

# Diagnostic Medical Sonography

Program Code 105262

## Associate Degree - Two Years Plus Two Summers

Offered at the Green Bay campus. For information: (920) 498-5444.

[Admissions Reference Form](#)

Toll-free: (800) 422-NWTC, ext. 5444.

### Program Description

Graduates perform routine sonographic (ultrasound) examinations of the body to include the abdomen, small parts, obstetrics, and gynecology. They work closely with physicians and may assist in the performance of invasive procedures.

### Program Outcomes

- Provide patient care and education.
- Apply principles of physics and instrumentation to sonography.
- Apply principles of anatomy and pathophysiology to sonography.
- Obtain high quality diagnostic sonographic images.
- Adhere to the professional code of ethics for sonographers.
- Communicate with members of the healthcare team.
- Adhere to universal precautions.
- Model professional behaviors and appearance.

### Clinical Practicum

Students will be required to purchase a uniform, pay for liability insurance, provide their own transportation to assigned sites, and cover any other expenses related to clinical experiences. Students may be expected to travel distances, participate in p.m. clinicals, or weekend rotations.

NWTC is required to comply with the Wisconsin Caregiver Law (1997 WISCONSIN ACT 27). The completion of a caregiver background check includes the review of criminal records for convictions of serious crimes or a history of improper behavior. Students accepted into health programs must complete a background information form disclosing any acts, crimes, or convictions prior to program entry. The information provided in the background information form must be truthful and match any findings on the criminal record check. Students with a criminal history may be denied access to clinical placement at the discretion of the clinical site. Consequently, should a student have a history of convictions of serious crimes or a history of improper behaviors, NWTC cannot guarantee clinical placement, or guarantee graduation within typical program timing.

Students are required to complete an American Heart Association Health Care Provider CPR course prior to Clinical Practicum. Students are required to maintain a current CPR card on a one-year renewal cycle to comply with affiliating agency requirements.

### Accreditation

The Diagnostic Medical Sonography program is accredited by the Commission on Accreditation of Allied Health Education Programs.

### Board/Certification Examinations

Graduates are qualified to take the Obstetric/Gynecology, Abdomen, and Physics Boards through the Association of Registered Diagnostic Medical Sonographers (ARDMS).

### Employment Potential

A graduate of the Diagnostic Medical Sonography program can choose to work in a variety of health care settings including clinics, hospitals, private practice physician offices, public health facilities and laboratories performing examinations in their areas of specialization.

Career advancement opportunities exist in education, administration, research, and in commercial companies as education/application specialists, sales representatives, and technical advisors.

### Requirements For Program Application

- Completed application.
- High school transcript or equivalent (such as an HSED or GED® Transcript).
- Academic Skills Assessment or ACT assessment taken within the last three years.
- One year of Algebra, Biology, Chemistry, and Physics with a grade of "C" or better. If high school courses, "C" in two semesters of each.

Candidates submitting applications to the DMS program must also provide:

- Three references from professional or academic experiences submitted on NWTC forms.
- An essay (no more than 1,000 words) outlining: a description of why they are interested in the profession, their current knowledge of and experience in the profession, the specific skills and duties of a sonographer, and why they are a good candidate for the program.

The DMS program follows a competitive enrollment process whereby candidate applications are reviewed by a Selection Committee.

Candidates are ranked in the following categories: Assessment, Math/Science, Essays, References. The highest ranking candidates will be offered a place on the program wait list. Remaining candidates will have the opportunity to re-apply.

### Requirements for Program Entry From Wait List

- Attend mandatory spring Program Orientation.
- Complete physical examination within three months before entering program and maintain current immunization information.
- Submit Caregiver Background Check paperwork.
- Complete mandatory four-hour job shadow.

### Suggested Skills for Success

Students are expected to have entry-level computer skills. It is recommended that students complete basic computer skills coursework if deficient in this area.

### Curriculum

The Diagnostic Medical Sonography program is a two-year, one-summer, five-semester program. Upon graduation a student will have completed 68 credits.

#### First Semester

Catalog No.	Description	Credits
* 10-501-101	Medical Terminology	3
* 10-526-204	DMS-Intro to DMS	3
* 10-526-205	DMS-Patient Care & Ethics	3
* 10-526-210	DMS-Cross Sectional Anatomy	2
* 10-806-177	Gen Anatomy & Physiology	4
<b>Semester Total</b>		<b>15</b>

#### Second Semester

* 10-526-206	DMS-Sono Physics & Instrument	3
* 10-526-207	DMS-Abdominal Sonography	4
* 10-526-208	DMS-OB/GYN Sonography 1	3
10-801-195	Written Communication	3
* 10-806-179	Adv Anatomy & Physiology	4
<b>Semester Total</b>		<b>17</b>

#### Summer Semester

* 10-526-220	DMS-Scan with Proficiency	1
10-801-196	Oral/Interpersonal Comm	3
10-809-196	Intro to Sociology	3
<b>Semester Total</b>		<b>7</b>

#### Third Semester

* 10-526-209	DMS-DMS Clinical 1	2
* 10-526-211	DMS-Sono of Superficial Struct	2
* 10-526-212	DMS-OB/GYN Sonography 2	3
* 10-526-213	DMS-DMS Clinical 2	4
10-809-198	Intro to Psychology	3
<b>Semester Total</b>		<b>14</b>

#### Fourth Semester

* 10-526-214	DMS-Intro to Cardiac & Vasc	3
* 10-526-215	DMS-DMS Clinical 3	4
* 10-526-216	DMS-DMS Clinical 4	2
* 10-526-217	DMS-Registry Review	1
10-809-172	Race Ethnic & Diversity	3
	Elective	2
<b>Semester Total</b>		<b>15</b>
<b>Total Credits</b>		<b>68</b>

\* No final grade lower than "C" is acceptable in any of the courses marked with an asterisk. A student who withdraws or receives a grade lower than a "C" in a program course may apply for re-entry into the program. Consideration for re-entry will be at the discretion of the re-entry team and will be dependent on clinical availability.

This program is fully eligible for financial aid.

## Please Note

- Some courses have prerequisites (listed at the end of each course description, if applicable) that need to be taken prior to enrolling in those courses.
- Many courses are offered via our Flexible Learning Options (online, accelerated, ITV, video, weekend, and self-paced) and may be taken in any order as long as prerequisites are met. To find out which program courses are offered through Flexible Learning Options, go to [www.nwtc.edu](http://www.nwtc.edu) or consult a counselor, (920) 498-5444.
- Descriptions of courses not found on this page can be found in the back of this catalog.

## Course Descriptions

*These courses provide an opportunity for students to develop the knowledge, skills, and understanding required for employment in this field.*

**10-501-101 MEDICAL TERMINOLOGY** ...focuses on the component parts of medical terms: Prefixes, suffixes, and root words. Students practice formation, analysis and reconstruction of terms. Emphasis on spelling, definition and pronunciation. Introduction to operative, diagnostic, therapeutic and symptomatic terminology of all body systems, as well as systemic and surgical terminology.

**10-526-204 DMS-INTRO TO DIAGNOSTIC MEDICAL SONOGRAPHY** ...introduces learners to the field of Diagnostic Medical Sonography. Explores the duties and functions of the Diagnostic Medical Sonographer as well as the historical background. (Prerequisite: Accepted into the Diagnostic Medical Sonography Program)

**10-526-205 DMS-PATIENT CARE AND ETHICS** ...introduces the principles of patient care including patient assessment, monitoring, handling and transporting. Legal and ethical issues related to Sonography are also examined. (Prerequisite: Accepted into the Diagnostic Medical Sonography Program)

**10-526-206 DMS-SONOGRAPHY PHYSICS AND INSTRUMENTATION** ...introduces physics and instrumentation relevant to diagnostic medical sonography. Learners explore how principles of sound propagation in tissues create a sonographic image. (Prerequisites: 10-526-204, DMS-Intro to DMS; 10-526-205, DMS-Patient Care & Ethics)

**10-526-207 DMS-ABDOMINAL SONOGRAPHY** ...prepares learners to perform ultrasounds of the abdominal organs including liver, gallbladder, biliary tree, pancreas, spleen, urinary tract, aorta and retroperitoneum. Practice scan sessions included. (Prerequisites: 10-526-204, DMS-Intro to DMS; 10-526-205, DMS-Patient Care & Ethics; 10-501-101, Medical Terminology; 10-806-177, Gen Anatomy & Physiology Corequisite: 10-806-179, Adv Anatomy & Physiology)

**10-526-208 DMS-OB/GYN SONOGRAPHY 1** ...prepares learners to perform ultrasounds of the nonpregnant uterus and the first-trimester pregnancy. Explores the anatomy, physiology, and pathology of the female reproductive system as well as intrauterine and ectopic pregnancies. (Prerequisites: 10-524-204, DMS-Intro to DMS; 10-526-205, DMS-Patient Care & Ethics; 10-501-101, Medical Terminology; 10-806-177, Gen Anatomy & Physiology; Corequisite: 10-806-179, Adv Anatomy & Physiology)

**10-526-209 DMS-DMS CLINICAL 1** ...opportunities to apply scanning skills in a clinical setting. Students concentrate on ultrasound examinations of the abdominal organs. Participation in this course will take place at a hospital or clinic. (Prerequisites: 10-526-206, DMS-Sono Physics & Instrument; 10-526-207, DMS-Abdominal Sonography; 10-526-208, DMS-OB/GYN Sonography 1)

**10-526-210 DMS-CROSS SECTIONAL ANATOMY** ...introduces cross sectional anatomy as related to Diagnostic Medical Sonography. Includes correlating images from other imaging modalities. (Prerequisite: Accepted into the Diagnostic Medical Sonography Program)

**10-526-211 DMS-SONOGRAPHY OF SUPERFICIAL STRUCTURES** ...investigates superficial structure imaging. Includes anatomy, pathophysiology, and sonographic evaluation. Prepared learner to perform ultrasounds of the thyroid, breast, male reproductive system, musculoskeletal system, and GI tract. (Prerequisites: 10-526-207, DMS-Abdominal Sonography; 10-526-206, DMS-Sono Physics & Instrument; 10-526-210, DMS-Cross Sectional Anatomy)

**10-526-212 DMS-OB/GYN SONOGRAPHY 2** ...prepares learners to perform ultrasounds of the second and third-trimester pregnancy. Explores the anatomy, physiology, and pathology of the female pelvis and the developing fetus. (Prerequisite: 10-526-208, DMS-OB/GYN Sonography 1)

**10-526-213 DMS-DMS CLINICAL 2** ...further experience in a clinical setting allows the student to continue to improve technical skills while accepting more responsibilities during scanning procedures. (Corequisite: 10-526-209, DMS-DMS Clinical 1)

**10-526-214 DMS-INTRO TO CARDIAC AND VASCULAR** ...introduces the uses of cardiac and vascular sonography. Explores the differences from the general concentration of ultrasound. Learners outline the components of cardiac and vascular exams and learn to correlate results with other diagnostic procedures. (Prerequisite: Accepted into the Diagnostic Medical Sonography Program)

**10-526-215 DMS-DMS CLINICAL 3** ...provides further opportunity for students to expand their skills in a clinical setting. Students begin to function as team members under the guidance of the instructor and authorized clinical personnel. (Prerequisite: 10-526-213, DMS-DMS Clinical 2)

**10-526-216 DMS-DMS CLINICAL 4** ...prepares the student to assume the role of a Sonographer. This course enhances the student's scanning and employee skills through clinical practice. Serves as a transition between student and employee. (Corequisite: 10-526-215, DMS-DMS Clinical 3)

**10-526-217 DMS-REGISTRY REVIEW** ...prepares students to take the ARDMS examinations. Provides a review of the Diagnostic Medical Sonography competencies. (Corequisite: 10-526-216, DMS-DMS Clinical 4)

**10-526-220 DMS-SCANNING WITH PROFICIENCY** ...provides learners with the opportunity to enhance their technical skills, accuracy, and proficiency in scanning the abdominal organs and female pelvis of the human body. This is a scanning course dedicated in continuing to prepare the learner for their first clinical experience. (Prerequisites: 10-526-207, DMS-Abdominal Sonography; 10-526-208, DMS-OB/GYN Sonography 1)