

DIAGNOSTIC MEDICAL SONOGRAPHY (M)

Diagnostic Medical Sonography (DMS) is a multi-specialty profession utilizing high frequency sound waves (ultrasound) 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 academic (didactic) and clinical training. Qualified candidates must apply to the DMS program(s). The following learning tracks/concentrations are available to CUW students: 1) General/Vascular Sonography and 2) Cardiac/Vascular Sonography. Students who 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 may be considered for placement with our accredited partner program. 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 clinical experience in hospital and clinic settings.

Accreditation

The DMS program at CUW and the professional affiliated clinical program (Aurora) are both accredited, upon recommendation of the Joint Review Committee on education in Diagnostic Medical Sonography (JRCDMS), 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 requirements to begin the pre-requisite coursework. **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 other requirements to apply to the professional phase of the major. 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>)
 - If you have patient care work experience different from CNA, please reach out to advising to determine eligibility.
- 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 complete their pre-professional requirements will apply for DMS program placement. In addition to the pre-professional course/grade requirements, DMS applicants will be considered based on a personal essay, letters of recommendation, hours worked as a Certified Nursing Assistant (CNA), hours shadowing in sonography, and an interview with the selection committee. Requirement and application forms are available in the Advising Office and students are encouraged to consult with advising as soon as they are considering this major. Qualified applicants will be invited to interview. Interview preparation is strongly encouraged as the interviews along with academic performance comprise a significant portion of the candidate's placement score. Students applying for the General/Vascular program are required to interview with the CUW DMS program first. Qualified candidates not selected by the CUW DMS program may be considered for placement with our accredited partner program. Students who choose the Cardiac/Vascular concentration will apply through our accredited partner program. If accepted, the DMS program is approximately 21 consecutive months in a full time format.

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 (annually)
- Covid-19 vaccine

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.

- 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. Students seeking reasonable accommodations to the professional technical standards should initiate a request with advising, department chair and/or program director.

Tuition

Students in the Diagnostic Medical Sonography program will pay CUW tuition during the pre-professional and professional aspects of the major. Students in the professional aspect of the major pay for 4 semesters and do not pay for summer, or any overload tuition charges. If the student is attending an affiliate hospital-based program, a percentage of the tuition will be given to that program. Students will be charged CUW undergraduate tuition for the full program and receive all eligible institutional aid as long as the student is enrolled in 12 or more credits. Only one student per year will be eligible to utilize the Concordia tuition waiver or tuition exchange. No more than one student per site may be on tuition waiver and/or tuition exchange at a time. Students receiving tuition benefits who are interested in the CUW DMS program are encouraged to discuss options with advising and the imaging department chair.

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, and 1 summer. Students enrolled in the DMS program will continue to pay Concordia tuition during the program for 2 fall and 2 spring semesters, no tuition is charged for

summer. Students in the CUW DMS program will receive academic coursework and lab instruction 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 will be included in the student's CUW overall GPA.

Link to CUW DMS Program Outcomes (https://www.cuw.edu/academics/programs/diagnostic-medical-sonography-bachelors/_assets/outcomes.pdf?v=082422)

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 lab instruction by Aurora-employed instructors and participate in clinical rotations through Aurora 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 instructors at the Aurora DMS program will determine assessments, standards 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. Students are encouraged to work with advising to outline their academic roadmap and review credit distribution.

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>)

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		19
Electives		
Minor: Optional		
Program Specific:		54-70
CUW DMS Program ³		
Aurora DMS Program ⁴		
Total Hours		118-134

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		
<i>Society & Culture (3 credits)</i>		
COMM 460	Cross-Cultural Communication	3
or GEOG 220	Cultural Geography	
or HIST 163	Non-Western World	
<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 105	Public Speaking	3
or COMM 201	Interpersonal Communication	
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)		
PSY 101	General Psychology	3
<i>Human Creativity and Expression</i>		
Choice of Elective		
Required Courses for the Major (19 credits)		
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
BIO 285	Pathophysiology ¹	3
RT 312	Medical Terminology	1
DMS 200	Medical Law & Ethics ¹	3
Total Hours		64

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 Students attending the Aurora DMS program **may need an additional 3 credit elective course**. Students should discuss their individual academic plan with advising. Aurora DMS 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 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 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 477	Clinical Practicum VII	7
DMS 480	Registry Review	3

Advocate Aurora St Luke's DMS Program

Course Descriptions Link to Course Descriptions (<https://www.aurorahealthcare.org/education/diagnostic-sonography/program-facts/curriculum/>)