



**UNIVERSITÀ
DI SIENA**
1240

General information

Denomination
Master's Degree (II Level): ADVANCED ECHOCARDIOGRAPHY IN CLINICAL PRACTICE
Learning objectives
The Master's Degree in Advanced Echocardiography, with international lecturers, focuses on the in-depth study of the main echocardiographic techniques, from theoretical bases to clinical applications. The program analyzes in detail transesophageal, stress, three-dimensional echocardiography and Speckle Tracking, with a focus on the diagnosis, prognostic stratification and therapeutic management of diseases such as heart failure, chemotherapy damage, valvulopathies, cardiomyopathies and congenital heart disease. The goal is to train professionals capable of performing and interpreting advanced echocardiographic examinations in acute and chronic settings, such as cardiogenic shock, heart failure and post-transplant patients. The Master develops skills in diagnostic autonomy, multidisciplinary interaction and continuous updates, improving the ability to critical evaluation and the application of international guidelines in cardiovascular imaging.
Credits
60
Hours
1500
Duration in months
12
Deadline for applications
15/12/2025
Start date
January 2026
End date
January 2027
Absence percentage

20%
Website
Expected languages Italian, English
Department Department of Medical Biotechnology (DBM)
Teaching Contacts - Prof. Matteo Cameli - e-mail matteo.cameli@unisi.it - Dr. Giulia Elena Mandoli e-mail giulia.mandoli@unisi.it

Support and agreement

Support and agreement No support or convention
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Access qualifications

Class	Description	Type Degree
Class LM-41	Medicine and Surgery (new system pursuant to Ministerial Decree 270/04)	LM
Class LS46	Medicine and surgery	LS
-	Medicine and surgery	V.O.
Legend of degree classes - L: bachelor's degree - LS: specialist degree - LM: master's degree - O.V. degree under the old system - DU: university diploma		
Action on patient No		
Mannequin alternative No		
Register registration Yes		

Professional Register Surgeons and Dentists
Professional qualification Yes
Type of professional qualification Surgeon
Specialization No

Application for admission or enrolment

Admission procedures Exhaustion
Minimum number of participants 5
Maximum number of subscribers 55

Application fees

Total amount in € 3000.00
First instalment amount in € 2000.00
Amount of the second instalment in € 1000.00
Second instalment deadline Thursday 30 April 2026

Training

Teaching methods

Distance learning (online lessons in synchronous mode)

Internal venue

Cardiovascular Diagnostics Unit, Medical Biotechnology Department, UNISI

Area Title: STANDARD AND ADVANCED ECHOCARDIOGRAPHIC METHODS

Total ECTS area: 12

Professors in charge: Cameli Matteo - Mandoli Giulia Elena

Teaching activity: STRESS ECHOCARDIOGRAPHY

University credits: 2

SSD code: MED/11 (DISEASES OF THE CARDIOVASCULAR SYSTEM)

Educational activity: ECHOCARDIOGRAPHY SPECKLE TRACKING

University credits: 2

SSD code: MED/11 (DISEASES OF THE CARDIOVASCULAR SYSTEM)

Educational activity: TRANSESOPHAGEAL ECHOCARDIOGRAPHY

University credits: 2

SSD code: MED/11 (DISEASES OF THE CARDIOVASCULAR SYSTEM)

Educational activity: TRANSTHORACIC ECHOCARDIOGRAPHY

University credits: 2

SSD code: MED/11 (DISEASES OF THE CARDIOVASCULAR SYSTEM)

Educational activity: THREE-DIMENSIONAL ECHOCARDIOGRAPHY

University credits: 2

SSD code: MED/11 (DISEASES OF THE CARDIOVASCULAR SYSTEM)

Didactic activity: HANDS ON SESSION ON WORKSTATION

University credits: 2

SSD code: MED/11 (DISEASES OF THE CARDIOVASCULAR SYSTEM)

Title Area: ECHOCARDIOGRAPHY IN CARDIOMYOPATHIES

Total credits area: 8

Professors in charge: D'Ascenzi Flavio - Focardi Marta

Educational activity: ADVANCED ECHOCARDIOGRAPHY AND EARLY DIAGNOSIS OF SUBCLINICAL CARDIAC DYSFUNCTION

University credits: 1

SSD code: MED/11 (DISEASES OF THE CARDIOVASCULAR SYSTEM)

Educational activity: ECHOCARDIOGRAPHY AND CARDIAC DAMAGE FROM CHEMOTHERAPY

University credits: 1

SSD code: MED/11 (DISEASES OF THE CARDIOVASCULAR SYSTEM)

Educational activity: ECHOCARDIOGRAPHY IN THE ATHLETE'S HEART AND DIFFERENTIAL DIAGNOSIS WITH CARDIOMYOPATHIES

University credits: 1

SSD code: MED/11 (DISEASES OF THE CARDIOVASCULAR SYSTEM)

Educational activity: ECHOCARDIOGRAPHY IN CONGENITAL HEART DISEASE

University credits: 2

SSD code: MED/11 (DISEASES OF THE CARDIOVASCULAR SYSTEM)

Educational activity: ECHOCARDIOGRAPHY IN CARDIAC HYPERTROPHY

University credits: 1

SSD code: MED/11 (DISEASES OF THE CARDIOVASCULAR SYSTEM)

Educational activity: MULTIMODAL IMAGING IN CARDIOMYOPATHIES

University credits: 2

SSD code: MED/11 (DISEASES OF THE CARDIOVASCULAR SYSTEM)

Area Title: ECHOCARDIOGRAPHY IN VALVULOPATHIES

Total credits area: 8

Professors in charge: Cameli Matteo - Lisi Matteo

Educational activity: ECHOCARDIOGRAPHY IN AORTIC VALVULOPATHY

University credits: 2

SSD code: MED/11 (DISEASES OF THE CARDIOVASCULAR SYSTEM)

Teaching activity: ECHOCARDIOGRAPHY IN MITRAL VALVE DISEASE

University credits: 2

SSD code: MED/11 (DISEASES OF THE CARDIOVASCULAR SYSTEM)

Didactic activity: ECHOCARDIOGRAPHY IN COMBINED VALVULOPATHIES

University credits: 2

SSD code: MED/11 (DISEASES OF THE CARDIOVASCULAR SYSTEM)

Didactic activity: ECHOCARDIOGRAPHY IN VALVULOPATHIES OF THE RIGHT HEART

University credits: 1

SSD code: MED/11 (DISEASES OF THE CARDIOVASCULAR SYSTEM)

Didactic training activity: TRANSESOPHAGEAL ECHOCARDIOGRAPHY AS AN ADJUNCT TOOL IN INSTRUMENTAL INTERVENTIONAL

STUDIES University credits: 1

SSD code: MED/11 (DISEASES OF THE CARDIOVASCULAR SYSTEM)

Area Title: ECHOCARDIOGRAPHY IN HEART FAILURE

Total ECTS Area: 6

Professors in charge: Aboumarie Hatem Abdullah Soliman - Mandoli Giulia Elena

Teaching activity: ECHOCARDIOGRAPHY AND EVALUATION OF DIASTOLIC DYSFUNCTION

University credits: 2

SSD code: MED/11 (DISEASES OF THE CARDIOVASCULAR SYSTEM)

<i>Didactic training activity:</i> ECHOCARDIOGRAPHY IN THE CARDIAC TRANSPLANT PATIENT <i>University credits:</i> 1 <i>SSD code:</i> MED/11 (DISEASES OF THE CARDIOVASCULAR SYSTEM)
<i>Didactic training activity:</i> ECHOCARDIOGRAPHY IN PATIENTS WITH ADVANCED HEART FAILURE <i>University credits:</i> 2 <i>SSD code:</i> MED/11 (DISEASES OF THE CARDIOVASCULAR SYSTEM)
<i>Didactic training activity:</i> ECHOCARDIOGRAPHY IN THE PRE- AND POST-LVAD PATIENT <i>University credits:</i> 1 <i>SSD code:</i> MED/11 (DISEASES OF THE CARDIOVASCULAR SYSTEM)
Title Area: ECHOCARDIOGRAPHY IN THE MANAGEMENT OF THE PATIENT IN ACUTE AREA Total credits: 7 Professors in charge: Cameli Matteo
<i>Didactic activity:</i> ECHOCARDIOGRAPHY IN SHORT-TERM VENTRICULAR ASSIST DEVICES <i>University credits:</i> 1 <i>SSD code:</i> MED/11 (DISEASES OF THE CARDIOVASCULAR SYSTEM)
<i>Didactic activity:</i> ECHOCARDIOGRAPHY IN CARDIOLOGY INTENSIVE CARE: TIPS AND TRICKS <i>University credits:</i> 2 <i>SSD code:</i> MED/11 (DISEASES OF THE CARDIOVASCULAR SYSTEM)
<i>Didactic training activity:</i> ECHOCARDIOGRAPHY IN PATIENTS WITH ACUTE HEART FAILURE <i>University credits:</i> 2 <i>SSD code:</i> MED/11 (DISEASES OF THE CARDIOVASCULAR SYSTEM)
<i>Teaching activity:</i> ECHOCARDIOGRAPHY IN THE EMERGENCY-URGENCY SETTING <i>University credits:</i> 2 <i>SSD code:</i> MED/11 (DISEASES OF THE CARDIOVASCULAR SYSTEM)
Choice of internship/traineeship TRAINING
Internship/traineeship procedures Attendance at the outpatient clinics of the Cardiovascular Diagnostics Unit and the Clinical-Surgical Cardiology Unit (ICU) of the University of Siena (AOUS Le Scotte)
Carrying out structures Cardiology Unit, AOUS
Credits awarded internship/traineeship 14

Internship/Internship Hours
350
Internship/traineeship end date
December 2026
Teachers in charge of internships/internships:
Cameli Matteo - Mandoli Giulia Elena

Intermediate verification tests (Modalities)
Colloquy
Assessment methods
Thesis or final paper, Interview aimed at verifying the knowledge acquired
Credits awarded to the final exam
5

Collegial bodies

Teaching Board
Body composed of all area managers
Board of Directors
Yes