and physiology
2. Notes on pulmonary physiopathology
3. The epidemiology of respiratory diseases
4. Pulmonary clinical evaluation, thoracic physical examination
5. Lung function test
6. Diagnostic tools and imaging



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7. Respiratory failure
8. Chronic Obstructive Pulmonary Disease (COPD)
9. COPD exacerbations
10. Asthma
11. Pneumonia
12. Bronchiectasis
13. Pulmonary Tuberculosis
14. Interstitial lung disease
15. Pleural effusion
16. Pulmonary Embolism
17. Arterial Pulmonary Hypertension
18. Acute Respiratory Distress Syndrome (ARDS)
19. Obstructed sleep apnoea syndrome (OSAS)
20. Smoking and smoking related diseases
21. Discussion and final remarks.

CARDIAC SURGERY (L-Z CHANNEL)

Cardiopulmonary bypass and mechanical support systems

Coronary artery disease: preoperative evaluation and indication for surgical correction

Mechanical complications of myocardial infarction

Degenerative, infectious and functional valvulopathies, surgical valve prostheses

Aneurysm and dissection of the thoracic aorta

Outline of congenital cardiovascular diseases: physiopathological classification and indications for treatment

Heart failure: outline of surgical therapy and transplantation

Cardiac tumors

Bibliography

E.M. Clini e G. Pelaia: "Manuale di Pneumologia" EdiSES, Napoli 2017

ERS Handbook of Respiratory Medicine (P. Palange and G. Rohde), ERS editions; for those interested in an English textbook (e.g. Erasmus students)

Harrison's Principles of Internal Medicine , McGraw -Hill Italia, Milano

Braunwald's Heart Disease: A Textbook of Cardiovascular Medicine

Branzi, Picchio - Cardiologia – Core Curriculum Mc Graw-hill Editore

Trimarco, Perrone Filardi et al Cardiologia per studenti e medici di medicina generale

Ischemic Heart Disease Cardiomyopathies Arrhythmias Infective lung disease Interstitial lung disease Asthma

The Heart, Hurst and Logue Textbook of Cardiology, ESC Principles of Internal Medicine, Harrison

Non-attending students info

There are no specific indications for non-attending students, as attendance to the courses is mandatory.

Assessment methods

Exam methods

The Proficiency Pathology IV exam consists of an oral test, in which the student will be asked about the various modules studied during the course.

In all appeals, enrolled students must be present at the time indicated to answer the appeal, take note of the final list and the exam calendar.

Notes

Studente's Office Hours:

Professors will receive on email appointment.

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