



SUMMER SCHOOLS 2023
MEDICAL SCHOOL,
UNIVERSITY OF CRETE



Scientific coordinator: Katerina Vaporidi, Associate Professor of Intensive Care Medicine
Faculty of Medicine, University of Crete

Coordinating Department / Laboratory: DEPARTMENT OF INTENSIVE CARE,
Medical School University of Crete

The course is for medical students who have completed the 3rd year of their studies and have taken courses on respiratory physiology and pathophysiology. The aim of the course is to provide an in-depth understanding of respiratory physiology and its implications in health, in exercise and extreme environments, disease, and mechanical ventilation. The hands-on sessions will allow students to visualize and comprehend the basic physiology, and familiarize them with the use of cardiopulmonary exercise testing, polysomnography. Finally using a lung simulator the students will learn the basic principles of setting and adjusting a mechanical ventilator to support a critically ill patient with respiratory failure. All courses will be given by experts in adult respiratory and intensive care medicine.

2 ECTS (European Credit Transfer and Accumulation System) Credits will be awarded.

Learning objectives:

1. Mechanics of breathing and its application in the pathophysiology of respiratory failure and mechanical ventilation
2. Pulmonary circulation, ventilation-perfusion relationships and Heart-Lung interactions
3. Exercise physiology and pathophysiology of limited exercise capacity
4. Control of breathing and pathophysiology of Sleep-breathing disorders
5. Basic principles of mechanical ventilation

Who is it for: The course is for undergraduate students after the 3rd year of medical school

Where and When : University of Crete, School of Medicine, and University Hospital of Heraklion, Intensive Care Unit. July 10 – 14, 2023 (Monday to Friday)

Educators:

Katerina Vaporidi: Associate professor in Intensive Care Medicine, trained in adult respiratory medicine and Intensive Care medicine at the University Hospital of Heraklion. Dr Vaporidi did her post-doc at the Anesthesia Center for Critical Care Research, at Massachusetts General Hospital. She has been working at the ICU of the University Hospital since 2010, and runs the CPET lab. Her research focus is on mechanical ventilation and mechanisms of lung injury. She has a special interest in teaching, with particular focus on mechanical ventilation, and participated as instructor in several national and international courses.



Dimitris Georgopoulos: Professor emeritus of the Medical School of the University of Crete, former head of the department of Intensive Care. Prof. Georgopoulos is a world renowned expert in respiratory physiology and mechanical ventilation, having published some of the landmark papers on the control of breathing and patient-ventilator interactions. Prof. Georgopoulos is also an excellent teacher, awarded the first “Pichoridis prize” for excellence in education at the University of Crete.



Evangelia Akoumianaki: Assistant professor in Intensive Care trained in adult respiratory medicine in Sotiria Hospital in Athens, and Intensive Care medicine at the University Hospital of Heraklion. She worked as researcher at the Hôpitaux universitaires de Genève, and as an intensivist at the Klinik für Anästhesiologie und Intensivmedizin, Georg-August-Universität Göttingen. She has been working at the ICU of the University Hospital since 2017. Her research focus is on mechanical ventilation and patient-ventilator interactions, and has participated as instructor in several national and international courses.



Eumorfia Kondili: Professor in Intensive Care Medicine, and head of the department of Intensive Care. Dr. Kondili trained in adult respiratory medicine and Intensive Care medicine at the University Hospital of Heraklion. She has worked as researcher at the Department of Respiratory Medicine King's College Hospital, as Clinical fellow at the National Pulmonary Hypertension Service, Imperial College, London, and as observer fellow at the Department of Pulmonary and Critical Care Medicine, Health Center, Winnipeg, Manitoba, Canada. She has been working at the ICU of the University Hospital since 2005, and runs the sleep lab. Her research is focused on mechanical ventilation and sleep disorders of critically ill patients. She is a member of the e-learning committee of the European Society of Intensive Care Medicine, and editor of ESICM-academy courses on mechanical ventilation.

and ICU physicians from the ICU of the University Hospital of Heraklion

Program

The lectures will be held at the medical school, Graduate Studies Room A1. On Monday morning we will be waiting for you at the entry of the Graduate Studies Office

(see map <https://goo.gl/maps/pchCZLfqohN7aLv57>).

Each day you will attend 3 lectures and one hands-on course, which will be held at the University Hospital (walking distance from the lecture hall).

Monday July 10		
10.00	Mechanics of Breathing	E. Akoumianaki
11.00	Ventilation	K. Vaporidi
12.00	Oxygenation	D. Georgopoulos
13.00	Hands-on: Mechanics of breathing	
Tuesday July 11		
10.00	Pulmonary circulation	E. Akoumianaki
11.00	Ventilation-perfusion matching	K. Vaporidi
12.00	Heart - lung interactions	D. Georgopoulos
13.00	Hands-on: Heart-Lung interactions	
Wednesday July 12		
10.00	Physiology of exercise	K. Vaporidi
11.00	Exercise limitations in lung disease	K. Vaporidi
12.00	High altitude and diving	D. Georgopoulos
13.00	Hands-on: Cardiopulmonary Exercise Testing	
Thursday July 13		
10.00	Control of breathing	D. Georgopoulos
11.00	Responses to hypoxia and hypercapnia	K. Vaporidi
12.00	Physiology of breathing during sleep	E. Kondili
13.00	Hands-on: Sleep lab - Polysomnography	
Friday July 14		
10.00	Respiratory muscles	E. Akoumianaki
11.00	Respiratory failure	K. Vaporidi
12.00	Basic principles of mechanical ventilation	E. Akoumianaki
13.00	Hands-on: Mechanical ventilation	

How to apply

Complete the application form below and email to vaporidi@gmail.com by April 30.

The registration cost is 300 € per student (does not include travel and accommodation). Details about the registration process will be sent by email upon acceptance of your application.



Applied Respiratory Physiology Summer School Application Form

Name	
Date of Birth	
Home Address	
Medical School	
Study Year	

Background

Check all the courses/subjects you have attended/passed, and include in your mail a copy of your transcript.

Course	Attended	Passed
Respiratory Physiology		
Respiratory pathophysiology		
Internal medicine - respiratory system		
Intensive Care		

Statement of purpose: tell us about yourself, and why you would like to attend this summer school - up to 200 words