

DIAGNOSTIC MEDICAL SONOGRAPHY: CP

Certificate of Proficiency | 43 credit hours minimum

Area of Interest: Health Professions

Program Website (<https://stlcc.edu/programs-academics/pathways/health-professions/diagnostic-medical-sonography/>)

Academic Advising (<https://stlcc.edu/admissions/advising/>)

Program Description:

Diagnostic Medical Sonography, Certificate of Proficiency provides a specialty in ultrasound technology for graduates of an associate degree or two-year hospital-based program in another health science area. Students attend full time and complete classroom work and clinical education in an affiliated ultrasound department. Students acquire skills in record keeping, reviewing, and recording pertinent clinical patient history; performing the sonographic examination; providing for the comforts and needs of the patient during the examination; and recording the anatomic, pathologic, and physiologic data for interpretation by the supervising physician.

Thoroughness, accuracy, and empathy are traits needed by persons interested in this program. They also should be versatile and able to follow precise and detailed directions.

Graduates are eligible to take the certifying examination of the American Registry of Diagnostic Medical Sonographers in the specialty areas of abdomen and obstetrics-gynecology in the medical track and adult echocardiography in the cardiac track. Graduates are eligible to take the certifying examination of Cardiovascular Credentialing International in the specialty area of vascular sonography in the vascular track. Positions are available in hospital ultrasound departments, clinics, mobile services, and private physicians' offices.

Pre-admissions Entrance Requirements:

- Completion of all program prerequisites prior to submitting an application. Must earn a "C" or higher:
 - BIO 111 Introductory Biology I or BIO 140 Principles of Biology I or CHM 101 Fundamentals of Chemistry I
 - BIO 207 Anatomy and Physiology I
 - BIO 208 Anatomy and Physiology II
 - PHY 111 College Physics I or PSI 101 Physical Science
 - MTH 160 Precalculus Algebra or MTH 180 Introductory Statistics
 - HIM 101 Medical Terminology and Language
 - ENG 101 College Composition
 - COM 101 Oral Communications or COM 107 Public Speaking
 - Cumulative GPA: 3.0
- Associate degree or higher

- Cumulative GPA for Mathematics and Sciences: 3.0 (Physics or Physical Science, Anatomy and Physiology I and II, Precalculus Algebra or Introductory Statistics)
- Only one repeat of a course prerequisite is allowed over a five-year period
- Complete 4 hours of job shadowing
- Complete 40 hours in a patient care setting (can be voluntary service within a hospital or nursing home)
- Mathematics and science prerequisite courses must have been completed within five years of entering the program

Locations. This program is offered in its entirety at Forest Park.

Licensure. This program meets the educational requirements for state licensure in the following states: Missouri and Illinois. Students interested in pursuing licensure in a different state should contact the program coordinator for more information.

Cost of Attendance. For more information on cost of attendance visit **MoSCORES** (<https://scorecard.mo.gov/Search/>).

Program Career and Salary Information. Pursuant to Missouri HB 1606 (2018), information regarding the number of credit hours, program length, employment rate, wage data, and graduates employed in careers related to their program of study at St. Louis Community College can be found at the following URL: [https://scorecard.mo.gov/scorecard/ \(https://www.google.com/url?q=https://scorecard.mo.gov/scorecard/&sa=D&ust=1555536894857000&usg=AFQjCNG1xf3E_j2lO96zEytILO-s5xaJCQ\)](https://scorecard.mo.gov/scorecard/(https://www.google.com/url?q=https://scorecard.mo.gov/scorecard/&sa=D&ust=1555536894857000&usg=AFQjCNG1xf3E_j2lO96zEytILO-s5xaJCQ)). Search using School / Program "St. Louis Community College" and choose the degree or credential type of interest.

The following limitations to the data apply: Information provided is based on the most recent cohorts available. Typically, most recent cohorts for wage and completion data are six years prior to the current academic year. Time to complete a program of study varies depending on the number of credit hours students earn per semester.

Interested in this program? Start the enrollment process by visiting the **Apply to STLCC** (<https://www.stlcc.edu/admissions/apply-to-stlcc/>) page.

At the completion of the program, students are expected to:

1. discuss concepts, anatomical structures, evaluation methods, and pattern recognition of cardiac, vascular, and abdominal specialties. (All Tracks)
2. discuss principles in ultrasound, ultrasound physics, and instrumentation. (All Tracks)
3. perform sonographic examinations of the abdomen, superficial structures, noncardiac chest, and the gravid and nongravid pelvis according to protocol guidelines established by national professional organizations. (Medical Track)
4. identify the sonographic appearance of normal anatomic structures, including anatomic variants and normal Doppler patterns with vascular introduction. (Medical Track)
5. document the abnormal sonographic and Doppler patterns of disease processes, pathology, and pathophysiology of the abdomen, superficial structures, non-cardiac chest, and gravid and nongravid pelvis. (Medical Track)

6. identify sectional anatomy, hemodynamics, pathophysiologic principles, and pattern recognition as it relates to vascular sonography. (Vascular Track)
7. identify the sonographic appearance of normal vascular anatomy, including anatomical variants, and normal Doppler patterns. (Vascular Track)
8. document the abnormal sonographic and Doppler patterns of vascular disease processes, pathology, and pathophysiology. (Vascular Track)
9. perform sonographic examinations of the vascular system including anatomical variants, hemodynamics, Doppler patterns, and pathology recognition. (Vascular Track)
10. perform echocardiography studies. (Cardiac Track)
11. identify sonographic appearance of normal cardiac anatomy, including anatomical variants, and normal Doppler patterns. (Cardiac Track)
12. evaluate normal and cardiovascular physiology and hemodynamics upon examination. (Cardiac Track)
13. evaluate mechanism of disease, cardiovascular pathophysiology and hemodynamics, sonographic technique, measurements, quantitative principles, and Doppler patterns in both the normal and diseased heart. (Cardiac Track)
14. compare the indicators, utility, limitations, and technical procedures for related echocardiographic studies. (Cardiac Track)

Program of Study

Code	Title	Credit Hours
Program Requirements		
DMS 103	Ultrasound Physics and Instrumentation I	2
DMS 104	Ultrasound Physics and Instrumentation II	2
DMS 127	Introduction to Sonography	3
DMS 201	Ultrasound Physics and Instrumentation III	2
Tracks		
Select one of the following tracks:		34
Cardiac Sonography		
Medical Sonography		
Vascular Technology		
Total Credit Hours		43

Tracks

Cardiac Sonography

Code	Title	Credit Hours
DMS 112	Cardiac Sonography I	3
DMS 113	Cardiac Sonography Scanning Techniques I	2
DMS 115	Cardiac Sonography II	3
DMS 114	Cardiac Sonography Practicum I	1
DMS 131	Fundamentals of Cardiac Sonography Scanning and Knobology	1
DMS 116	Cardiac Sonography Scanning Techniques II	1
DMS 117	Cardiac Sonography Clinical Applications	3
DMS 118	Cardiac Sonography Practicum II	3
DMS 207	Cardiac Sonography III	2
DMS 208	Cardiac Sonography Practicum III	4
DMS 209	Cardiac Sonography IV	4

DMS 126	Introduction to Vascular Sonography	3
DMS 128	Introduction to Vascular Sonography Scanning Techniques	1
DMS 211	Cardiac Sonography Practicum IV	3
Total Credit Hours		34

Medical Sonography

Code	Title	Credit Hours
DMS 105	Medical Sonography I	3
DMS 106	Medical Sonography Scanning Techniques I	2
DMS 108	Medical Sonography II	3
DMS 107	Medical Sonography Practicum I	1
DMS 129	Fundamentals of Medical Sonography Scanning and Knobology	1
DMS 109	Medical Sonography Scanning Techniques II	1
DMS 110	Medical Sonography Clinical Applications	3
DMS 111	Medical Sonography Practicum II	3
DMS 202	Medical Sonography III	2
DMS 203	Medical Sonography Practicum III	4
DMS 204	Medical Sonography IV	4
DMS 126	Introduction to Vascular Sonography	3
DMS 128	Introduction to Vascular Sonography Scanning Techniques	1
DMS 206	Medical Sonography Practicum IV	3
Total Credit Hours		34

Vascular Technology

Code	Title	Credit Hours
DMS 119	Vascular Technology I	3
DMS 120	Vascular Technology Scanning Techniques I	2
DMS 122	Vascular Technology II	3
DMS 121	Vascular Technology Practicum I	1
DMS 133	Fundamentals of Vascular Sonography Scanning and Knobology	1
DMS 123	Vascular Technology Scanning Techniques II	2
DMS 125	Vascular Technology Practicum II	3
DMS 130	Introduction to Medical and Cardiac Sonography	3
DMS 212	Vascular Technology III	2
DMS 213	Vascular Technology Practicum III	4
DMS 214	Vascular Technology IV	4
DMS 215	Vascular Technology Clinical Applications	3
DMS 216	Vascular Technology Practicum IV	3
Total Credit Hours		34

Cardiac Sonography Track Full-Time Academic Plan

PLEASE NOTE: If you originally enrolled at STLCC prior to Fall 2024, you may need to view an **archived catalog** (<http://catalog.stlcc.edu/archived-catalogs/>) for your correct program requirements. Please speak with an advisor or the program coordinator for more information.

Pre-admissions Entrance Requirements

Code	Title	Credit Hours
BIO 111 or BIO 140 or CHM 101	Introductory Biology I (MOTR BIOL 100L) Principles of Biology I (MOTR BIOL 150L) Fundamentals of Chemistry I (MOTR CHEM 100L)	4-5
BIO 207	Anatomy and Physiology I (MOTR LIFS 150LAP)	4
BIO 208	Anatomy and Physiology II	4
MTH 160 or MTH 160S or MTH 180	Precalculus Algebra (MOTR MATH 130) Precalculus Algebra with Support (MOTR MATH 130) Introductory Statistics (MOTR MATH 110)	3

or MTH 180S	Introductory Statistics with Support (MOTR MATH 110)	
PHY 111 or PSI 101	College Physics I (MOTR PHYS 150L) Physical Science (MOTR PHYS 110)	3-4
HIM 101	Medical Terminology and Language	3
ENG 101	College Composition I (MOTR ENGL 100)	3
COM 101 or COM 107	Oral Communication I (MOTR COMM 100) Public Speaking (MOTR COMM 110)	3

Cumulative GPA for Mathematics and Sciences: 3.0

Total Credit Hours **27-29**

Diagnostic Medical Sonography: Cardiac Sonography Track

Code	Title	Hours	Prerequisites	Milestones/Notes
First Year				
Fall				
DMS 127	Introduction to Sonography	3	Entry into the Diagnostic Medical Sonography program and Reading Proficiency	See program prerequisite list.
DMS 103	Ultrasound Physics and Instrumentation I	2	Current enrollment in the Diagnostic Medical Sonography program or permission of the program director and Reading Proficiency	
DMS 112	Cardiac Sonography I	3	Current enrollment in the Cardiac learning concentration, Diagnostic Medical Sonography program or permission of the program director and Reading Proficiency	
DMS 113	Cardiac Sonography Scanning Techniques I	2	Entry into the Diagnostic Medical Sonography program and Reading Proficiency	
DMS 114	Cardiac Sonography Practicum I	1	Entry into the Diagnostic Medical Sonography program and Reading Proficiency	
DMS 131	Fundamentals of Cardiac Sonography Scanning and Knobology	1	Entry into the Diagnostic Medical Sonography program and Reading Proficiency	
	Credit Hours	12		
Spring				
DMS 104	Ultrasound Physics and Instrumentation II	2	DMS 103 with a minimum grade of "C" or permission of the program director and Reading Proficiency	
DMS 115	Cardiac Sonography II	3	DMS 112 with a minimum grade of "C" or permission of the program director and Reading Proficiency	
DMS 116	Cardiac Sonography Scanning Techniques II	1	DMS 113 with a minimum grade of "C" or permission of the program director and Reading Proficiency	
DMS 117	Cardiac Sonography Clinical Applications	3	DMS 112 with a minimum grade of "C" or permission of the program director and Reading Proficiency	

DMS 118	Cardiac Sonography Practicum II	3	DMS 114 with a minimum grade of "C" or permission of the program director and Reading Proficiency	
	Credit Hours	12		
Summer				
DMS 207	Cardiac Sonography III	2	DMS 115 with a minimum grade of "C" or permission of the program director and Reading Proficiency	
DMS 208	Cardiac Sonography Practicum III	4	DMS 118 with a minimum grade of "C" or permission of the program director and Reading Proficiency	
	Credit Hours	6		
Second Year				
Fall				
DMS 201	Ultrasound Physics and Instrumentation III	2	DMS 104 with a minimum grade of "C" or permission of the program director and Reading Proficiency	Apply for graduation.
DMS 209	Cardiac Sonography IV	4	DMS 207 with a minimum grade of "C" or permission of the program director and Reading Proficiency	
DMS 126	Introduction to Vascular Sonography	3	Current enrollment in the Cardiac learning concentration, Diagnostic Medical Sonography program or permission of the program director, and Reading Proficiency	
DMS 128	Introduction to Vascular Sonography Scanning Techniques	1	Current enrollment in the Cardiac learning concentration, Diagnostic Medical Sonography program or permission of the program director and Reading Proficiency	
DMS 211	Cardiac Sonography Practicum IV	3	DMS 208 with a minimum grade of "C" or permission of the program director and Reading Proficiency	
	Credit Hours	13		
	Total Credit Hours	43		

*Click on the hyperlinked course number to view additional information about the course.

**Students completing a course that has been assigned a MOTR number may transfer that course to any public institution in Missouri. Those who complete CORE 42 requirements will have that verification on their transcript.

*** It is your responsibility to verify that the courses listed above will transfer to the four-year institution of your choice. Maximize your transfer credits/classes by meeting with an academic advisor.

Medical Sonography Track Full-Time Academic Plan

PLEASE NOTE: If you originally enrolled at STLCC prior to Fall 2024, you may need to view an **archived catalog** (<http://catalog.stlcc.edu/archived-catalogs/>) for your correct program requirements. Please speak with an advisor or the program coordinator for more information.

Pre-admissions Entrance Requirements:

Code	Title	Credit Hours
Required Courses		
BIO 111	Introductory Biology I (MOTR BIOL 100L)	4-5
or BIO 140	Principles of Biology I (MOTR BIOL 150L)	
or CHM 101	Fundamentals of Chemistry I (MOTR CHEM 100L)	
BIO 207	Anatomy and Physiology I (MOTR LIFS 150LAP)	4
BIO 208	Anatomy and Physiology II	4

MTH 160	Precalculus Algebra (MOTR MATH 130)	3	COM 101	Oral Communication I (MOTR COMM 100)	3
or MTH 160S	Precalculus Algebra with Support (MOTR MATH 130)		or COM 107	Public Speaking (MOTR COMM 110)	
or MTH 180	Introductory Statistics (MOTR MATH 110)				
or MTH 180S	Introductory Statistics with Support (MOTR MATH 110)				
PHY 111	College Physics I (MOTR PHYS 150L)	3-4	Cumulative GPA for Mathematics and Sciences: 3.0		
or PSI 101	Physical Science (MOTR PHYS 110)		Total Credit Hours		
HIM 101	Medical Terminology and Language	3	27-29		
ENG 101	College Composition I (MOTR ENGL 100)	3			

Diagnostic Medical Sonography: Medical Sonography Track

Code	Title	Hours	Prerequisites	Milestones/Notes
First Year				
Fall				
DMS 127	Introduction to Sonography	3	Entry into the Diagnostic Medical Sonography program and Reading Proficiency	See program prerequisite list.
DMS 103	Ultrasound Physics and Instrumentation I	2	Current enrollment in the Diagnostic Medical Sonography program or permission of the program director and Reading Proficiency	
DMS 105	Medical Sonography I	3	Current enrollment in the Medical Sonography learning concentration, Diagnostic Medical Sonography program or permission of the program director and Reading Proficiency	
DMS 106	Medical Sonography Scanning Techniques I	2	Entry into the Diagnostic Medical Sonography program and Reading Proficiency	
DMS 107	Medical Sonography Practicum I	1	Entry into the Diagnostic Medical Sonography program and Reading Proficiency	
DMS 129	Fundamentals of Medical Sonography Scanning and Knobology	1	Entry into the Diagnostic Medical Sonography program and Reading Proficiency	
	Credit Hours	12		
Spring				
DMS 104	Ultrasound Physics and Instrumentation II	2	DMS 103 with a minimum grade of "C" or permission of the program director and Reading Proficiency	
DMS 108	Medical Sonography II	3	DMS 105 with a minimum grade of "C" or permission of the program director and Reading Proficiency	
DMS 109	Medical Sonography Scanning Techniques II	1	DMS 106 with a minimum grade of "C" or permission of the program director and Reading Proficiency	
DMS 110	Medical Sonography Clinical Applications	3	DMS 105 with a minimum grade of "C" or permission of the program director and Reading Proficiency	
DMS 111	Medical Sonography Practicum II	3	DMS 107 with a minimum grade of "C" or permission of the program director and Reading Proficiency	
	Credit Hours	12		

Summer				
DMS 202	Medical Sonography III	2	DMS 108 with a minimum grade of "C" or permission of the program director and Reading Proficiency	
DMS 203	Medical Sonography Practicum III	4	DMS 111 with a minimum grade of "C" or permission of the program director and Reading Proficiency	
	Credit Hours	6		
Second Year				
Fall				
DMS 201	Ultrasound Physics and Instrumentation III	2	DMS 104 with a minimum grade of "C" or permission of the program director and Reading Proficiency	Apply for graduation.
DMS 204	Medical Sonography IV	4	DMS 202 with a minimum grade of "C" or permission of the program director and Reading Proficiency	
DMS 126	Introduction to Vascular Sonography	3	Current enrollment in the Cardiac learning concentration, Diagnostic Medical Sonography program or permission of the program director, and Reading Proficiency	
DMS 128	Introduction to Vascular Sonography Scanning Techniques	1	Current enrollment in the Cardiac learning concentration, Diagnostic Medical Sonography program or permission of the program director and Reading Proficiency	
DMS 206	Medical Sonography Practicum IV	3	DMS 203 with a minimum grade of "C" or permission of the program director and Reading Proficiency	
	Credit Hours	13		
	Total Credit Hours	43		

*Click on the hyperlinked course number to view additional information about the course.

**Students completing a course that has been assigned a MOTR number may transfer that course to any public institution in Missouri. Those who complete CORE 42 requirements will have that verification on their transcript.

*** It is your responsibility to verify that the courses listed above will transfer to the four-year institution of your choice. Maximize your transfer credits/classes by meeting with an academic advisor.

Vascular Technology Track Full-Time Academic Plan

PLEASE NOTE: If you originally enrolled at STLCC prior to Fall 2024, you may need to view an **archived catalog** (<http://catalog.stlcc.edu/archived-catalogs/>) for your correct program requirements. Please speak with an advisor or the program coordinator for more information.

Pre-admissions Entrance Requirements:

Code	Title	Credit Hours
Required Courses		
BIO 111	Introductory Biology I (MOTR BIOL 100L)	4-5
or BIO 140	Principles of Biology I (MOTR BIOL 150L)	

or CHM 101	Fundamentals of Chemistry I (MOTR CHEM 100L)	
BIO 207	Anatomy and Physiology I (MOTR LIFS 150LAP)	4
BIO 208	Anatomy and Physiology II	4
MTH 160	Precalculus Algebra (MOTR MATH 130)	3
or MTH 160S	Precalculus Algebra with Support (MOTR MATH 130)	
or MTH 180	Introductory Statistics (MOTR MATH 110)	
or MTH 180S	Introductory Statistics with Support (MOTR MATH 110)	
PHY 111	College Physics I (MOTR PHYS 150L)	3-4
or PSI 101	Physical Science (MOTR PHYS 110)	
HIM 101	Medical Terminology and Language	3
ENG 101	College Composition I (MOTR ENGL 100)	3
COM 101	Oral Communication I (MOTR COMM 100)	3
or COM 107	Public Speaking (MOTR COMM 110)	

Cumulative GPA for Mathematics and Sciences: 3.0

Total Credit Hours

27-29

Diagnostic Medical Sonography: Vascular Technology Track

Code	Title	Hours	Prerequisites	Milestones/Notes
First Year				
Fall				
DMS 127	Introduction to Sonography	3	Entry into the Diagnostic Medical Sonography program and Reading Proficiency	See program prerequisite list.
DMS 103	Ultrasound Physics and Instrumentation I	2	Current enrollment in the Diagnostic Medical Sonography program or permission of the program director and Reading Proficiency	
DMS 119	Vascular Technology I	3	Entry into the Diagnostic Medical Sonography program and Reading Proficiency	
DMS 120	Vascular Technology Scanning Techniques I	2	Entry into the Diagnostic Medical Sonography program and Reading Proficiency	
DMS 121	Vascular Technology Practicum I	1	Entry into the Diagnostic Medical Sonography program and Reading Proficiency	
DMS 133	Fundamentals of Vascular Sonography Scanning and Knobology	1	Entry into the Diagnostic Medical Sonography program and Reading Proficiency	
	Credit Hours	12		
Spring				
DMS 104	Ultrasound Physics and Instrumentation II	2	DMS 103 with a minimum grade of "C" or permission of the program director and Reading Proficiency	
DMS 122	Vascular Technology II	3	DMS 119 with a minimum grade of "C" and Reading Proficiency	
DMS 123	Vascular Technology Scanning Techniques II	2	DMS 120 with a minimum grade of "C" and Reading Proficiency	
DMS 130	Introduction to Medical and Cardiac Sonography	3	DMS 127 with a minimum grade of "C" and Reading Proficiency	
DMS 125	Vascular Technology Practicum II	3	DMS 121 with a minimum grade of "C" and Reading Proficiency	
	Credit Hours	13		
Summer				
DMS 212	Vascular Technology III	2	DMS 122 with a minimum grade of "C" and Reading Proficiency	
DMS 213	Vascular Technology Practicum III	4	DMS 125 with a minimum grade of "C" and Reading Proficiency	
	Credit Hours	6		
Second Year				
Fall				
DMS 201	Ultrasound Physics and Instrumentation III	2	DMS 104 with a minimum grade of "C" or permission of the program director and Reading Proficiency	Apply for graduation.

DMS 214	Vascular Technology IV	4	DMS 212 with a minimum grade of "C" and Reading Proficiency	
DMS 215	Vascular Technology Clinical Applications	3	DMS 212 with a minimum grade of "C" and Reading Proficiency	
DMS 216	Vascular Technology Practicum IV	3	DMS 213 with a minimum grade of "C" and Reading Proficiency	
	Credit Hours	12		
	Total Credit Hours	43		

*Click on the hyperlinked course number to view additional information about the course.

**Students completing a course that has been assigned a MOTR number may transfer that course to any public institution in Missouri. Those who complete CORE 42 requirements will have that verification on their transcript.

*** It is your responsibility to verify that the courses listed above will transfer to the four-year institution of your choice. Maximize your transfer credits/classes by meeting with an academic advisor.