Diagnostic Medical Sonography (US) FAQ
For Program Entry 2015

This document is prepared to acquaint you with the program's application process, the program's goals and objectives as well as an outline of the curriculum. It is also designed to answers questions you may have about the profession of Diagnostic Medical Sonography. Prospective students are strongly advised to set an appointment with an LMC advisor before starting pre-requisite testing and coursework.

WHAT IS SO EXCITING ABOUT ULTRASOUND (US) IMAGING?

Since World War II, when ultrasound was first developed to locate underwater objects, the use of high frequency soundwaves to locate and define organs within the body has been an increasingly important tool in the field of diagnostic imaging. Sonographers, also called Ultrasound Technologists, are highly-skilled professionals who operate sophisticated equipment to create diagnostic images of many areas of the body. The many advantages of ultrasound imaging include the ability to record and observe the dynamic nature of certain areas of the body, such as blood flow, heart motion and fetal activity. Another benefit is the ease and safety of diagnostic sonography exams, which are conducted without the use of ionizing radiation and often require little, or no patient preparation or discomfort.

The expanding field of ultrasound applications has seen a continued need for qualified individuals to provide these safe and accurate diagnostic exams. Students in this program will be training in a highly regarded medical imagining modality and making a *sound* investment in their future.

WHAT IS A US TECHNOLOGIST?

The Ultrasound Technologist (Sonographer) is a Medical Imaging Professional trained in:

- Anatomy
- Physiology
- Patient care and safety
- Physical principles of high frequency soundwaves and their medical applications

Qualified US Technologists employ their knowledge to provide medical imaging services at hospitals, physicians' offices, imaging centers and mobile US imaging companies for the purpose of diagnosis and treatment of diseases.

US Technologists can serve in other capacities such as:

- Departmental managers
- Technical advisors and application specialists
- Sales and service for manufacturers.
- Educators

EMPLOYMENT OUTLOOK- U.S. DEPARTMENT OF LABOR:

- Employment for Sonographer's is expected to increase by about 44% through 2020.
- As the population ages, more sophisticated medical care is needed to meet their needs.
- Hospitals will remain the principal employer.
- Employment in offices, outpatient imaging centers and mobile companies will rise.
- Replacements for retiring professionals will rise.

WHO DO I CONTACT FOR AN APPOINTMENT OR ADDITIONAL INFORMATION?

Health Science Secretary
Lake Michigan College
2755 E Napier Ave C-327
Benton Harbor MI 49022
269-927-8768

WHEN DO CLASSES BEGIN?

All new US Technology classes at Lake Michigan College begin in the Summer semester of each year. The number of admissions is determined by clinical positions available at clinical sites affiliated with LMC.

HOW DO I APPLY TO THE US PROGRAM AT LAKE MICHIGAN COLLEGE?

1. Apply to the Lake Michigan College online at www.lakemichigancollege.edu.

2. All students and medical imaging professionals are strongly urged to make an appointment with an advisor before registering for **ANY** prerequisite classes.

3. Candidates must meet the following requirements for acceptance into the 2015 Summer program.

Section One for 2015 (for 2016 check with an advisor or program director)

The following documents are to be submitted to the Records Office:

1. **Application for Admission** to Lake Michigan College. Apply online at www.lakemichigancollege.edu.

2. **High school transcript or GED results**. **Acceptance Criterion:** High school GPA of 2.5 (on 4.0 scale) or GED composite score of 55. **Equivalent Substitute:** Associate Degree or twelve (12) credits of college level courses (above 100 level) which include a laboratory course in Biology or Chemistry (grade C or better in each class).

   CollegeTranscripts. Please note any transcripts must be official from other institutions containing courses that will fulfill a Health science requirement must be immediately sent directly to the LMC Records Office. For courses currently in progress, the transcript containing these courses must be received by the deadline listed in Section Two of this document. When you submit your **Application for Health Science Candidacy** and the

review shows that you have met all the requirements as outlined on this form, you will be placed on a Candidacy List.

The following must be taken in the assessment center at the Napier, Bertrand, and South Haven campuses.

1. COMPASS Assessment (or approved equivalent). This is a basic skills assessment which covers reading, writing (English), and math. This is a College requirement for all first time college students and is offered by the Assessment Center as listed in the LMC Class Schedule. A study guide is available.

2. Nelson-Denny Reading Test: **This test must be taken by the end of LMC semester.** This is an additional test to the above COMPASS reading assessment which must be taken by all Pre-Sonography Technology students **except** those with a previous degree (A.D., B.S., M.A.) from a school with English as the official language. The Nelson-Denny is given in the Assessment Centers as listed in the LMC Class Schedule. A study guide is available. **Acceptance Criterion:** Grade of 11.8. If the test results in below-level scores, the recommended course must be taken and another Nelson-Denny Test must be successfully completed at the end of the course.

3. Algebra Proficiency Test: If MATH122 LMC or transfer is older than 5 years the applicant must take the Algebra Proficiency Test.

4. After meeting with a general academic advisor the student must meet with the program director. Please make the appointment through the Health Science Department Secretary – reitz@lakemichigancollege.edu, or 269-927-8768.

Section Two for 2015

Candidacy List Requirements:

1. Successfully complete **HEAL 166 CPR/AED** (Professional Rescuer, Adult, Infant and Child), or Prior Experiential Learning Credit for HEAL 166.

2. Successfully complete **READ 110 Medical Terminology** with a "C" or better. No Prior Experiential Credit will be allowed.

3. Successfully complete **BIOL 110 Human Anatomy and Physiology** (10-year limitation) with a "C" or better.

4. Successfully complete **PHSC 101 Physical Science: Chemistry & Physics** (10-year limitation) with a "C" or better.

5. Successfully complete **PSYC 201 Introduction to Psychology** with a "C" or better.

6. Successfully complete **ENGL 101 English Composition I** with a "C" or better.

7. Successfully complete **MATH 122 Intermediate Algebra** with a "C" or better **or higher level MATH that requires MATH 122 as a prerequisite**

8. **Current LMC overall GPA of 2.5 or better**.

9. Criminal background check and drug screen test if accepted into the program.

Pre-Health Science Candidacy Audit – Students must submit this request to the Records Office early in the summer term. The Records Office will review the student's record and notify the student of completed and outstanding requirements. This is only a review of the student's records. To be considered for placement on the candidacy list, the student must submit an application for Health Science Candidacy.

Application for Health Science Candidacy – To be placed on the candidacy list, the student must submit an Application for Health Science Candidacy to the Records Office. This application can be submitted as soon as the student has completed all requirements, or is registered for any outstanding courses or any courses being re-taken to improve a grade. All requirements must be completed and the application submitted no later than the **March 1st, 2015** students submitting this application will be considered for candidacy placement.

These forms are available online at www.lakemichigancollege.edu Current Students, Forms & Applications, or from the Records Office or the Health Science Office. Also available at the Bertrand and South Haven Campuses.

In order to be considered for a Summer 2015 seat, the student's paperwork, successful tests, course work, and application must be complete by **March 1st, 2015**. Completion of the candidacy list requirements, as determined by **Application for Health Science Candidacy,** places you on the candidacy list, but does not guarantee a seat in the program.

Medical imaging applicants on the candidacy list, a program-specific GPA will be calculated using the following four (4) courses: **MATH 122**, **BIOL 110**, **PHSC 101**, and **ENG 101**. Admission to the program is based upon the students with the highest program-specific GPA's. Should two individuals qualify for the same seat; their overall cumulative GPA listed on the transcript will determine the ranking.

WHAT ARE THE PHYSICAL CAPABILITY REQUIREMENTS?

Physical capabilities required in operating US equipment and positioning patients are:

- Physical stamina required in lifting up to 50 pounds for patient transfer and positioning; bending, pulling and pushing US equipment for bedside examinations
- Demonstrating good near and far visual acuity in monitoring patients and equipment while performing US examinations.
- Physical stamina and dexterity to sit at a computer console for manipulation of data and data entry under low light conditions
- Ambidextrous ability to grasp and operate transducers while frequently adjusting various equipment parameters.

WHAT WILL I LEARN?

Upon completion of the US program, students will:

- Demonstrate an entry level working knowledge in US imaging.
- Employ professional values, critical thinking and communication skills as responsible members of the health care community.
- The students will exhibit an understanding of professional values and the importance of life-long learning and professional development.

- Graduates will be employable and meet the needs of the health care community.

HOW LONG IS THE PROGRAM?

Students qualified through current prerequisites can enroll for the six (6) consecutive semesters (18 months) of study. Students **not** registered as Medical Imaging Professionals must fulfill the prerequisites and enroll in the support classes necessary to meet the requirements for the Associates Degree program. The structured curriculum is designed in accordance with the Society of Diagnostic Medical Sonographers (SDMS), the American Registry of Diagnostic Medical Sonographers (ARDMS) and the American Registry of Radiologic Technology (ARRT)and allows for all College scheduled holidays and recesses.

GRADUATION AND NATIONAL REGISTRY INFORMATION:

The student will receive an Associate's Degree upon completion of the program. Graduates will be able to sit for the American Registry of Diagnostic Sonographers examination directly after graduation. Commitment to quality is demonstrated by achievement of accreditation through the Joint Review Committee for Diagnostic Medical Sonography (www.jrcdms.org).

Please see a program advisor for specifics.

- Any applicant that has been convicted of a felony and some misdemeanors must pre-apply to ARRT for determination of eligibility to sit for national certification examination. If you have questions about your situation, please contact the American Registry of Radiologic Technologists, 1255 Northland Dr., St. Paul, Minnesota, 55120-1155, phone 651-687-0048 or the American Registry for Diagnostic Medical Sonography, 51 Monroe St, Plaza East One, Rockville, Maryland, 20850-2400, phone 301-738-8401.

PHYSICAL EXAM & IMMUNIZATIONS:
A physical exam is required prior to beginning fall classes. A form will be provided upon acceptance into the program. The physical must include the following:

- Proof of freedom from communicable diseases
- Vaccinations or proof of antibody titer immunity for the following:
    - MMR (Measles, Mumps & Rubella)
    - Td (Tetanus, Diphtheria)
    - Hepatitis B vaccination (provided by a program clinical affiliate, if needed)
    - TB Skin Test with negative results or proof of freedom from TB by chest x-ray
    - Varicella (Chicken Pox)
    - Seasonal flu shots certain months of the year.

SERIOUS ILLNESS, SURGERY OR INJURY:

Enrolled students presenting with a serious illness, surgery or injury will be required to obtain a doctor's written release on an LMC form verifying that he/she is able to meet class and/or clinical practice requirements without limitations, without aggravating an existing condition, and without jeopardizing the safety and well-being of patients. This written release will be discussed with the Program Director and retained in the student's file. The typical length of recovery for

surgery is 6 to 8 weeks, therefore it is unlikely the student will be able to continue in the program after surgery unless the surgery is minor and the release form is appropriately signed.

PREGNANCY:

Upon voluntary declaration of the pregnancy to program faculty it is strongly recommended that the student declare the pregnancy in writing to the Program Director. If a pregnant student elects to take a leave of absence, the Program faculty will work with the student for a mutually agreeable planned re-entry into the Program. The Program operates on a limited enrollment format with readmission dependent upon availability and previous semester(s) completed.

COST ESTIMATES (*Tuition and fees are subject to change without notice):*

Tuition rates per contact hour

$131.00 per contact hour, In-district
$178.50 per contact hour, In-state
$223.50 per contact hour, Out-of-state
$241.00 per contact hour, International

US Lab Fees	$ 58.00 per lab
US Books:	$ 700.00 for program (estimate)
Uniforms/Shoes:	$ 300.00 for program (estimate)
Name Tag/Patches:	$ 20.00 for program
Late registration fee:	$ 20.00 flat fee

NOTE: TUITION AND FEES SUBJECT TO CHANGE WITHOUT NOTICE.

Lake Michigan College
DIAGNOSTIC MEDICAL SONOGRAPHY COURSE SEQUENCE

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DISC. / NO. / NAME	**CREDIT HRS**	**CONTACT HRS**
PREREQUISITES/SUPPORT COURSES:		
1. BIOL 110 Human Anatomy & Physiology	4	5
2. PHSC 101 Physical Science: Chemistry and Physics	4	5
3. HEAL 166 CPR/AED	1	1
4. PSYC 201 Introduction to Psychology	3	3
5. MATH 122 Intermediate Algebra	4	4
6. ENGL 101 English Composition I	3	3
7. READ 110 Medical Terminology	1	2
Total Prerequisite Hours	**20**	**23**
COLLEGE REQUIRED COURSES:		
1. ENGL 102 English Composition II	3	3
2. POSC 101 National Government or POSC 102 State Governments, or HIST 201 American History or HIST 202 American History	3	3
3. PHED 200 Healthful Living	1	2
Total Support Hours	**7**	**8**
SUMMER:		
1. DMSO 100 Introduction to Diagnostic Medical Sonography	3	3
FALL:		
2. DMSO 101 General Sonography I Abdomen	4	4
3. DMSO 102 General Sonography I OB/GYN	4	4
4. DMSO 103 Sonography Lab Applications I	3	6
5. DMSO 203 Sonographic Physics I	3	3
6. DMSO 104 Clinical Experience A	2	2
SPRING:		
7. DMSO 200 General Sonography II Abdomen	3	3
8. DMSO 201 General Sonography II OB/GYN	3	3
9. DMSO 202 Sonography Lab Applications II	3	6
10. DMSO 204 Clinical Experience B	2	2
11. DMSO 213 Sonographic Physics II	3	3
SUMMER:		
12. DMSO 214 Clinical Experience C	5	5
13. DMSO 224 Clinical Experience D	5	5
FALL:		
14. DMSO 230 Introduction to Vascular Sonography & Lab Applications	4	5
15. DMSO 234 Clinical Experience E	3	3
16. DMSO 240 Sonographic Registry Review	2	2
Total Core Hours	**52**	**58**
TOTAL HOURS	**79**	**87**

This page (p. 8 of the Ultrasound FAQ) is being provided as a check list for prospective candidates attempting entry in the Summer Diagnostic Medical Sonography Program. All students attempting entry in any of the health science programs should read the program's FAQ handout and are strongly urged to see an academic advisor before starting to work on candidacy list requirements.

Diagnostic Medical Sonography FAQ Checklist- Entry 2015

Completed	Not completed	To be Completed at LMC	
		➢	Advising appointment with academic advisor regarding college and program entry requirements.
		➢	Obtain and read entire DMSO (Ultrasound) FAQ Handout for specifics and deadlines.
		➢	Apply to Lake Michigan College (can be done online)
			High school transcript or GED sent to Records Office.
			Official College transcript/s sent to records office for audit.
			COMPASS testing.
		➢	Nelson Denny Reading Test successfully completed or remediation course with successful repeat of Nelson Denny Test.
		➢	Algebra Proficiency Test if MATH 122 older than 5 years
		➢	Meet with the program director after meeting with a general academic advisor.
			Completed BIOL 110 ("C" or better).
			Completed PHSC 101 ("C" or better).
			Completed MATH 122 ("C" or better).
			Completed PSYC 201 ("C" or better).
			Completed READ 110 ("C" or better).
			Completed HEAL 166 Professional Rescuer CPRAED or … Prior Experiential Learning for Professional Rescuer CPR/AED (CPR/AED is what it is named in our LMC class schedule)
			Completed ENGL 101 English Composition I ("C" or better).
		➢	Submit Pre-Health Science Candidacy Audit early in summer semester prior to attempted year of entry.
		➢	Successful completion of all paperwork, testing, and course work before March 1st, 2015
		➢	Submitted Application for Health Science Candidacy to Records Office by March 1st, 2015
			Overall GPA = to or greater than 2.5