

DIAGNOSTIC MEDICAL SONOGRAPHY (M)

Diagnostic Medical Sonography (DMS) is a multi-specialty profession which utilizes high frequency sound waves to image the human body. Sonographers use their knowledge of anatomy, physiology and applied critical thinking to assess function and the presence of disease processes. Sonographers work under the guidance of an interpreting physician in a variety of health care settings. Concordia University Wisconsin (CUW) offers a Bachelor's Degree in Diagnostic Medical Sonography. The degree includes four or more semesters of pre-professional course work to prepare and qualify the student to apply for the two-year professional DMS didactic and clinical training. Qualified candidates must apply to the DMS program. The following learning tracks/concentrations are available to CUW students: 1) General/Vascular Sonography and 2) Cardiac/Vascular Sonography. Students that choose to apply to the General/Vascular concentration are first considered by the CUW DMS program. Qualified candidates not selected by the CUW DMS program are then forwarded to our accredited partner program for consideration. Students that choose the Cardiac/Vascular concentration will apply through our accredited partner program.

All DMS students who successfully meet DMS program requirements will graduate with a Bachelor of Science degree from CUW and are qualified to apply for national certification exams. Within the DMS program, students obtain the necessary preparation for their career through academic coursework and professional experience in a hospital and clinic settings.

Accreditation

The professional and clinical programs affiliated with CUW are accredited, upon recommendation of the Joint Review Committee on education in Diagnostic Medical Sonography (JRC DMS), by the Commission on Accreditation of Allied Health Education Programs (CAAHEP (<https://www.caahep.org/>)).

Admission Requirement

Diagnostic Medical Sonography (DMS) students are accepted at CUW under the general admissions requirement for the pre-professional component. Students are encouraged to seek advising as soon as they are considering DMS as a major. They will be required to complete all the pre-professional coursework and activities to apply to the professional program. Since the requirements are rigorous, students interested in the DMS program are strongly encouraged to obtain the required CNA license and work hours prior to starting their sophomore year at CUW.

Pre-Professional Requirements

Diagnostic Medical Sonography (DMS) students complete the general CUW core courses. In addition, students are required to take additional courses required for the major (see required course list). Acceptance into the professional phase is not guaranteed. Requirements to apply for the DMS program include:

- Grade of B (3.0) or above required in the following courses: Communications, Math, Anatomy & Physiology, Medical Law & Ethics, Medical Terminology, and Pathophysiology.
- Grade of C (2.0) or higher in Physics.
- **ALL science courses** will be averaged. Students are required to have a 3.0 GPA in these courses.

- Students will only be allowed to retake a required course for the major one time.
- **Certified Nursing Assistant (CNA)** State License Exam with a minimum of 100 hours employed as a CNA before December 31 of application year. CNA Licensing criteria by state. (<https://www.nursinglicensure.org/cna/nursing-assistant.html>)
- 8 hours of **Job Shadowing** before applying: 4 hours in General Sonography, 4 hours in Echocardiography
- Current **CPR for Healthcare Providers**—prior to start of program

DMS Program Acceptance - Student Selection

The Diagnostic Medical Sonography (DMS) program is competitive and students are not guaranteed acceptance into the program(s). Students who satisfactorily complete their pre-professional requirements will apply for DMS program placement. In addition to the pre-professional course/grade requirements applicants to the DMS program will be considered based on previous work experience, letters of recommendations, and documentation hours worked as a Certified Nursing Assistant (CNA) and hours shadowing in sonography. Requirement and application forms are available in the Advising Office and students are encouraged to seek advising as soon as they are considering this major. Upon application, interviews will be scheduled with the students as part of the selection process. Interview preparation is strongly encouraged as the interviews along with academic performance comprise a significant portion of the candidate's application score for selection. Students applying for the General/Vascular program are required to interview with the CUW DMS program first. If they are not selected into the CUW program, their applications will be forwarded to our local, hospital-based accredited DMS affiliate program. Students applying for the Cardiac/Vascular program will have their applications forwarded to our local, hospital-based affiliate program. If accepted, the professional component of the program is approximately 21 consecutive months long.

Other Program Requirements

Health Status

Accepted students must demonstrate compliance of all the following:

- Annual physical examination and updated health history
- Negative test for tuberculosis, as shown by a negative Mantoux test, a negative QuantiFERON-TB test (annually)
- Immunity to rubeola, mumps and rubella as shown by a positive titer or documented vaccine
- Immunity to varicella as shown by a positive titer, or evidence of two vaccinations
- Seasonal influenza vaccine or have completed an Influenza Vaccination Exemption Form (annually)

Medical Insurance Background Check & Drug Screen Technical Standards

All applicants to the School of Diagnostic Medical Sonography are notified of the minimum requirements appropriate to the profession of sonography. The Americans with Disabilities Act (ADA) technical standards for the profession of diagnostic medical sonography include the ability to perform all of the following with reasonable accommodations:

- Lift more than 50 pound routinely
- Push and pull routinely
- Bend and stoop routinely
- Have full use of both hands, wrists and shoulders
- Distinguish audible sounds
- Adequately view sonograms, including color distinctions
- Work standing on their feet 80% of the time
- Interact compassionately and effectively with the sick or injured
- Assist patients on and off examining tables
- Organize and accurately perform the individual steps in a sonographic procedure in the proper sequence

Students must be able to perform the essential functions of the profession and meet the academic and clinical standards of the curriculum. To seek exceptions to these standards or reasonable accommodations, you should initiate a request with the program director.

Tuition

Students in the Diagnostic Medical Sonography program will pay CUW tuition during the pre-professional and professional aspects of the program. Students in the professional aspect of the program pay for 4 semesters and do not pay for summer, winterim or any overload tuition charges. If the student is attending an affiliated, hospital-based, program, a percentage of the tuition will be given to that program. Thus, students who are receiving the Emeritus (full) Scholarship or are full time CUW employees (tuition-free) will need to pay tuition during the professional aspect of the program.

Program Learning Outcomes

- DMS students will apply Christian ethics to patient interactions. (GLO 1)
- DMS students will effectively provide patient care that recognizes and serves a diverse patient community. (GLO 2)
- DMS students will record, analyze, and process diagnostic data and other pertinent observations to provide high quality information for interpreting physicians. (GLO 3)
- DMS students will demonstrate critical thinking and judgment in the performance of sonographic and/or related diagnostic services. (GLO 4)
- DMS students will demonstrate strong interpersonal skills with patients, supervising staff, team members and interpreting physicians to improve patient outcomes and experience. (GLO 5)
- DMS students will integrate pertinent patient history and supporting clinical data to facilitate optimum diagnostic results to improve patient outcomes. (GLO 6)

CUW Diagnostic Medical Sonography program

The CUW Diagnostic Medical Sonography (DMS) Program is a Commission on Accreditation of Allied Health Education Programs (CAAHEP) accredited program. The program is full time conducted over 2 fall semesters, 2 spring semester, 2 winterims, and 1 summer. Students enrolled in the DMS program will continue to pay CUW tuition during the program for 2 fall and 2 spring semesters, no tuition is charged for summer or winterims. Students in the CUW DMS program will receive academic coursework and clinical education by CUW faculty and participate in clinical rotations through affiliated hospitals and clinics. This CUW DMS program curriculum and course descriptions can be found in the catalog. Grades will be issued for each course in all

academic and clinical portions of the program. Course grades and credits be included in the student's CUW overall GPA.

Link to CUW DMS Program Outcomes (<https://drive.google.com/file/d/1eFLiik27SV16eHQ2LfglrueNeEBKcgRi/view?usp=sharing>)

Advocate Aurora St Luke's DMS Program

Program Goals Link to Goals (<https://www.aurorahealthcare.org/education/diagnostic-sonography/program-facts/#Mission-and-Goals>)

Program Outcomes Link to Outcomes (<https://www.aurorahealthcare.org/education/diagnostic-sonography/program-facts/outcomes/#Exams-and-Credentials>)

Advocate Aurora St Luke's DMS program

The Aurora St Luke's Medical Center Diagnostic Medical Sonography (DMS) Program is a Commission on Accreditation of Allied Health Education Programs (CAAHEP) accredited program. CUW students attending this program will receive academic coursework and clinical education by Aurora employed instructors and participate in clinical rotations through their affiliated hospitals and clinics. Students attending this affiliate program will remain CUW students and pay CUW tuition for 2 fall and 2 spring semesters. The program director and staff at Aurora will determine assessments and grades for CUW students enrolled in their program. CUW students successfully completing all requirements for the semester will be identified as passing on the CUW transcript and be issued a pre-determined amount of credits based on semester. Students that do not successfully complete all requirements as indicated by the program will be issued "no credit" on their CUW transcript. CUW courses/credits earned will not impact overall GPA and are as follows:

Diagnostic Medical Sonography Clinical Education 1 (Fall semester) 12 credits

Diagnostic Medical Sonography Clinical Education 2 (Spring semester) 12 credits

Diagnostic Medical Sonography Clinical Education 3 (Summer semester) 6 credits

Diagnostic Medical Sonography Clinical Education 4 (Fall semester) 12 credits

Diagnostic Medical Sonography Clinical Education 5 (Spring semester) 12 credits

Pre-Professional Course Curriculum - DMS Major

Code	Title	Hours
	Core Requirements (https://catalog.cuw.edu/undergraduate/university/acad-prog/trad/core/) ¹	45
	Major Requirements	23
	Electives	
	Minor: Optional	
	Program Specific:	54-75
	CUW DMS Program ³	
	Aurora DMS Program ⁴	
	Total Hours	122-143

¹ For transfer students, please see the Advanced Transfer Core (<https://catalog.cuw.edu/undergraduate/university/acad-prog/trad/transfer-core/>).

Code	Title	Hours
Concordia Common Core (18 credits required)		
REL 100	The Bible (Bible Content)	3
REL 110	Christian Faith (Christian Doctrine)	3
CCE 110	Western Culture & Worldview	3
CCE 120	Western Thought & Worldview	3
CCE 130	Christian Citizen	3
CCE 140	Science & Humanity	3
Liberal Arts Dimensions (27 credits)		
<i>Faith & Life (3 credits)</i>		
	Religion Elective REL above 204	3
<i>Society & Culture (3 credits)</i>		
COMM 460	Cross-Cultural Communication	3
<i>Natural World (7 credits)</i>		
BIO 141	General Biology I	4
MATH 128	College Algebra (or higher (Mathematics)) ¹	3
<i>Communication & Language (6 credits)</i>		
COMM 201	Interpersonal Communication (Communication) ¹	3
ENG 104	Introduction to Writing (Writing)	3
<i>Human Beings & Being Human (5 credits)</i>		
HHP 100	Stewardship of the Body (Physical Development)	1
	HHP Activity (range 104-169)	1
PSY 101	General Psychology	3
<i>Human Creativity and Expression</i>		
	Choice of Elective	3
Required Courses for the Major (23 credits)		
BIO 142	General Biology II (w Lab)	4
PHYS 151	General Physics I (W Lab) ²	4
BIO 191	Human Anatomy and Physiology I ¹	4
BIO 192	Human Anatomy and Physiology II ¹	4
RSC 106	Medical Terminology ¹	1
BIO 285	Pathophysiology ¹	3
DMS 200	Medical Law & Ethics ¹	3
Total Hours		68

¹ A grade of B (3.0) or above is required

² A grade of C (2.0) or above is required

³ <https://nextcatalog.cuw.edu/undergraduate/cuwcampus/health-professions/majors/diagnostic-medical-sonography-bs/#cuwprogramtext> (p. 2)

⁴ <https://www.aurorahealthcare.org/education/diagnostic-sonography/program-facts/curriculum#Curriculum-Overview> (<https://www.aurorahealthcare.org/education/diagnostic-sonography/program-facts/curriculum/#Curriculum-Overview>)

Additional Requirements

- Grade of B (3.0) or above required in the following courses: Communications, Math, Anatomy & Physiology, Medical Law & Ethics, Medical Terminology, and Pathophysiology.
- Grade of C (2.0) or higher in Physics I.
- ALL science courses** will be averaged. Students are required to have a 3.0 GPA in these courses.
- Students will only be allowed to retake a required course for the major/science course one time.

- Each student is required to become a **Certified Nursing Assistant (CNA)** and pass the State License Exam with a minimum of 100 hours employed as a CNA before December 31 of application year.
- 8 hours of **Job Shadowing** before applying: 4 hours in General Sonography, 4 hours in Echocardiography
- CPR for Healthcare Providers** prior to start of program. Classes are occasionally offered on campus for a fee
- AP Scores:** only scores of 4 or higher will be accepted as credit for all required *science courses* in this program, a score of 3 or higher is accepted for all other transfer-eligible coursework

Curriculum

Code	Title	Hours
DMS 300	Foundations of Ultrasound	2
DMS 301	Superficial Sonography	2
DMS 311	Sonographic Principles and Instrumentation I	2
DMS 312	Sonographic Principles and Instrumentation II	2
DMS 321	Vascular Sonography I	3
DMS 322	Vascular Sonography II	2
DMS 323	Vascular Sonography III	2
DMS 331	Abdominal Sonography I	4
DMS 332	Abdominal Sonography II	3
DMS 333	Abdominal Sonography III	2
DMS 341	Ob & Gyn Sonography I	3
DMS 342	Ob & Gyn Sonography II	3
DMS 351	Case Reports 1	1
DMS 352	Case Reports 2	1
DMS 371	Clinical Practicum I	3
DMS 372	Clinical Practicum II	2
DMS 373	Clinical Practicum III	4
DMS 374	Clinical Practicum IV	3
DMS 403	Musculoskeletal Sonography	2
DMS 414	Sonography Principles and Instrumentation Review	1
DMS 424	Pediatric Sonography	2
DMS 443	Ob & Gyn Sonography III	3
DMS 444	Ob & Gyn Sonography IV	3
DMS 453	Case Reports 3	1
DMS 454	Case Reports 4	1
DMS 460	Professional Development in Sonography	1
DMS 475	Clinical Practicum V	6
DMS 476	Clinical Practicum VI	2
DMS 477	Clinical Practicum VII	7
DMS 480	Registry Review	3

Advocate Aurora St Luke's DMS Program

Course Descriptions Link to Course Descriptions (<https://medicalprofessionals.aurorahealthcare.org/meded/programs/sonography/curriculum.asp>)