



**UNIVERSITÀ
DI SIENA
1240**

General Information

Title
Postgraduate Master's Programme (Second-level): ADVANCED ECHOCARDIOGRAPHY IN CLINICAL PRACTICE
Educational Objectives
The Postgraduate Master's Programme in Advanced Echocardiography, taught by international lecturers, focuses on an in-depth study of the main echocardiographic techniques, from their theoretical foundations to their clinical applications. The programme examines in detail transesophageal, stress, three-dimensional and Speckle Tracking echocardiography, with particular emphasis on the diagnosis, prognostic stratification and therapeutic management of conditions such as heart failure, chemotherapy-induced cardiac damage, heart valve diseases, cardiomyopathies and congenital heart diseases. Its aim is to train professionals capable of performing and interpreting advanced echocardiographic examinations in acute and chronic clinical settings, including cardiogenic shock, heart failure and post-transplant patients. The Programme develops skills in independent diagnostic assessment, multidisciplinary interaction and continuous professional development, improving participants' critical appraisal skills and their ability to apply international guidelines on cardiovascular imaging.
Credits (CFU/ECTS)
60
Total Hours
1500
Programme Duration (months)
12
Application/Enrolment Deadline
15 December 2026
Start Date
January 2027
End Date
January 2028
Maximum Percentage of Permitted Absences
20%

Website //
Language of Instruction Italian, English
Department Department of Medical Biotechnology (Dipartimento di Biotecnologie Mediche - DBM)
Teaching Contact Prof. Matteo Cameli - e-mail matteo.cameli@unisi.it Dott.ssa Giulia Elena Mandoli - e-mail giulia.mandoli@unisi.it

Agreements and Partnerships

Agreements or Partnerships No agreements or partnerships
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Admission Requirements

Class	Description	Degree Type
LM-41	Medicine and Surgery (new university system pursuant to d.m. No. 270/2004)	LM
LS46	Medicine and Surgery	LS
-	Medicine and Surgery	V.O.
Degree class abbreviations - L: Bachelor's Degree; LS: Specialist Degree; LM: Master's Degree; V.O.: Pre-reform Degree; DU: University Diploma		
The qualifications listed above refer to the Italian higher education system. Applicants holding an academic qualification obtained abroad may apply provided that it is deemed comparable, solely for admission purposes, in terms of level, nature, content and academic rights, to the Italian qualification required for admission to the Course.		
Direct Clinical Activities Involving Patients No		
Possibility of Carrying Out Practical Activities Using Simulation Mannequins No		
Registration with a Professional Register Yes		

Professional Register Professional Register of Medical Practitioners and Dentists
Professional Licence Yes
Type of Professional Licence Medical Practitioner
Specialisation No
Applicants must also hold the relevant professional licence and be registered with the competent Italian Professional Register.

Application for Admission or Enrolment

Admission/Enrolment Procedure Direct enrolment on a first-come, first-served basis
Minimum Number of Enrolments 5
Maximum Number of Places Available 60

Enrolment Fees

Total Amount (€) 3000
First Instalment (€) 2000
Second Instalment (€) 1000
Second Instalment Deadline Friday, 30 April 2027

Programme Structure

Mode of Delivery

Online teaching (synchronous online classes)

Venue

Cardiovascular Diagnostics Unit, Department of Medical Biotechnology, University of Siena

Subject Area: STANDARD AND ADVANCED TECHNIQUES IN ECHOCARDIOGRAPHY

Total Subject Area Credits: 12

Subject Area Coordinators: Cameli Matteo - Mandoli Giulia Elena

Learning Activity: STRESS ECHOCARDIOGRAPHY

Credits (CFU/ECTS): 2

Italian Scientific-Disciplinary Sector - SSD: MED/11 - CARDIOVASCULAR DISEASES

Learning Activity: SPECKLE TRACKING ECHOCARDIOGRAPHY

Credits (CFU/ECTS): 2

Italian Scientific-Disciplinary Sector - SSD: MED/11 - CARDIOVASCULAR DISEASES

Learning Activity: TRANSESOPHAGEAL ECHOCARDIOGRAPHY

Credits (CFU/ECTS): 2

Italian Scientific-Disciplinary Sector - SSD: MED/11 - CARDIOVASCULAR DISEASES

Learning Activity: TRANSTHORACIC ECHOCARDIOGRAPHY

Credits (CFU/ECTS): 2

Italian Scientific-Disciplinary Sector - SSD: MED/11 - CARDIOVASCULAR DISEASES

Learning Activity: THREE-DIMENSIONAL ECHOCARDIOGRAPHY

Credits (CFU/ECTS): 2

Italian Scientific-Disciplinary Sector - SSD: MED/11 - CARDIOVASCULAR DISEASES

Learning Activity: HANDS ON SESSION ON WORKSTATION

Credits (CFU/ECTS): 2

Italian Scientific-Disciplinary Sector - SSD: MED/11 - CARDIOVASCULAR DISEASES

Subject Area: ECHOCARDIOGRAPHY IN CARDIOMYOPATHIES

Total Subject Area Credits: 8

Subject Area Coordinators: D'Ascenzi Flavio - Focardi Marta

Learning Activity: ADVANCED ECHOCARDIOGRAPHY AND EARLY DIAGNOSIS IN SUBCLINICAL CARDIAC DYSFUNCTION

Credits (CFU/ECTS): 1

Italian Scientific-Disciplinary Sector - SSD: MED/11 - CARDIOVASCULAR DISEASES

Learning Activity: ECHOCARDIOGRAPHY IN ONCOLOGICAL CARDIOTOXICITY

Credits (CFU/ECTS): 1

Italian Scientific-Disciplinary Sector - SSD: MED/11 - CARDIOVASCULAR DISEASES

Learning Activity: ECHOCARDIOGRAPHY IN ATHLETE'S HEART AND CARDIOMYOPATHIES

Credits (CFU/ECTS): 1

Italian Scientific-Disciplinary Sector - SSD: MED/11 - CARDIOVASCULAR DISEASES

Learning Activity: ECHOCARDIOGRAPHY IN CONGENITAL HEART DISEASES

Credits (CFU/ECTS): 2

Italian Scientific-Disciplinary Sector - SSD: MED/11 - CARDIOVASCULAR DISEASES

Learning Activity: ECHOCARDIOGRAPHY IN CARDIAC HYPERTROPHY

Credits (CFU/ECTS): 1

Italian Scientific-Disciplinary Sector - SSD: MED/11 - CARDIOVASCULAR DISEASES

Learning Activity: MULTIMODALITY IMAGING IN CARDIOMYOPATHIES

Credits (CFU/ECTS): 2

Italian Scientific-Disciplinary Sector - SSD: MED/11 - CARDIOVASCULAR DISEASES

Subject Area: ECHOCARDIOGRAPHY IN HEART VALVE DISEASES

Total Subject Area Credits: 8

Subject Area Coordinators: Cameli Matteo - Lisi Matteo

Learning Activity: ECHOCARDIOGRAPHY IN AORTIC VALVE DISEASE

Credits (CFU/ECTS): 2

Italian Scientific-Disciplinary Sector - SSD: MED/11 - CARDIOVASCULAR DISEASES

Learning Activity: ECHOCARDIOGRAPHY IN MITRAL VALVE DISEASE

Credits (CFU/ECTS): 2

Italian Scientific-Disciplinary Sector - SSD: MED/11 - CARDIOVASCULAR DISEASES

Learning Activity: ECHOCARDIOGRAPHY IN COMBINED HEART VALVE DISEASES

Credits (CFU/ECTS): 2

Italian Scientific-Disciplinary Sector - SSD: MED/11 - CARDIOVASCULAR DISEASES

Learning Activity: ECHOCARDIOGRAPHY IN RIGHT HEART VALVE DISEASES

Credits (CFU/ECTS): 1

Italian Scientific-Disciplinary Sector - SSD: MED/11 - CARDIOVASCULAR DISEASES

Learning Activity: TRANSESOPHAGEAL ECHOCARDIOGRAPHY: AN ADDED VALUE IN THE CATH LAB

Credits (CFU/ECTS): 1

Italian Scientific-Disciplinary Sector - SSD: MED/11 - CARDIOVASCULAR DISEASES

Subject Area: ECHOCARDIOGRAPHY IN HEART FAILURE**Total Subject Area Credits: 6****Subject Area Coordinators:** Aboumarie Hatem Abdullah Soliman - Mandoli Giulia Elena*Learning Activity:* ECHOCARDIOGRAPHY IN DIASTOLIC DYSFUNCTION*Credits (CFU/ECTS):* 2*Italian Scientific-Disciplinary Sector - SSD:* MED/11 - CARDIOVASCULAR DISEASES*Learning Activity:* ECHOCARDIOGRAPHY IN HEART TRANSPLANTATION*Credits (CFU/ECTS):* 1*Italian Scientific-Disciplinary Sector - SSD:* MED/11 - CARDIOVASCULAR DISEASES*Learning Activity:* ECHOCARDIOGRAPHY IN ADVANCED HEART FAILURE*Credits (CFU/ECTS):* 2*Italian Scientific-Disciplinary Sector - SSD:* MED/11 - CARDIOVASCULAR DISEASES*Learning Activity:* ECHOCARDIOGRAPHY IN LVAD PATIENTS*Credits (CFU/ECTS):* 1*Italian Scientific-Disciplinary Sector - SSD:* MED/11 - CARDIOVASCULAR DISEASES**Subject Area: ECHOCARDIOGRAPHY IN THE ACUTE SETTING****Total Subject Area Credits: 7****Subject Area Coordinators:** Cameli Matteo*Learning Activity:* ECHOCARDIOGRAPHY IN CARDIAC SHORT-TERM MECHANICAL ASSIST DEVICES*Credits (CFU/ECTS):* 1*Italian Scientific-Disciplinary Sector - SSD:* MED/11 - CARDIOVASCULAR DISEASES*Learning Activity:* ECHOCARDIOGRAPHY IN INTENSIVE CARE UNIT: TIPS AND TRICKS*Credits (CFU/ECTS):* 2*Italian Scientific-Disciplinary Sector - SSD:* MED/11 - CARDIOVASCULAR DISEASES*Learning Activity:* ECHOCARDIOGRAPHY IN ACUTE HEART FAILURE*Credits (CFU/ECTS):* 2*Italian Scientific-Disciplinary Sector - SSD:* MED/11 - CARDIOVASCULAR DISEASES*Learning Activity:* ECHOCARDIOGRAPHY IN THE EMERGENCY SETTING*Credits (CFU/ECTS):* 2*Italian Scientific-Disciplinary Sector - SSD:* MED/11 - CARDIOVASCULAR DISEASES**Internship/Placement**

Internship

Internship/Placement Activities
Attendance at the outpatient clinics of the Cardiovascular Diagnostics Unit and the Clinical and Surgical Cardiology Unit (Coronary Care Unit - UTIC) of the University of Siena (AOUS Le Scotte)
Internship/Placement Venue
Cardiology Unit, Siena University Hospital (AOUS)
Credits Awarded for the Internship/Placement
14
Internship/Placement Hours
350
Internship/Placement Completion Date
December 2027
Internship/Placement Supervisors:
D'Ascenzi Flavio - Lisi Matteo - Mandoli Giulia Elena

Intermediate Assessment Methods
Oral examination
Final Assessment Method
Dissertation or final project; oral examination aimed at assessing the knowledge acquired
Credits Awarded for the Final Assessment
5

Governing Bodies

Teaching Board
Body composed of all Area Coordinators
Executive Board
Yes