

LORAIN COUNTY COMMUNITY COLLEGE
DIVISION OF ALLIED HEALTH AND NURSING

**DIAGNOSTIC MEDICAL SONOGRAPHY
STUDENT HANDBOOK
2006-2007 CLASS**

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LORAIN COUNTY COMMUNITY COLLEGE
DIVISION OF ALLIED HEALTH AND NURSING

DIAGNOSTIC MEDICAL SONOGRAPHY PROGRAM

VERIFICATION OF RECEIPT and ACKNOWLEDGEMENT OF POLICIES

This handbook of Policies concerning the Diagnostic Medical Sonography Program has been compiled to help and inform you, the student. You are responsible for the information included in this handbook.

Please read the statement below, sign and give this sheet to the Program Director/Coordinator as an indication that you understand the contents, and agree to abide by all the policies within this document, no later than the end of the second week of classes.

I have read, understood accept and agree to take full responsibility for the policies, information and rules of conduct in the student handbook.

STUDENT NAME (PLEASE PRINT)

STUDENT NUMBER

STUDENT'S SIGNATURE

DATE

LORAIN COUNTY COMMUNITY COLLEGE
DIVISION OF ALLIED HEALTH AND NURSING

DIAGNOSTIC MEDICAL SONOGRAPHY

Welcome from Craig Peneff, RDMS, Program Director of the Diagnostic Medical Sonography Program.

The faculty of the Diagnostic Medical Sonography Program and I want to welcome you to an exciting and challenging health care field. Diagnostic Medical Sonographers work under the supervision of a physician (often a radiologist or obstetrician). We hope your observation days have given you a good understanding of the job expectations and responsibilities of a sonographer as well as give you an idea of the positive and negative aspects of the field. I want to briefly outline some of these as you are entering the Program. The duties of a diagnostic medical sonographer include: providing patient care; scanning patients to produce ultrasound images of the body; correlating patient symptoms, lab values, and other imaging tests with the sonographic images; writing summaries of the scans: as well as other tasks necessary to provide efficient, cost-effective health care.

Included in performing sonographic exams is an understanding of human anatomy and physiology, disease processes and the normal and abnormal ultrasound appearances such. Also a good understanding of ultrasound physics and instrumentation is necessary to produce diagnostic images. One must understand that a sonographer is much like a detective who puts various pieces of information together to develop a conclusion. However, it is not solely based on intelligence, it also depends on eye-hand coordination, common sense, treating others with respect providing the best of care and the ability to perform multiple skills quickly and efficiently at one time. This may be the most challenging as a sonographer must perform the scan, continuously adjust equipment controls, observe/assess the patient's condition, assess the appearance of the images and determine if it is normal/pathologic/equipment control related and if there is pathology present, what correlates with the symptoms and what else needs to be evaluated to accurately present it to the physician. Unfortunately, not everyone is able to be a sonographer.

While the profession is quite challenging and rewarding, there are some negative aspects that I feel you should be aware. One of the most common misconceptions is that sonographers do not have to deal with body fluids or needles and such. Note above that patient care is listed. This is an important aspect because sonographers are responsible for the patient's needs while in the ultrasound laboratory. Not only do we perform scans that include inserting the probe into the vagina or rectum, we often have to clean up occurrences from all bodily functions while acting professionally and treating the patient with respect. We also assist the physician in performing biopsies, fluid aspirations or may have to go to the surgical suite to provide guidance. With the future availability of the new contrast that is currently being tested we may soon be expected to give patient injections. While the obstetric exams are the most popular, there are many pathologies of the pregnancy that the sonographer may be the first to identify such as genetic defects, miscarriages or prenatal death. Unfortunately this may cause an ethical dilemma or stress to the sonographer and one needs to learn to approach such situations professionally, separating it from their personal lives and beliefs to give the patient the best care possible.

Currently there is a shortage of sonographers. While this is promising for new graduates, work situations are often short from ideal. Sonographers often do not work a normal eight-hour day. They are often expected to stay until all of the ordered exams for the day are completed. Most sonographers have to take emergency call during the night and weekends after working their normal shift. Many are expected to report for their normal shift after being called-in several times throughout the night. This may cause additional stress with the job. Fortunately, several employers are developing additional shifts as well as more flexible hours to reduce this problem.

Another aspect that students should be aware of is the risk of job related repetitive strain injuries. Students having current back, shoulder or wrist problems should seriously consider entering the sonography profession. Recent studies by the SDMS has shown sonographers have a predisposition for developing back problems, carpal tunnel syndrome or frozen shoulder or various other muscular-skeletal injuries from years of scanning. Currently, OSHA and the SDMS are addressing this issue to improve working conditions, equipment design and preventative techniques to minimize these occurrences. However if you currently have these types of problems, you should investigate and consider your options.

I expect that the students and faculty work hard to provide the best services of the highest quality to everyone and treat everyone with respect. I feel that one should love what they do and do it well and always strive to do it better. If you enjoy what you do, learning and improving is easier and fun, than trying to do something you hate. I truly believe that if one hates their job, then it is work, if one enjoys what he/she does then it is easier to tolerate the occasional problems. Also, if one enjoys what he/she does, then there is more interest in

improving and staying current with new developments. This is no longer a job but a career. You as a student or as a graduate represent the college, the program and the faculty of the program as well as the profession, and I want you to be the very best.

Currently, there are nine different specialties of sonography: Abdomen, Obstetrics and Gynecology, Neurosonography, Breast, Peripheral Vascular, Fetal Echo, Adult and Pediatric Cardiac. Of these, the LCCC Diagnostic Medical Sonography Program will prepare you for the abdomen, and obstetric/gynecologic specialties and will give you a good basis for the peripheral vascular specialty and introduce you to the other specialties as well.

Our goal is to provide you with an up-to-date education, preparing you for successful entry into the workforce. With that in mind, the program is designed for highly motivated individuals. The program is challenging, time consuming, demanding and upon successful completion, rewarding. It is essential that one is: well organized; have good time management skills; have good study habits; and can minimize other responsibilities while in the program.

The admissions process has been designed for students to complete any needed support coursework. I strongly recommend that if you need help in studying techniques or feel you have test anxiety that you contact Theodora Scott, Coordinator of the Office of Special Needs/Services at extension 4124. Hopefully, you have prepared your family and your life for the upcoming year as the last four semesters will be the most time consuming and difficult.

The sonography faculty, staff and administration of LCCC want you to succeed. There are no guarantees that you'll master everything that you need to know, but the program faculty will do everything possible to support you. Likewise you will find that you will need to work extremely hard and practice to become proficient at the skills necessary to provide the best of care and diagnostic images to the patients. There is a lot of information that is expected of you to learn and recall but patients' lives will depend on your accuracy.

Part of our job is to teach you that the learning is non-stop. I've been in the profession for 20 years and every year there has been something new to learn. The field of diagnostic medical sonography is a constantly changing and rewarding profession. Some of what you learn may become outdated. So it is of utmost importance for you to understand the need to keep learning. I encourage you to join the SDMS, the national sonography society and learn what resources it can provide. Attend local continuing education courses, read, ask questions, and consult with others. Develop a desire to learn.

Craig Peneff, BSAS, RDMS, RVT

Accreditation Status

The LCCC Diagnostic Medical Sonography program is accredited by the Joint Review Committee on Education in Diagnostic Medical Sonography (JRC-DMS), 2025 Woodlane Drive, St. Paul, MN 55125, Tel., (651) 731-7225 or at <http://www.jrcdms.org> or the Commission on Accreditation of Allied Health Education Programs (CAAHEP) <http://www.caahep.org/caahep/programs.asp> in general sonography. Upon graduation you are eligible to take the national certification exams in the Abdomen and Obstetrics/Gynecology specialties and General physics & instrumentation given by the American Registry of Diagnostic Medical Sonographers (ARDMS), 51 Monroe Street, Plaza East 1, Rockville, MD 20850-2400, Tel. 800-541-9754, <http://www.ardms.org/>

COLLEGE MISSION

Lorain County Community College, a vital and dynamic leader, serves a culturally diverse community by promoting education, economic, cultural and community development. The College encourages lifelong learning through accessible and affordable academic, career-oriented and continuing education. (LCCC College Catalog, pg. 13)

VISION AND VALUES OF THE COLLEGE

Vision Statement

Enrich lives by creating gateways to educational, economic, cultural, technological and personal growth. (College Catalog, pg. 13)

Values

Excellence in Learning and Teaching

The College is committed to ensuring that excellence in learning and teaching remains its hallmark. The College will foster a community of intellectual, social and cultural relationships whereby students and faculty are active partners in meaningful learning. The College will attract, develop and reward professionals committed to teaching and community services. It will use effective curriculum, instructional methodology and technology to maximize learning.

Individual Development

LCCC believes in the lifelong development of the whole person and is committed to providing the opportunity for every individual to pursue a program of learning that includes general education, marketable skills and individualized support services.

Ongoing Assessment of Effectiveness

LCCC commits to offering and developing programs and services based on an ongoing assessment of community needs and the College's capacity.

Diversity and Community

The College welcomes the unique talents and contributions of its diverse community. The College fosters an open climate and the participation of all constituents in choosing directions, ordering priorities, and attracting and securing resources toward achieving its mission.

Community Responsibility and Stewardship

The College values the essential support and involvement of the community. The College will act responsibly in utilizing the resources provided by the community. (College Catalog, pg. 13)

GENERAL EDUCATION OUTCOMES

The Diagnostic Medical Sonography Program supports the General Education outcomes established by Lorain County Community College, and the content of DMS courses has been developed to address these Outcomes. The following is the College's General Education Outcomes policy: (College Catalog, p. 19)

LCCC believes that the role of education is the development of the whole person. General Education Outcomes at the College enable students to develop the knowledge, skills, values and beliefs important for all college graduates. General Education Outcomes are designed to ensure that all graduates:

1. Develop the professional competencies to function effectively within their chosen academic disciplines and careers.
2. Develop technological literacy and demonstrate knowledge of the applications of technology in everyday life.
3. Understand and apply methods of scientific inquiry.
4. Develop an appreciation for and an understanding of the arts and humanities.
5. Develop an understanding of the history of the diverse social, economic, and political models of society.
6. Develop precision, clarity, and fluency in writing.
7. Develop accuracy, conciseness, and coherence in spoken communication.
8. Apply mathematical concepts to solve quantitative problems.
9. Develop critical thinking and reasoning skills for problem solving.
10. Develop an awareness and understanding of gender, ethnic, minority, multicultural, and global issues.
11. Develop an appreciation for and an understanding of the benefits of a health, active, and well-balanced lifestyle.

MISSION STATEMENT FOR THE DIVISION OF ALLIED HEALTH & NURSING

The Division of Allied Health and Nursing supports the mission of Lorain County Community College by providing high quality learner-centered education to health care providers, to individuals pursuing careers in health care, and to the older adult in response to the needs of the community.

To support this mission, the Division of Allied Health and Nursing has established the following goals:

1. To create an environment that promotes dynamic interaction between instructor and

- student characterized by mutual trust and respect.
2. To engage students actively in the process of learning through use of teaching strategies which promote critical thinking and collaboration.
 3. To offer instruction through asynchronous modes of delivery as well as within the classroom setting in order to make education accessible to diverse learners.
 4. To provide service learning opportunities for students to support the community's need for promotion, maintenance, and/or restoration of health.
 5. To provide the students with insight into culturally diverse backgrounds.
 6. To graduate students with entry-level skills in their selected health care careers.
 7. To instill an appreciation for life-long learning in students.
 8. To develop and refine educational programs in response to an evolving health care paradigm.
 9. To provide students with the support needed to assist them in reaching identified goals.
 10. To provide high quality didactic and clinical education in health care programs.
 11. To provide students access to health care settings utilizing state of the art delivery of health care and medical technologies.
 12. To provide students with opportunities to develop values related to caring, ethical practice in health care setting.
 13. To provide quality continuing education programs for health care providers at an affordable cost.
 14. To develop collaborative partnerships with the community to ensure quality programming.
 15. To provide peer-led life enhancing educational programming to a diverse older adult population.
 16. To pursue excellence through a leadership role in the health care community.

PHILOSOPHY OF THE DIAGNOSTIC MEDICAL SONOGRAPHY PROGRAM

As an integral part of our college, the program in Diagnostic Medical Sonography adheres to the mission, vision and values of Lorain County Community College (LCCC Catalog, pg. 13), and functions within the general policies of the college.

We believe that a Diagnostic Medical Sonographer should have a workable understanding of sonographic positioning, anatomy and physiology, ultrasound physics and all other courses necessary for the fulfillment of the requirements for Diagnostic Medical Sonography. Training and proficiency in these areas will result in a professional practitioner, able to serve the public and assist the physician in diagnosis.

The Program's mission is to provide students through the integration of didactic, clinical and laboratory experiences with comprehensive abilities to perform sonographic procedures in abdomen, obstetrics, and gynecologic specialties as well as provide basic knowledge and skills in the vascular specialty area through instruction in anatomy and physiology, pathophysiology, ultrasound physics, instrumentation and safety, image evaluation, and patient care as applied to Diagnostic Medical Sonography.

The Program also strives to introduce the student to various advanced specialty areas in sonography as well as technology to instill lifelong learning beyond the scope of the program.

Goals of the Diagnostic Medical Sonography Program

- o To provide high quality didactic and clinical education in Diagnostic Medical Sonography focusing in the general concentration (abdomen, ob/gyn) and providing a basic knowledge and skills in vascular sonography.
- o Produce competent, entry-level sonographers who are compassionate, patient-focused members of the health care team.
- o Develop the students' communication and critical thinking skills necessary in performing quality sonographic exams.
- o Provide an educational experience to support and comply with the Code of Ethics for the Profession of Diagnostic Medical Ultrasound and the Scope of Practice for the Diagnostic Ultrasound Professional as developed by the Society of Diagnostic Medical Sonographers
- o Provide students with the knowledge, clinical skills, problem-solving abilities and interpersonal skills to practice in the profession of sonography.

- o Graduate competent, caring sonography professionals who are prepared to pass the ARDMS certification exams in physics & instrumentation, abdomen and ob/gyn specialties.

- o Emphasize to students the importance of continued improvement through professional life-long learning.

Program Outcomes:

Graduates of the Lorain County Community College Diagnostic Medical Sonography Program should:

1. Demonstrate competence and proficiency in performing Abdominal, small parts, obstetric, gynecologic and basic vascular (carotid/venous leg) ultrasound examinations.
2. Apply principles of ultrasound physics to patient examinations to obtain diagnostic information.
3. Correlate clinical history, patient symptoms, laboratory test results with sonographic findings.
4. Identify common pathologic diseases and differential diagnoses through correlation of sonographic appearances, clinical symptoms and laboratory test results.
5. Provide basic patient care, comfort and nursing skills.
6. Practice and apply the ALARA principle in performance of diagnostic ultrasound examinations.
7. Be prepared to take and pass the ARDMS registry examinations in ultrasound physics & instrumentation, abdomen and obstetrics & gynecology.
8. Practice lifelong learning by staying current in sonography through continuing education, achieving certifications in additional specialties and achieving advanced degrees.
9. Be a productive team-player
10. Be an efficient cost-effective member of the health care team
11. Recognize the importance of multidisciplinary health care team.

GENERAL ATTRIBUTES OF A DIAGNOSTIC MEDICAL SONOGRAPHER

Students who are successful in Diagnostic Medical Sonography are emotionally mature, academically able, highly motivated, self-disciplined and willing and able to devote a considerable amount of time to their program. They are patient and enjoy working with and serving people. They are able to physically move patients. They are able to follow orders.

Based upon job performance tasks, the entry level graduate sonographer will be utilizing all of his or her sensory perceptions as well as mental and intellectual skills in the verbal, written and mathematical areas. Certain physical characteristics of the profession will have physical demands placed on the sonographer.

To expand on this, the following general attributes are necessary for entry level positions in Diagnostic Medical Sonography

Language Arts/Communications

Verbal

The sonographer:

- must speak clearly, concisely and employ correct vocabulary and grammar for communication with staff, physicians, students, faculty, patients and the public.
- must give verbal instructions to patients.
- must explain procedures to patients.
- must give breathing instructions to patients.
- must write a summary of the ultrasound exam.

Written

The sonographer:

- must write Preliminary Reports dictated by the radiologist.
- must describe in writing various types of incidents that occur to the patient.
- must write on patient charts and requisitions using correct grammar, spelling, punctuation, sentence structure and appropriate medical terminology.

- must write legibly.

Sensory Attributes

Visual

The sonographer:

- must confirm the patient's identity from the identification band and x-ray number.
- must have the ability to read the physician's orders and requests, as well as the patient's clinical history from the request and chart.
- will find and read the laboratory results in patient's chart.
- will observe the patient for shock or respiratory distress.
- will identify normal and abnormal structures.
- will adjust various equipment settings to create optimal images.
- will work in dimly lit room watching a TV monitor for long periods at a time.
- will perform safety checks on the equipment.

Auditory

The sonographer:

- will take blood pressures and will use a stethoscope to hear blood flow.
- will take a brief medical history from the patient and will record the verbal responses of the patient.
- will hear Doppler flow patterns during vascular studies.
- will answer telephones and acquire pertinent information.

Touch

The sonographer:

- will touch the patient with a microphone-like device to obtain images.
- will load and unload film in the darkroom, performed by touch.
- will touch the patient to provide moving assistance and patient care.

Body Mechanics and Physical Characteristics

The sonographer:

- will move patients by lifting and sliding.
- will push mobile sonographic equipment from the sonography department to the operating room, emergency room and to the patient's room.
- will move patients for proper positioning on the exam cart.
- will use eye-hand coordination.
- must stand while doing his/her job.

Intellectual and Mental/Emotional

Intellectual

The sonographer:

- will use algebra in solving physics problems.
- will use equipment in quality control.
- will use cognitive skills to recognize normal and abnormal sonographic patterns, and integrate this knowledge with patient's history, to assist the physician with diagnoses.
- will integrate abnormal laboratory test results or patient history with orders for sonographic procedures.

Mental/Emotional

The sonographer:

- will perform procedures in the emergency room, operating room, and intensive care unit.
- will participate in procedures related to fetal malformations, fetal death, and invasive procedures such as biopsies and fluid aspirations.
- will be required to make independent decisions and carry a high level of responsibility.
- must interact with trauma patients, chronically ill patients, acutely ill patients, and terminally ill patients of all ages.
- must provide service to all patients, regardless of age, sex, race, national origin, religion, or physical condition and disease process.

These attributes are also integrated into our educational process in the form of academic and clinical performance objectives. If you feel that because of a learning disability, physical disability, or mental/emotional condition you would have a problem accomplishing these entry level skills, then please make an appointment with the following: an academic counselor, the coordinator of the Office of Special Needs Services, and a faculty member of the Diagnostic Medical Sonography program. Having a special need may not preclude you from entering the program.

ENTRY LEVEL REQUIREMENTS FOR SONOGRAPHERS

The Diagnostic Medical sonographer is required to routinely perform the exit competencies listed at the end of the handbook, as well as performing additional attributes such as, but not limited to the following:

1. Push and pull heavy equipment (500 pounds) up to distances of 800 yards.
2. Lift more than 50 pounds routinely.
3. Bend and stoop routinely.
4. Stand for long periods of time.
5. Watch computer screens in dimly lit rooms for up to 10 hours a day.
6. Have 20/20 corrected vision.
7. Adequately view sonograms including color distinctions.
8. Have proper corrected hearing to distinguish audible sounds.
9. Have full use of hands, wrists and shoulders.
10. Display capability of typing and scanning with opposite hands.
11. Demonstrate dexterity.
12. Demonstrate the ability to think in the abstract.
13. Demonstrate the ability to determine three-dimensional structures from two-dimensional images.
14. Interact compassionately and effectively with the sick or injured.
15. Assist patients on and off examining tables.
16. Communicate effectively with patients and other health care professionals.
17. Organize and accurately perform the individual steps in a sonographic procedure in the proper sequence.

GENERAL POLICIES AND PROCEDURES

ATTENDANCE

As the student of diagnostic medical sonography is entering a professional career, regular attendance and punctuality nurture the development of an appropriate work ethic. The student is therefore encouraged to think of his/her classroom, laboratory, and clinical responsibilities as their primary career commitment. Any absence is strongly discouraged. Students are expected to schedule any outside appointments at times that will not interfere with their class or clinical schedule.

The Diagnostic Medical Sonography faculty believes all clinical, laboratory, and classroom experiences are essential to prepare the sonography student in the delivery of safe patient care. With the high level of responsibility and accountability innate in the practice of diagnostic medical sonography, and because the consequences of an error can be devastating to a human being, clinical and classroom attendance is mandatory throughout the program.

To assure that students can meet their clinical and classroom requirements and obligations, all students are required to arrange **TWO** alternative plans of action regarding babysitting/daycare or car problems should unplanned situations occur that may interfere with attendance.

ABSENCE POLICY

Attendance and punctuality are among the highest expectations that facilities expect of their employees. Potential employers inquire about attendance and punctuality throughout one's training program.

In preparation of one's professional career and success, absence and tardiness are strongly discouraged. Each student is expected to attend all lectures/labs/clinicals for the duration of the program. Absences and/or tardiness should only occur in extreme circumstances. The student will be permitted two excused absences of any course per semester. Absences are cumulative for courses having a lab and/or clinical component. A third absence of any course/component will be considered unexcused and will be given a deficiency notice and be dealt with according to the Tardiness/Absence Procedure below. It is the responsibility of the student for obtaining notes and material covered in class during their absence as well as make arrangements to make-up any missed clinical time with the clinical liaison.

Any planned change of the clinical schedule by the student must be made in advance with the clinical liaison/clinical staff. Failure to do so will count an unexcused absence and a deficiency notice will be given.

Students must meet the minimum number of hours and clinical competencies assigned for each semester. *No time will be carried over from a previous semester.*

Tardiness Policy

Being late to the clinical site, lecture or laboratory is discourteous and unprofessional and will not be tolerated. In the clinical setting, tardiness may affect the clinical assignments which may be difficult to duplicate or arrange. At the clinical site, students are expected to be consistently in the clinical work area ready for assignments prior to the designated starting time for all sessions. The student is responsible for discussing the reason for tardiness with the clinical instructor at the earliest opportunity. **Tardiness greater than five minutes is considered an unexcused absence.**

Unexcused Absence: Not notifying the instructor or clinical faculty when you are unable to attend prior to the designated started time, no matter what the reason for the absence. Examples of an unexcused absence include but are not limited to: preventable absences due to non-illness, e.g. oversleeping, taking vacation during the term, child care difficulties. Tardiness greater than five minutes for any lecture/lab/clinical.

Excused Absence: Verifiable illness, or illness of an immediate family member. Death in the family. Car breakdown or accident on the way to the clinical site/lecture/lab.

Note: These are only examples of possible EXCUSED and UNEXCUSED absences. It is always up to the discretion of the clinical or academic faculty whether to excuse the student's reason for absence.

Excused Absence/Tardiness Procedure

Students must call the instructor and give the reason for their absence when he/she will be absent from lecture, laboratory or clinical experience. Students must notify the clinical instructor (or liaison) at least one-half hour prior to their scheduled starting time if they will be absent from time at the clinical site on any scheduled day. If a student realizes he/she may be tardy to clinical/lecture/lab, he/she should notify the facility or instructor as soon as possible. The instructor or clinical liaison has the discrepancy to decide if tardiness is due to a situation beyond the student's control. Repeated occurrences will result in disciplinary action.

Failure to notify will result in the student receiving a deficiency notice and counted as an unexcused absence. Prolonged absence (3 consecutive days) or infectious illness requires a written clearance from a physician to return to the clinical area.

Unexcused Absence/Tardiness Procedure

Unexcused absences or tardiness will be dealt with in the following manner:

- First Offense: Verbal warning and makeup work as determined by the instructor.
- Second Offense: the student will receive a written Deficiency Notice.
- Third Offense: Tardiness is considered habitual, the student will receive a second Deficiency Notice which outlines the students plan for correction **and** five (5) points will be deducted from the final course grade of the clinical course.
- Fourth Offense: The student will receive an Unsatisfactory (U) or Failure (F) grade for the clinical course.

ACADEMIC INTEGRITY

Students are expected at all times to maintain academic ethics and honesty. Within the Diagnostic Medical Sonography Program, the highest ethical and academic standards are expected, as would also be expected in clinical practice. Academic dishonesty, plagiarism and any form of cheating are specifically prohibited. Anyone caught cheating on a quiz or exam will be given a zero for that quiz or exam. Anyone caught not doing their own work in the college laboratory will be given a zero for that assignment. Anyone caught performing any type of dishonesty at a clinical site will be subjected to an Unsatisfactory (U) clinical grade and immediate dismissal from the clinical site. See the Code of Student Conduct printed in the current College catalog for specific examples. Offenses are subject to disciplinary actions as noted in the Code. Students found to be cheating or committing plagiarism of any kind can be removed from the classroom, lab, and clinical setting pending investigation and resolution through the Code of Student Conduct.

ACCOMMODATION STATEMENT

The Office for Special Needs Services exists to serve the needs of students with disabilities - physical, learning and/or emotional. If you are a person with a disability who needs accommodations or assistance, contact the O.S.N.S. located in Room 115 in the Learning Resource Center. Coordinator – Theodora Scott Phone - ext. 4124

ANATOMY AND PHYSIOLOGY RECOMMENDATION

It is recommended that students do not take the anatomy and physiology courses earlier than one year prior to the start of their clinical courses.

APPEAL PROCESS

Within the Division of Allied Health and Nursing and the Medical Sonography Program, students may avail themselves of the right of appeal on evaluations, conduct by the following process:

1. Discuss the problem with the faculty member involved; if not satisfied, then discuss the matter with the director of the program.

2. Discuss the matter with the division director if not satisfied in step 1.
3. Take the issue to the appropriate Vice-President if not satisfied in Step 2.

As provided in the College catalog (check index of current catalog for details), students have the right of appeal to ensure due process.

ASSIGNMENT OF STUDENTS TO CLINICAL AGENCIES

The college reserves the right to change clinical agency assignment of students and/or clinical sections at any agency. Assignment to the clinic is determined by the Diagnostic Medical Sonography program faculty. Clinical rotations may be outside the immediate area. Students are responsible for their own transportation and living arrangements during the clinical rotations. No guarantees can be made that students can remain in the area for any or all of the clinical rotations. Students may be required to pay for parking at some clinical sites. Due to contractual agreements between Lorain County Community College and each clinical affiliate, the clinical affiliate has the right to ask that a student be removed from the clinical site. Students must submit all required health forms prior to admission to any clinical agency.

CALCULATORS

A calculator is required for SONO 221 and 222, Ultrasound Physics and Instrumentation I and II. Calculators with the capability to store formulas in memory may **not** be used on tests. Students will benefit from a calculator with the following functions: square, square root, exponential notation, scientific notation, inverse, memory, logarithms.

CAMPUS SERVICES

Campus Services has staff on duty 24 hours a day, seven days a week. Campus Services is dedicated to serving the college community by striving to provide a safe and secure environment for students, faculty, staff and visitors. Specific elements of the Campus Services mission include: accident investigation, incident/crime investigation, crime prevention, vehicle assists, parking and traffic enforcement, emergency medical assistance and disaster coordination. The Campus Services Office is located in room 103 of the College Center and may be reached from anywhere on campus by phoning extension 4053 or from off-campus, 440-366-4053) or TDD 440-366-4136. For on-campus emergencies, dial 4444 from a campus phone. If you do not have access to a regular campus phone, activate any of the emergency phones by pushing the large red button. This will put you in touch with the Lorain County 9-1-1 system.

(College Catalog, pg. 174)

CARDIOPULMONARY RESUSCITATION POLICY

All students must have completed an American Heart Association *Healthcare Provider C.P.R.* course before entering the program and must still have a current certificate at the time of graduation. Students who have not completed this C.P.R. requirement may not enter the clinical agency. Students not certified at the time of graduation will not be considered as having successfully completed the program requirements.

The student is responsible for renewing their C.P.R. certification before the expiration date, as the Division of Allied Health and Nursing does not recognize a “grace period” following expiration. Students cannot attend clinical without current certification. Students are to give a copy of their C.P.R. card to the Program Director.

CHANGE OF ADDRESS AND NAME

In addition to giving a change of address or name to the College Records Office, the student also is requested to give the information to the secretary in the Division of Allied Health and Nursing office suite, Room HS 223.

CLINICAL AFFILIATES

AFFILIATE	CONTACT PERSON/LIASON	TELEPHONE #
Allen Medical Center	Amy Brasee	(440) 775-1211
Cleveland Clinic Foundation	Elizabeth Gildone	(216) 444-6484
Community Health Partners	Tonya Cazzell	(440) 960-3534
EMH Regional Medical Center	Heidi Willis	(440) 329-7804
Fairview Hospital, Perinatology	Marcia Fritz	(216) 476-7828
Firelands Regional Medical Center	Melissa Fitz	800- 342-1177
MetroHealth Medical Center	Diane Workman	(216) 778-2242
Southwest General Health Center	Barb Becher/Ann Burke	(440) 816-8555
University Hospitals Westlake Medical Center, Radiology	Dianne Dugan	(440) 250-2092
Wadsworth- Rittman Hospital	Terri D'Ambrosio	(330) 334-2861

CLINICAL OBJECTIVES

The following are the goals and clinical objectives for all assignments to clinical education. All student experiences will be supervised by an ARDMS Registered Sonographer.

The clinical objectives are:

- A. To improve the student's scanning abilities.
- B. To enhance the student's ability to recognize normal and abnormal sonographic patterns.
- C. To improve the student's ability to correlate clinical symptoms to sonographic findings.
- D. To develop good communication skills with members of the health care system and patients.
- E. To improve the student's proficiency in proper handling and care of the acutely and chronically ill patient.
- F. To promote independence and initiative in the student so that they can increase their self-confidence.
- G. To permit and cultivate in the student the ability to organize their duties and responsibilities.
- H. To develop the student's ability to be an efficient, cost effective member of the health care system.

CLINICAL EXPECTATIONS

The student will:

- A. have all assigned evaluations and competencies completed.
- B. submit clinical competencies and evaluations as completed to the Program Director or Clinical Coordinator.
- C. submit clinical records of cases completed, assisted, or observed at the end of each month.
- D. take responsibility for having time sheets signed each week.
- E. utilize the protocol requirements found in the handbook during their clinical education.
- F. take responsibility to have all competency and evaluation forms available for clinical staff.

COLLEGE CATALOG

The LCCC College Catalog contains a vast amount of information regarding services available to students, policies of the college, courses offered, and many other important facts regarding the college. Each Diagnostic Medical Sonography student is encouraged to have a copy of the catalog. A copy of the current catalog is available in the program director's office. Included among the many items of interest to students and available in the catalog are:

General Education Outcomes	Course Withdrawal Procedures
Faculty Directory	Substance abuse and Gambling
Disability Services	Discrimination
Academic Dismissal	Financial Aid and Scholarships
Forgiveness policy	Individualized Learning Support Center
Sexual Harrassment	Student Records Policies

CONFLICT RESOLUTION / LINE OF COMMUNICATION

In the Division of Allied Health and Nursing, there is a line of communication students are expected to utilize when attempting to solve problems, offer suggestions, complain, get questions answered, etc. This line of communication begins with the student's clinical instructor(s) and proceeds as follows until the situation is resolved or the question is answered:



Faculty offices are located in HS 223 (second-floor office suite). All faculty members have posted office hours indicating when they are available to students on a walk-in basis. In addition, faculty will schedule appointments for times outside their regular office hours. To make appointments with faculty, please contact them in person. The DMS Program Coordinator and the Director of the Division of Allied Health and Nursing are available for walk-in appointments as their schedules allow; however, students are encouraged to arrange an appointment with either of them. Problems which cannot be resolved at this level will be referred to follow the campus policy as outlined in the College catalogue.

Students are expected to follow this line of communication. If, at any time it is found that a student has "by-passed" a person on this line of communication (i.e., Clinical Instructor), they should expect to be sent back to talk to the person they by-passed, before their request, comments, etc., will be considered by any person higher on the line of communication.

CONTINUED PROFICIENCY

Students are expected to demonstrate continued and satisfactory performance in clinical situations and demonstrate satisfactory proficiency of *previous examination competencies*. Failure to demonstrate continued proficiency or refusal to perform exams for which the student has completed a competency, will result in a deficiency notice being issued. In addition, the previous-completed competency will be voided, and the student will be required to perform the skill for proficiency again.

COURSE WITHDRAWALS

The last day to withdraw from a regularly scheduled semester course is Friday of the twelfth week of the semester (eighth week of summer semester). A student who withdraws from an Allied Health and Nursing Division clinical course will be required to submit a Withdrawal Status Report Form from the

course instructor to the Records Office. This form is initiated in the Records Office and reports if the student was passing or failing the course at the time of withdrawal. If the student was failing a clinical course, the failure counts as if the student received a failing grade in the course for purposes of course repetition/program continuance and grading policies. If the student was not failing, the student may repeat the course and begin the technical sequence of course again the following year, on a space available basis according to the re-entry policy.

DEFICIENCY NOTICE

Deficiency notices may be given at any time during a semester. Reasons for deficiencies include (*but are not limited to*):

- Failure of clinical competencies
- Course average below 78%
- Unsatisfactory clinical evaluation
- Absenteeism and/or tardiness
- Unprofessional conduct
- Unsafe practice
- Inability to perform exam(s) in which student previously achieved competency
- Failure to complete clinical or laboratory assignments
- Failure to correct deficient area(s) previously identified
- Lack of cooperation / arguing with clinical staff

Faculty will notify students and discuss what is needed to correct the deficiency.

DISMISSAL FROM THE SONOGRAPHY PROGRAM

Students may be dismissed from the program for violations: of the Student Code of Conduct, the Academic Integrity Guidelines; academic dishonesty; failure to meet the appropriate level of development on the Generic Abilities Behavioral Criteria; repeated absences/lateness; more than one Sonography course failure (grade of less than "C") in either year of the program; unsafe clinical practice; failure of final lab practicals; or an Unsatisfactory Clinical Evaluation. This is not necessarily an all inclusive list, nor is it binding based on consideration of individual circumstances.

EMERGENCY CALLS

Emergency calls for students on campus are handled by the LCCC Campus Services Office. If an emergent situation occurs that requires the student's immediate attention, the student should instruct them to call the clinical site. (please see telephone policy)

FORTY-HOUR WEEK FOR STUDENTS

According to the *Standards and Guidelines* of JRC-DMS, a student may have only a total of 40 hours per week of combined classroom, college laboratory, and clinical experiences.

No student may exceed this total for any reason. Any hours which must be made up due to illness or disciplinary action cannot exceed this 40-hour per week limit. If more hours must be made up than can be accommodated during the regular semester schedule, the student must make arrangements with the instructor/Program Director to make up hours at the end of the semester during Reading Days and/or exam week.

GRADING POLICIES

Individual course grading policies may vary. Each course of the Diagnostic Medical Sonography Program will provide information in the course syllabus on how grades will be determined. All sonography courses use the following grading scale: A=100-93%; B=92-85%; C=84-78%; D=77-70%; F= Below 70%. Grades cannot be posted, nor can grades be given over the phone. Each course will provide the student's overall grade prior to the withdraw date for the term.

A grade of “C” or better is required in all Diagnostic Medical Sonography and Math/Science courses to be able to continue in the program. A student may fail (defined as less than a “C” grade) one clinical Diagnostic Medical Sonography Course in the first year of the program and repeat it, and may fail and repeat one clinical Diagnostic Medical Sonography course in the second year of the program. However, the student will **not** be permitted to continue in the program sequence until the course is completed with a grade of “C” or better. Because courses in the technical/core part of the program are only offered at specific times each year, students will usually not be able to repeat the course until the following year. The student may be able to continue the program sequence the following year, providing space is available in the program. This cannot be guaranteed. (See “Re-entering DMS Program” Policy)

In the event a student receives a grade of “D” for a non-clinical course of the program (SONO 122, SONO 221, SONO 222, SONO 226), the student will be allowed to continue in the program sequence with Program Director approval. However the student will **not** be permitted to graduate from the program, and thus not eligible for national certification exams until the course with a “D” is repeated and passed with a grade of “C” or better. A student who receives a grade of “F” in a non-clinical course will not be permitted to continue in the program sequence (clinical and non-clinical) and petition for re-entry into the program the next time the course is offered as described above. (See “Re-entering DMS program” policy)

A second course with a grade of “D” or “F” (clinical or non-clinical) in either year of the program causes the student to be dismissed from the program.

GRADUATION REQUIREMENTS

- Completion of all math/science courses with a “C” or above
- Completion of all support course work
- Completion of all sonography courses with a “C” or above
- Satisfactory completion of all clinical/lab requirements
 - o Clinical evaluations
 - o Clinical Competencies
 - o All lab/open lab assignments
 - o Passing of all lab protocol tests and lab practicals

GUESTS AND CHILDREN IN CLASS

Children or guests are not allowed to attend classes, class labs or clinical experience. In the case of an emergency, prior approval may be sought up to the beginning of class. If the child becomes disruptive in any way during the approved visit, the responsible person must remove the child immediately.

Guests may be used for open lab experiences provided a volunteer waiver form is signed and on file. Children under 10 years old may not be used as scanning subjects.

HEALTH REQUIREMENTS

A health examination by a physician is required prior to the entrance into an Allied Health and Nursing Program. This form will be made available at the time of acceptance to the first clinical course. This examination must be completed no earlier than **three (3) months prior to acceptance into the program**.

The following reports **must** accompany the health form:

1. Proof of Varicella immunity
2. Two-Step Mantoux results. **(Tine-tests are NOT acceptable.)**

- If a student is a positive reactor to the Mantoux test, then a chest x-ray is required.
 - Upon review of a health examination, a statement from a physician may be requested for purpose of clarity.
3. Diphtheria and Tetanus immunization documented within the past 10 years.
 4. An MMR vaccine if Rubella and/or Rubeola screening do not indicate immunity.
 5. Hepatitis B Vaccine (If a student chooses not to receive this vaccine, they must sign their refusal on the health form.) (College Catalog, pg. 27)

If a physician believes that other laboratory tests are necessary to evaluate a student's overall health, they can be ordered at the physician's discretion.

NOTE: Health care professionals are considered "high risk" for Hepatitis B because of the possibility of contact with blood products.

HOLIDAYS

Students are not *permitted* to be at clinical facilities on the following holidays observed by the College:

Thanksgiving Day and Friday	Martin Luther King, Jr. Day
Christmas Day	Memorial Day
New Year's Day	Independence Day

IDENTIFICATION CARDS FOR STUDENTS

The library card and student identification (ID) card are one and the same. Besides being able to use the card for taking out library books, it also is used for identification purposes at almost all student activities and for a discount at such events.

These ID cards are issued free of charge at the Library. A student must present a copy of his or her class schedule in order to receive one. In order for cards to be valid, they must be updated in the Library each semester, preferably at registration time or at the beginning of the semester by showing one's class schedule.

A lost card should be reported immediately to the Library at which time a duplicate card will be issued for a fee. (College Catalog, pg. 164)

NOTE: Diagnostic Medical Sonography students are required to have a second ID card (made for \$2.00) which is worn for security reasons at the hospitals. (See Dress and Uniform Accessories, page 43 of this handbook.)

INCLEMENT WEATHER - (CLOSING OF COLLEGE)

When classes on the Lorain County Community College campus are canceled, and the college is closed because of inclement weather, all clinical laboratories scheduled to meet during the closed times are canceled. Announcements about Lorain County Community College closing are made through the following radio stations:

WBEA	(Elyria)	107.3	FM	WLKR	(Norwalk)	1510	FM
WEOL	(Elyria)	93	AM	WLKR	(Norwalk)	95.3	FM
WRKG	(Lorain)	1380	AM	WMMS	(Cleveland)	100.7	FM
WZLE	(Lorain)	104.9	FM	WGAR	(Cleveland)	1220	AM
WOBL	(Oberlin)	1570	AM		(Cleveland)	1100	AM

Announcements also are transmitted on the United Press International wire which serves all AM, FM, and TV stations in the Northeast Ohio area.

When severe weather strikes the area, students are advised to first consider the conditions in their immediate area relative to traveling safely. Conditions may vary significantly within the service area of

the College. Decisions regarding College operations are made on the general status of the overall service area. Students are ultimately responsible for their own safety and travel decisions. Coursework is also the continuing responsibility of the student. A decision to be absent from a class or clinical for any reason does not exonerate the student from their full responsibility to complete all prescribed coursework. (College Catalog, pg. 174)

INCOMPLETE GRADES

An incomplete grade (“I”) may be given under special circumstances. An incomplete grade for clinical competencies may be given when situations at the clinical facility--such as low case volume--prevent the student from obtaining the assigned clinical competencies; this type of situation requires verification by the clinical facility and program faculty. Students should know that an incomplete grade will not be given because the student did not attempt to complete the competencies.

If a situation occurs such as that described above, an incomplete grade contract must be arranged *before* grades are issued for the semester. This incomplete grade contract must be completed before a final grade for the course is given. Failure to complete the competencies within the designated time will result in failure of the course.

LIABILITY INSURANCE

Student liability insurance is automatically charged when registering for Sonography I. Returning students will be billed separately. Clinical agencies require that students carry liability insurance. Students *should not purchase* their own liability insurance.

PLEASE NOTE: The liability insurance covers only activities in the clinical area performed as a student. Individuals who are hired for pay to work at clinical agencies, urgent care centers, doctors' offices, etc., as technologists are *NOT* covered by their student liability insurance purchased through the College.

MEDICAL/HEALTH/PERSONAL INJURY INSURANCE

Students who are injured in the clinical agency must fill out an incident report; they should be instructed to see a physician of their choice. The student is completely responsible for the cost of subsequent medical and surgical care. Students are not employees of the hospital; therefore, are not covered by workers' compensation. Furthermore, some clinical facilities **require** that students have their own medical insurance coverage in order to participate in the clinical experience at that facility. Consequently, all students are urged to have their own medical insurance coverage and their clinical education may be interrupted or limited if they do not carry medical insurance.

MATH REQUIREMENT

Students should be aware that the ultrasound physics and instrumentation courses require a comprehension of performing scientific formulas and algebra equations. It is suggested that students who have not had a math course over a year that they may find it helpful to review algebraic equations, exponents, scientific notation, base 10 logarithms and most importantly, the metric system and metric conversions. It is strongly suggested that if students have not had a math course for longer than five years that they take a refresher math course for review. Mathematics Tutors are available for assistance year round in the College's Learning and Resource Center.

MAKE-UP CLINICAL HOURS

Students are expected to verify and post their clinical hours in advance with the clinical liaison at their assigned clinical facility. Students are strongly encouraged to make outside appointments so as not to interfere with the clinical or class schedule. The program recognizes that situations may not always allow for this during regular business hours and an adjustment in the clinical schedule is necessary. However, the student is responsible for making up any missed clinical hours as assigned for that

semester. In such cases, the clinical liaison should be notified in advance of any foreseen changes to the posted schedule. Schedule adjustments should be temporary and limited. If situations arise that require frequent adjustments, then a permanent change in the clinical hours should be discussed with the clinical liaison and program faculty. The program faculty reserves the right to approve or decline any long term or permanent change in clinical hours based on the presence of qualified clinical instructors and/or available clinical experiences. Failure to obtain approval from the clinical liaison of schedule adjustments in advance and/or frequent adjustments will result in disciplinary action.

Students are also expected to make up any missed clinical hours due to illness prior to the end of the semester. Upon return to the clinical site, the student should arrange a schedule to make up missed clinical time with the clinical liaison. Missed clinical time can be made up throughout the semester as scheduling permits. This may be done through extended days or adding a day or portion of a day in the regular schedule. However, this is subject to caseload and clinical facility availability and subject to the approval of clinical liaison and program faculty. The student is responsible for making up the time and may have to arrange their personal schedule to accommodate availability of the facility. If time cannot be made up during the semester, the student may make up time during reading days or final exam week. Failure to make up missed clinical time by the last day of the semester may be subject for receiving and incomplete or a failing grade for the semester.

PATIENT EXPERIENCE

All first-year DMS students will be assigned to a hospital/agency for observation which includes patient care and working in the hospital atmosphere. During Spring semester, students will be assigned for one day each week. The purpose of these hours is to practice patient care and other aspects of a sonographer's duties besides performing patient exams. Students will be given specific tasks to be met during this time. These assignments are arranged through the Clinical Coordinator.

PREGNANCY POLICY

A student who becomes pregnant while enrolled in the Diagnostic Medical Sonography Program must inform the Program Director in writing as soon as possible. A letter must be provided from the student's physician stating if/how long the student is capable of working clinically during her pregnancy. After delivery, a release note must be provided from her physician, stating when the student is permitted to resume normal activity.

PROBATION

Students may be placed on clinical and/or theory probation by the faculty within the Division of Allied Health and Nursing. This probation is for minimal achievement in the health careers specialty, and is a warning that improvement is necessary immediately. It is a disciplinary measure used for Policy/Policies infractions, unsatisfactory evaluation (other than at the end of the semester) or excessive absences. (Notification of probation indicates that one of the above has occurred and a suspension from clinical and a suspension from the program could result, if a further infraction occurs.) If immediate improvement does not occur, a student will be dismissed from the program.

PROFESSIONAL SOCIETY PARTICIPATION

Participation as a member of the Society of Diagnostic Medical Sonographers (SDMS) is not required of students, however it is highly recommended. The SDMS offers reduced rates and scholarships for student members while providing the benefits of membership. The students are also encouraged to attend local ultrasound society meetings in Lorain and/or Cuyahoga counties. Student attendance to local society meeting is free. Additional information regarding the SDMS membership or the local meetings is available through the program director. The SDMS can be accessed through the internet at www.sdms.org. Students should be aware that attendance to local meetings will be a requirement of some of the Sonography courses.

PROGRAM EVALUATION

Program assessment is performed through various internal and external methods to monitor program effectiveness. This is accomplished through various surveys and evaluations. Each program at LCCC is required to perform an annual program review for the college every five years. The diagnostic medical sonography program also performs a review for the program accreditation through the Joint Review Committee on Education in Diagnostic Medical Sonography (JRC-DMS) and the Commission on Accreditation of Allied Health Education Programs (CAAHEP). The results of the various evaluations are used to identify strengths and weaknesses of the program.

Students play an important role in the evaluation process. Students are asked to evaluate various aspects of the program. These include faculty evaluations; clinical facility evaluation; course evaluation; resource evaluations; end of program evaluations; and post-graduate evaluations. Additionally, the program surveys employers of graduates, the program faculty and evaluates ARDMS exam results of the graduates.

The results of the evaluations/surveys, except faculty evaluations, are summarized.

Limitations/concerns of the program are identified, possible solutions and a course of action is presented to the program advisory committee. Faculty evaluations are scored by computer services and a typed summary of the evaluations are given to the faculty member. The faculty evaluations are used as a portion of the faculty's annual performance review.

Faculty evaluations by students – Full-time faculty are required to have student evaluations done in at least three didactic courses for each academic year. These evaluations evaluate the instructor's abilities and are used as a portion of the faculty's annual performance review. Adjunct faculty for didactic, clinical and college laboratory are also evaluated by students. Students are given the faculty evaluations near the end of the course.

Clinical facility evaluation by students – Students perform a clinical evaluation of the all clinical facilities they were assigned/visited at the end of each semester. A typed summary is provided to that facility each year.

Course evaluation by students – Students are asked to complete a course evaluation at the end of each core sonography course. These evaluations are used to assess the course content, course activities as well as library resources, financial aid and registration.

Resource evaluation by students – Students are asked to evaluate the programs resources. This evaluation is done near the end of the program completion and may be combined with the "End of Program Evaluation."

End of program evaluations – Evaluations are given to the students of the graduating class near the end of their final semester.

Post - graduate evaluations – Evaluations are mailed to graduates of the recent graduating class six months after graduation.

Employer evaluation of graduates – Evaluations are mailed to employers of the recent graduating class six months after graduation.

ARDMS Certification Exam Results – The program tracks graduates' success rate of the ARDMS certification exams. The program annually requests a composite breakdown of graduates compared to the national aggregate.

PROGRAM FACULTY

Clinical adjunct faculty and clinical facility staff are representatives of the Diagnostic Medical Sonography Program. Students should understand that patient needs and rights are always the priority as this may limit educational opportunities. The clinical facility staff are employed by the clinical facility and are required to fulfill responsibilities of the facility. As time or situations permit, the clinical facility staff provide instruction/assistance to the student. The clinical facility designates one of their staff to be a student liaison. This liaison acts as an intermediary between the college and the facility. The clinical facility staff oversees student activities and evaluates student performance with the direction of the liaison.

The clinical adjunct faculty are employed by the College and intermittently visit the clinical facilities. They evaluate student progress, provide instruction/assistance as well as identify and resolve problems between the student and the facility. The program faculty and students are guests at the facility and must function within the realm that the facility permits.

Both the clinical facility staff and the clinical adjunct faculty have disciplinary power in the interest of the facility, patient and program.

QUALITY OF WRITTEN MATERIALS

Correct spelling, good legibility of handwriting, appropriate grammar and sentence structure is expected on all written materials at all times. All assignments are expected to be completed as instructed and submitted on time. Instructors have the right to deny credit or deduct points from assignments of improper structure or late assignments.

RE-ENTERING THE DIAGNOSTIC MEDICAL SONOGRAPHY PROGRAM

Persons wishing to re-enter the Diagnostic Medical Sonography Program will be evaluated on a case-by-case basis and re-admitted contingent upon space available in the clinical area. This cannot be guaranteed. Students must see the Allied Health and Nursing Counselor, Dr. Richard McCarbery (in the Counseling Office), in order to initiate re-entry into the program. The College cannot guarantee the student will be re-admitted to his/her previous clinical agency. Students who do not resume the program the following year will have their case reviewed on an individual basis regarding their status and potential to re-enter the program. Students must provide evidence of meeting the health requirements for program entry prior to any readmission.

Students re-entering after prior successful completion of SONO 131 must meet with the Program Director the semester prior to re-entry and arrange to satisfactorily complete the open lab activities of SONO 131. Additional requirements may be necessary contingent upon the reasons for prior dismissal and the sonography course of re-entry. This will be addressed on a case-by-case basis to allow the student to reclaim their technical skill level equivalent to the expectations and skills of that point in the program.

Due to the nature of the SONO 131 course, it is recommended that students re-entering immediately after the SONO 131 course (summer semester) arrange for completing the re-entry requirements for possible available clinical positions. However, re-entry cannot be guaranteed unless positions become available.

Re-entering students must complete all requirements in the Diagnostic Medical Sonography Program, regardless of whether or not previous clinical hours and competencies were completed and credited to the student.

REPETITION OF COURSES

A student may fail (defined as less than a "C" grade) one clinical Diagnostic Medical Sonography Course in the first year of the program and repeat it, and may fail and repeat one clinical Diagnostic

Medical Sonography course in the second year of the program. However, the student will **not** be permitted to continue in the program sequence until the course is completed with a grade of “C” or better. Because courses in the technical/core part of the program are only offered at specific times each year, students will usually not be able to repeat the course until the following year. The student may be able to continue the program sequence the following year, providing space is available in the program. This cannot be guaranteed. (See “Re-entering DMS program” Policy)

In the event a student receives a grade of “**D**” for a non-clinical course of the program (SONO 122, SONO 221, SONO 222, SONO 226), the student will be allowed to continue in the program sequence with Program Director approval. However the student will **not** be permitted to graduate from the program, and thus not eligible for national certification exams until the course with a “D” is repeated and passed with a grade of “C” or better. A student who receives a grade of “F” in a non-clinical course will not be permitted to continue in the program sequence (clinical and non-clinical) and petition for re-entry into the program the next time the course is offered as described above. (See “Re-entering DMS program” policy)

A second clinical course failure in either year of the program causes the student to be dismissed from the program.

SKILLS ASSESSMENT

Students are tested throughout the program for skills assessment in patient care, patient communication and scanning skills through laboratory practicals, clinical competency tests and clinical evaluations. Failure to demonstrate proficiency in these areas will result in failure of the course.

SMOKE FREE ENVIRONMENT

Lorain County Community College is a smoke-free environment. Smoking is prohibited in all campus buildings. There are designated areas outside the buildings for people who wish to smoke. Failure to adhere to College policy relating to smoking will result in disciplinary action.

STUDENT EMPLOYMENT AT A CLINICAL FACILITY

Students choosing to be employed at a clinical facility may do so provided that:

1. Hours and obligations to the Sonography program come first and foremost.
2. The employment hours do not interfere with the regularly-scheduled hours of the program; and
3. No time or clinical competencies may be used for program requirements which was obtained as a paid employee of the facility.

STUDENT INJURIES

Should a Diagnostic Medical Sonography student injure him/herself in the clinical site, an incident report should be filled out and the student instructed to see a physician of his/her choice. While a student cannot be forced to seek medical advice, it should be noted on the incident report that the student was instructed to do so. In addition, the injured student must notify the Diagnostic Medical Sonography faculty regarding the injury so that the incident may be recorded in the student's file on the LCCC campus.

STUDENT MEETINGS WITH FACULTY

Timely, required meetings are held to help students plan their futures and to resolve any problems involving the student's education. Students are encouraged to see the Program Director as soon as possible regarding problems that may interfere with his/her learning.

Each first-year student will meet with the Clinical Coordinator in the Spring semester.

Each second year student will meet with the Program Director in the Fall semester to discuss clinical issues and academic issues, and meet again in the Spring semester for an exit interview.

Full-time faculty are available for meeting with students during their posted office hours (a minimum of 10 hours per week). Office hours are announced in class at the beginning of the semester, and are available in the division office (HS 223). Part-time instructors are not required to have office hours; however, students are encouraged to make arrangements with them to meet before or after class.

Faculty may also be contacted by telephone to arrange counseling/tutoring sessions. Academic counseling is available by contacting Dr. Richard McCarbery the Allied Health & Nursing Counselor, in the Student Services area. Those students who seek personal help are encouraged to meet with the Program Director or go to Women's Link in the Student Services area, ext. 4035.

STUDENT PHYSICALS FOR NEW AND REENTERING STUDENTS

All entering Diagnostic Medical Sonography students and all DMS students who are re-entering the Program after a one-year absence, shall submit evidence, on the College physical examination form, of a complete physical examination. The physical examination report must include results of rubella screening, chest x-ray or tuberculin skin test, complete blood count, urinalysis, serology and evidence of current immunization for tetanus and polio, and any other requirements as listed on the College physical examination form.

The physical examination, x-ray and lab test results must *not* be older than three months at the date of entry or re-entry.

STUDENT RECORDS

Family Educational Rights and Privacy Act

The Family Educational Rights and Privacy Act of 1974 (Buckley Amendment) provides student access to information about themselves, permits challenges to the information, and limits the release of such information about students without the student's explicit written consent. LCCC is committed to the Act in its entirety. Copies of procedures can be obtained from the Admission and Records Office.

Access to Student Records

A student's record, with certain exceptions including directory information as noted below, will not be released without prior written consent of the student. See the current College catalog for details.

Disclosure of Education Records

LCCC will disclose information for a student's educational records only with the written consent of the student, with certain exceptions. Exceptions are specified in the current College catalog.

Directory Information

LCCC designates personally identifiable information contained within the student's education record as "directory information" so that the College may, at its discretion, disclose this information without the student's prior written consent. This information is student name, home address and telephone number, date of birth, major field of study, participation in officially recognized activities, current enrollment status (including dates of attendance, full or part time, withdrawal status). A student may restrict the publication and release of this directory information by filing a written request with the records Office. In addition, the following information is always considered releasable: previous dates of attendance, degrees and awards received (to include honors), previous educational agencies or institutions attended. The complete policy regarding the collection, retention and dissemination of information about a student is available in the Records Office.

Students should keep the College Records Office, secretary in the Division of Allied health and Nursing Office, and Diagnostic Medical Sonography Program Director informed of any changes in their name, address or phone number.

Record Retention Policy

LCCC retains the official academic record (transcript) of enrollment and credit earned at LCCC for 100 years after the student's last enrollment at LCCC. Three years following any term of enrollment, the student's transcript is the final, indisputable record of academic achievement.

Program Records

Students wishing to have program records copied must submit a written request to the Program Director, 24 hours in advance.

STUDENT RESPONSIBILITY REGARDING CONFIDENTIALITY

It is imperative that the student maintain confidentiality regarding all aspects of patient care. This includes talking about patients in public areas (elevator, cafeteria, restrooms) in the hospital, and talking about patients outside of the hospital. Students may be required at some clinical facilities to sign a confidentiality statement.

Confidentiality also involves not discussing the patient's physician, the patient's personal life, or even acknowledging that a person is a patient or under medical care.

Any patient studies to be used by the student from a clinical facility (such as interesting case studies) must have **all patient identification removed prior to removal from the facility**. An interesting case approval form must be signed by a clinical instructor/liaison of the facility verifying all patient information has been removed.

Students should realize that violation of the above can result in being dismissed from this program, and possible lawsuits.

STUDENT VACATIONS

All students are expected to arrange their vacation between semester breaks, Christmas, and end of summer sessions. Students should be aware that the summer session for the Sonography program is 10 weeks; **there is no break between the end of the Spring semester and the beginning of the summer term**.

Vacations taken during semester would be considered an unexcused absence. See the Attendance Policy and the Unexcused Absence/Tardiness Procedure.

SUBSTANCE ABUSE, ALCOHOLIC BEVERAGES, AND GAMBLING

The possession or use of alcoholic beverages on the premises of Lorain County Community College or at an activity sponsored by the College, is strictly prohibited. A student under the influence of alcohol while on campus will be subject to disciplinary action governed by the "Student Code of Conduct". Lorain County Community College supports and promotes a drug-free campus environment. In accordance with the Drug-free Schools and Communities Act Amendment of 1989, it is a violation of college regulations and pertinent state and federal statutes to unlawfully manufacture, possess, use and/or distribute illicit drugs and alcohol on the campus. Students expressing concerns about their use/abuse of substances will be offered a referral to a Student Development Office counselor, the Nord Family Mental Health Center professionals, or the Family Services Association of Lorain County professionals (all on campus). Because college laboratory models professional behavior and outside volunteers are often used in laboratory exercises, a student in the laboratory with the smell of alcohol on their breath or presents intoxicated, will be dismissed from lab or open lab that day to prevent risk or injury to themselves or others. The student will be charged an unexcused absence, reported to the program director and further discipline. (*Code of Student Conduct and Campus Code of Conduct*, College Catalog pages 197-204)

SUBSTANCE ABUSE – CLINICAL

If representatives from the College and/or the clinical site concur that the odor of alcohol is detected on the breath of a student suggestive of recent alcohol consumption, this would be considered a gross lack of professionalism on the student's part. The incident will be documented and the student sent home from the clinical site/college laboratory that day. This is done because the student is a potential risk *or could be perceived by clinical staff and/or patients as a potential risk*, even if there is no observable impairment of behavior. The Program Director will be notified at this time and the student will be charged an unexcused absence. If this occurs a second time, the student will be sent home again, and instructed to meet with the Program Director as soon as possible, before allowed to reenter the clinical site and charged an unexcused absence. If the student states that there has been no alcohol consumed, they may be advised to seek medical attention for the problem. If it occurs a third time, the student may not be allowed back to the clinical site and may receive a clinical grade of "Unsatisfactory."

GAMBLING

Gambling and games of chance of any kind are not permitted on campus. Lotteries and/or raffles or the sale of tickets for these are not permitted on campus. Violations of these regulations are governed by the *Student Code of Conduct and Campus Code of Conduct* on pages 197-204 of the College Catalog.

TAPING OF LECTURES

Taping of lectures or any type of class presentation should not occur without first *securing the consent of the instructor*.

TELEPHONE NUMBERS - LCCC

Voice mail available 24 hour, 7 days a week for LCCC Divisions and Faculty

Local General Number	(440) 365-5222
Toll Free	1-800-995-5222
Division of Allied Health and Nursing	ext. 4015 or direct (440) 366-4015
FAX	366-4116
Roy B. Anderson, Division Director	ext. 7193, or direct 366-7193
Diagnostic Medical Sonography Program Faculty	
Craig Peneff, BSAS, RDMS, RVT	ext. 7189 or direct 366-7189
Assistant Professor, Program Director	
Michelle Yuhasz, AAS, RDMS, RT(R)	ext. 8724 or direct 366-8724
Sonography College Lab	366-7883

TELEPHONES - CELLULAR PHONES - BEEPERS

Cellular phone signals interfere with vital patient equipment. Cellular phone use is *NOT PERMITTED* within or around the grounds of any hospital.

Beepers are not permitted at the clinical site. If an emergent situation occurs that requires your immediate attention that someone needs to reach you, instruct them to call the clinical site. Students are discouraged from receiving or making telephone calls at the clinical site. Incoming calls should only of an urgent or emergent nature. Students are expected to use pay phones to make outgoing calls during their breaks.

Cellular phones and beepers must not disturb/disrupt class lectures. Cellular phones, beepers and personal digital assistants (PDAs) must be turned off and put out of sight during tests or be subject to penalty on the test score.

UNSATISFACTORY CLINICAL PRACTICE

Students receiving an unsatisfactory (U) in clinical practice of a Health Careers course will receive an automatic failure (F) in the clinical course.

INFECTION CONTROL POLICY

GENERAL OBJECTIVE: *Blood and body fluid precautions consistently will be used for all patients by students in ALL programs*

I. BODY FLUIDS PRECAUTIONS

A. Gloves

1. Disposable gloves should be donned prior to initiating client care tasks involving exposure or potential exposure to blood or other body fluids to which universal precautions apply. Gloves:
 - a. will be worn during all venipunctures.
 - b. will be worn when discontinuing intravenous therapy.
 - c. will be worn when working with blood or body fluid samples.
 - d. will be worn when handling items or surfaces soiled with blood or body fluids.
 - e. will be worn when giving injections.
 - f. will be changed between each patient.

B. Masks, Eyewear, and Gowns

1. Masks and eyewear should be worn together or a faceshield should be used by workers prior to any situation where splashes of blood or other body fluids are likely to occur.
2. Gowns or aprons should be worn to protect clothing from splashes with blood or body fluids.
3. If large splashes of quantities of blood are present or anticipated, impervious gowns or aprons should be worn.

C. Handwashing

1. Hands and skin surfaces should be immediately and thoroughly washed if contaminated with blood, body fluids or potentially contaminated articles.
2. Hands should be washed prior to donning and after removing gloves.

D. Cleaning and Decontamination of Spills of Blood

1. All spills of blood and blood contaminated fluids should be promptly cleaned with EPA-approved germicide or a 1:10 bleach. The worker should wear gloves while following the procedure outlined below:
 - a. Visible material should be removed with disposable towels. ***AVOID DIRECT CONTACT WITH BLOOD.***
 - b. If splashing is likely, protective eyewear should be worn along with an impervious gown or apron.
 - c. The area should be cleaned with the appropriate germicide.
 - d. Soiled cleaning equipment should be disposed of in plastic bags.

E. Linen, Soiled With Blood

1. Soiled linen should be handled as little as possible and with minimum agitation.
2. Soiled linen should be bagged at the location where it is used.

3. Linen soiled with blood or body fluids should be placed and transported in bags that are impervious to leakage.
4. Gloves should be worn when handling contaminated linens/clothing.
5. Shoes (leather) may be brushed-scrubbed with soap and hot water to remove contamination.
6. Uniforms soaked through with blood must be laundered by the agency's facility.

F. **Infectious Waste**

1. Bulk blood, suctioned fluids, excretions and secretions may be carefully poured down a drain connected to a sanitary sewer.
2. All disposable equipment and supplies contaminated with blood and/or body fluids must be disposed in appropriate biohazardous containers.

G. **Special Policies**

1. Needles, Syringes and Other Sharps
 - a. Gloves will be worn when drawing blood or administering an injection.
 - b. **Do not recap** contaminated needles, syringes or other sharps.
 - c. Do not bend needles after use.
 - d. Do not remove needles from disposable syringes.
 - e. Reusable sharps, instruments and equipment should be returned for reprocessing to protect the environment from further contamination.
 - f. Disposable syringes must be discarded immediately in a protected disposer.
 - g. All other sharps must be discarded in a protected disposer.
2. Invasive Procedures (includes Surgery, Maternity, Cardiac Cauterization and Angiography)
 - a. Gloves will be worn for all invasive procedures.
 - b. Surgical masks will be worn for all invasive procedures.
 - c. Masks and protective eyewear will be worn during procedures likely to generate splashes of blood or other body fluids.
 - d. Gloves and gowns will be worn by personnel handling a placenta or infant until blood and amniotic fluid has been removed.
3. Laboratory
 - a. Blood and body fluids should be contained in a receptacle with secure lid.
 - b. Mechanical pipetting devices will be used.
 - c. All items listed under **Body Fluids Precautions**.

4. Resuscitation Equipment

- a. Because of the risk of salivary transmission of other infectious diseases and the theoretical risk of H.I.V. and H.B.V. transmission during artificial ventilation, disposable airway equipment or resuscitation bags should be used.
- b. Pocket mouth-to-mouth resuscitation masks designed to isolate workers from contact with victim's blood, blood-contaminated saliva, respiratory secretions and vomitus.

II. AIRBORNE PATHOGENS PRECAUTIONS

A. Tuberculosis

1. Screening each year: All students enrolled in Allied Health and Nursing must participate in a yearly tuberculosis screening.
 - a. Mantoux (one step).
 - b. Chest x-ray, if Mantoux is positive.
- * 2. Each student will wear a particulate respirator mask when in direct contact with a client suspected of having or diagnosed with tuberculosis.
3. Students involved in transporting a client with suspected or diagnosed tuberculosis should apply the particulate respirator mask to the client.

B. Meningitis

1. Masks must be worn by health care providers in direct contact with a client suspected or diagnosed with meningitis prior to the completion of 24 hours of appropriate antibiotic therapy.
 2. Health care providers exposed without a mask to a client suspected or diagnosed with meningitis must follow up with the agency's infection control personnel for evaluation of the need for antibiotic prophylactics.
- * A particulate respirator mask filters out particles 1-5 microns in diameter.

Sources:

Guidelines for Prevention of Transmission of Human Immunodeficiency Virus and Hepatitis B Virus to Health Care and Public Safety Workers. U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control, Atlanta, GA. (MMWR 1989; 38 [No. S-6], 1-37).
Prevention and Control of Tuberculosis in U.S. U.S. Department of Health and Human Services, Public Health Service, Center for Disease Control, Atlanta, GA (MMWR 1992; 41 [No. RR-5]).

<p>Uniforms which are contaminated during body fluid spills at the clinical education center will be laundered by the clinical agency at no charge to the student.</p>

GUIDELINES FOR BODY SUBSTANCE EXPOSURE IN CLINICAL SETTINGS

Student -- any person who is undergoing specific clinical instruction in an affiliating agency.

The students will be informed of the body substance exposure protocol by their instructor or by an educated specialist of the agency during the initial clinical orientation.

A body substances exposure occurs when body fluids, especially blood, are splashed on mucous membranes, penetrate open sores on the skin, or a contaminated sharp punctures the skin while performing student duties. Because these occurrences are ways of transmitting Hepatitis B or H.I.V., the Division of Allied Health and Nursing strongly urges the student to follow these guidelines as soon as possible. If the student is exposed, the initial test must be done within seven days in order to satisfy the requirements of Ohio law mandating the source patient to comply. (Hobson Bill)

Guidelines:

1. The student and instructor are responsible for complying with agency protocol at the time of exposure. The student and instructor need to:
 - a. Appropriately cleanse the area of exposure.
 - b. Notify the unit manager of the exposure.
 - c. Complete an incident form on the day of exposure to the body fluid.
 - d. Determine the tetanus history and follow-up with immunizations as directed by agency protocol.
 - e. Attempt to identify the source of exposure, and if able, obtain informed consent for antibodies to the Human Immunodeficiency Virus (H.I.V. antibodies) and Hepatitis B Surface antigen from the source patient.
 - f. Have the student read educational materials about H.I.V. and Hepatitis B.
2. The Division of Allied Health and Nursing recommends that the student be tested for H.I.V. Free testing sites are available in Lorain and Cuyahoga Counties. The student should be tested at least four (4) times over a one-year period: 1) initial test; 2) at six weeks; 3) at six months; 4) at one year. Counseling is also available at the sites. Refrain from giving blood during the testing period.
3. The Division of Allied Health and Nursing recommends that the student be tested for Hepatitis B Surface Antibodies and if needed the student should receive the Hepatitis B Vaccine. The student can receive this vaccine at the local Health Department, or can contact his/her physician or go to the nearest emergency department. Immunizations cost approximately \$170.00 for three (3) doses over a six-month period. If the student is pregnant or becomes pregnant she should consult her physician immediately. (See section in this Student Handbook).
4. If the precise source of the student's exposure is unknown, the student will need a dose of Hepatitis B Immune Globulin, which can be given along with the Hepatitis B Immune Globulin, which can be given along with the Hepatitis B vaccine. The student can receive this at the local public Health Department.
5. The instructor should urge the student to encourage compliance with these guidelines and provide for appropriate counseling to support the student.

UNIFORM POLICY

Students are advised to follow uniform / dress code regulations

required by the clinical institution.

All uniforms must clearly display the following:

School Insignia:

Must be purchased in College bookstore, and must be firmly attached (not pinned) on upper left front of uniform or lab coat.

Identification Card:

All students are required to purchase a second library card for identification purposes while in the clinical agencies. The cost of these cards will include punching the card and attaching the collar clip.

The identification card must be worn whenever a student is in the clinical agency and it must be visible. Failure to display the above will result in the student being sent home and responsible to make up the time.

The following is the standard uniform unless otherwise approved by the clinical facility. This should be followed until variations or the use of scrubs are verified/approved by the clinical facility. Failure to follow the uniform requirement of the facility will result in the student being sent home with the responsibility to make up the time. **Do not assume.**

REMEMBER THAT YOU REPRESENT THE COLLEGE, THE PROGRAM AND THE SONOGRAPHY PROFESSION, WE WANT YOU TO APPEAR AS A PROFESSIONAL!!

1. UNIFORM

A. Female Students

1. White perma-press dress or pantsuit. No “high fashion” uniforms are permitted.
2. A pant liner and/or camisole top may be required by faculty if uniform is too sheer.
3. NO Thong underwear.
4. Slips that are full-length, shadow-proof, white and made of static-free fabric are required under dress uniforms.
5. Dress length: Knees should be covered.
6. Shoes: White, low heels, oxford, slip-on, or other appropriate shoes. *ALL WHITE* tennis shoes and white socks may be worn with pantsuits. Shoes must be cleaned and/or polished. Open toe shoes or sandals are not permitted.
7. Hose: White.
8. Sweater: White only. May not be worn while in direct contact with patients.
9. Lab coats: White only.

B. Male students

1. Shirt: White, perma-press.
2. Pants: White. (May be obtained through uniform catalog.)
3. Shoes: White or black oxfords or slip-on, *ALL white or black* tennis shoes or other appropriate shoes. Shoes must be cleaned and/or polished.
4. Socks: White.
5. Belt: White or black.
6. Necktie
7. Lab coats: White only.

C. Uniforms must be clean and neatly pressed.

- D. Scrubs are not to be worn except when required by surgical/invasive procedures, and provided by the clinical agency.
- E. Uniforms may be worn on campus when traveling to or from the clinical site. However uniforms must be clean and free of body fluids. Uniforms stained of bodily fluids may not be worn on campus and the student must have a clean change of clothes or leave the classroom or laboratory.

Failure to follow this policy will result in the student being dismissed from the clinical and an absence will be recorded

II. ACCESSORIES

- A. Earrings: None unless ears are pierced, then plain, small post-type earrings. No hoops or large earrings. Only one earring per ear.
- B. Rings: Wearing of engagement or wedding rings is permitted, but is highly discouraged. Rings must be removed when scrubbing or performing special procedures.
- C. No other rings or visible body piercings are permitted (i.e., nose, tongue, lip, eyebrow, etc.)
- D. Any visible tattoos should be covered while at the clinical site.
- E. Watch: Any type with plain band and sweep second hand or digital second read-out.
- F. Necklaces: Should not be visible when in uniform.

III. PERSONAL CARE

A. Hair

Female Students: Hair should be arranged neatly away from the face, not extreme, and is not to touch the collar of the uniform. Bobby pins, brown rubber bands, or hairnets may be used to secure hair. Clasp-type barrettes, only, maybe used.

Male Students: Hair should be arranged neatly and away from the face, not extreme, and is not to touch the collar of the uniform. Bobby pins, brown rubber bands, or hair nets may be used to secure hair. Clasp-type barrettes, only, may be used. Beards and mustaches are permissible so long as they are neatly trimmed, do not cause a hazard to the student's work, and conform with agency policy. All hair must be professional looking.

- B. Makeup is to appear natural and conservative.
- C. Nails must not extend beyond 1/8-inch of the fingertip. Clear or natural nail polish may be worn, but not chipped.
- D. Hygiene
 1. A clean uniform is to be worn each clinical day.
 2. Shoes must be kept polished and have clean shoelaces.
 3. Daily bathing prior to working with patients to eliminate body odor is required.
 4. Use of antiperspirant is required.
 5. Brushing teeth or use of mouthwash is required.
 5. No gum chewing.
- E. Diagnostic Medical Sonography students at the clinical agency must conform to the above uniform code at all times.

APPENDIX 1

COMPETENCIES

Competencies specific to general sonography shall include but not be limited to the following areas of proficiency:

1. Demonstrate knowledge of human physiology, pathology, and pathophysiology;
2. Demonstrate knowledge and understating of related imaging, laboratory, and testing procedures as they contribute to the clinical evaluation of disease and pathology;
3. Identify sonographic representation of normal and abnormal anatomy;
4. Apply optimal scanning techniques and imaging for specific areas of interest;
5. Demonstrate knowledge of permanent image record processing methods, image processing, and storage.

APPENDIX 2

EXIT COMPETENCIES

Prior to graduation, all Diagnostic Medical Sonography students must satisfactorily have met and completed all course, classroom and clinical objectives. In addition, we endorse and have incorporated into the appropriate courses, the terminal competencies mandated by the Joint Review Committee of Education in Diagnostic Medical Sonography (JRCDMS). The terminal competencies of the JRCDMS are listed below.

The graduate shall be able to:

1. Utilize oral and written communication.
 - a. Maintain clinical records
 - b. Interact with the interpreting physician or other designated physician with oral or written summary of findings as permitted by employer policy and procedure.
 - c. Recognize significant clinical information and historical facts from the patient and the medical records winch may impact on the diagnostic examination.
 - d. Comprehend and employ appropriate medical terminology, abbreviations, symbols, terms, and phrases.
 - e. Educate other health care providers and the public in the appropriate applications of ultrasound/non-invasive diagnostic vascular evaluation, including the following:
 - Medical terminology
 - Sonographic/other non-invasive diagnostic vascular terminology
 - Pertinent clinical signs, symptoms and laboratory tests
 - Pertinent legal principles
2. Provide basic patient care and comfort.
 - a. Maintain infection control and utilize universal precautions.
 - b. Anticipate and be able to respond to the needs of the patient.
 - c. Identify life-threatening situations and implement emergency care as permitted by agency procedure, including the following:
 - Infection control and universal precautions procedures
 - Pertinent patient care procedures
 - Principles of psychological support

- Emergency conditions and procedures
 - First aid and resuscitation techniques
3. Demonstrate knowledge and understating of human gross and sectional anatomy.
 - a. Evaluate anatomic structures in the region of interest.
 - b. Recognize the sonographic appearance of normal tissue structures, including the following:
 - Gross sectional anatomy
 - Embryology
 - Normal sonographic patterns
 4. Demonstrate knowledge and understanding of physiology, pathology and pathophysiology.
 - a. Obtain and evaluate pertinent patient history and physical findings.
 - b. Extend standard diagnostic testing protocol as required by patient history or initial findings.
 - c. Review data from current and previous examinations to produce a written/oral summary of technical findings, including relevant interval changes for the interpreting physician's reference.
 - d. Recognize examination findings that require immediate clinical response and notify the interpreting physician of such findings, including the following:
 - Patient interview and examination techniques
 - Chart and referral evaluation
 - Diagnostic testing protocols related to specific disease conditions
 - Physiology including blood flow dynamics
 - Pertinent pathology and paraphysiology
 - Pertinent legal issues
 5. Demonstrate knowledge and understanding of acoustical physics, Doppler ultrasound principles and ultrasound instrumentation.
 - a. Select the appropriate technique(s) for examination(s) being performed.
 - b. Adjust instrument controls to optimize image quality.
 - c. Perform linear, area, circumference and other related measurements from sonographic images or data.
 - d. Recognize and compensate for acoustical artifacts.
 - e. Utilize hard-copy devices to obtain pertinent documentation of examination findings.
 - f. Minimize patient exposure to acoustical energy which includes the following:
 - Acoustical physics
 - Sound production and propagation
 - Interaction of sound and matter
 - Instrument options and transducer selection
 - Principles of ultrasound instruments and modes of operation
 - Operator control options
 - Physics of Doppler
 - Principles of Doppler techniques
 - Methods of Doppler flow analysis
 - Techniques for recording static and dynamic images
 - Acoustical artifacts
 6. Demonstrate knowledge and understanding of the interaction between ultrasound and tissue and the probability of biological effects in clinical examinations, including the following:
 - Biologic effects
 - Pertinent in-vitro and in-vivo studies
 7. Employ professional judgment and discretion.

- a. Protect the patient's right to privacy.
 - b. Maintain confidentiality.
 - c. Perform within the scope of practice.
 - d. Adhere to the professional codes of conduct/ethics through the following:
 - Medical ethics
 - Pertinent legal principles
 - Professional interaction skills
 - Professional scopes of practice
8. Understand the fundamental elements for the implementing a quality assurance and improvement program, and the policies, protocols, and procedures for the general function of the ultrasound laboratory, including the following:
- Administrative procedures
 - Quality control procedures
 - Elements of quality assurance program
 - Records maintenance
 - Personnel and fiscal management
 - Trends in health care systems
9. Recognize the importance of continuing education, through the following:
- Professional journals
 - Conferences
 - Lectures
 - In-house educational offerings
 - Professional organizations and resources
 - Recent developments in sonography
 - Research statistics and design

APPENDIX 3

SPECIFIC COMPETENCIES

Competencies specific to the general learning concentration shall include, but not be limited to, the following:

1. Demonstrate the ability to perform sonographic examinations of the abdomen, superficial structures, non-cardiac chest, and the gravid and nongravid pelvis according to protocol

guidelines established by national professional organizations and the protocol of the agency, utilizing real-time equipment with both transabdominal and endocavitary transducers, Doppler, and color Doppler display modes:

- Demonstration/laboratory sessions
 - Clinical education
2. Recognize and identify the sonographic appearance of normal anatomic structures, including anatomic variants and normal Doppler patterns:
- Liver
 - Biliary system
 - Pancreas
 - Adrenal glands
 - Spleen
 - Prevertebral vessels
 - Peritoneal cavity, including potential spaces
 - Gastrointestinal tract
 - Non-cardiac chest
 - Neck
 - Breast
 - Scrotum
 - Prostate
 - Anterior abdominal wall
 - Extremities
 - Brain and spinal cord
3. Recognize, identify and appropriately document the abnormal sonographic and Doppler patterns of disease processes, pathology, and pathophysiology of the structures listed above. Modify the scanning protocol based on the sonographic findings and the differential diagnosis:
- History and physical examination
 - Related imaging, laboratory and functional testing procedures
 - Clinical differential diagnosis
 - Role of ultrasound patient management

Sonographic and Doppler patterns in clinical diseases which may occur in the following categories:

- Iatrogenic
 - Degenerative
 - Inflammatory
 - Traumatic
 - Neoplastic
 - Infections
 - Obstructive
 - Congenital
 - Metabolic
 - Immunologic
4. Recognize and identify the sonographic appearance of normal anatomic structures of the female pelvis, including anatomic variants and normal Doppler patterns:
- Reproductive system
 - Pelvic muscles
 - Suspensory ligaments
 - Peritoneal spaces
 - Pelvic vasculature

5. Recognize and identify the sonographic appearance of normal maternal, embryonic and fetal anatomic structures during the first, second, and third trimesters:
 - Sonographic sectional anatomy
 - Pertinent measurement techniques
 - Doppler applications
 - Normal sonographic appearance of fetal and maternal structures

6. Recognize, identify, and appropriately document the sonographic appearance of gynecologic disease processes, disease, pathology and pathophysiology:
 - History and physical examination
 - Related imaging, laboratory and functional testing procedures
 - Differential diagnosis
 - Role of ultrasound in patient management

Abnormal sonographic patterns in pregnancy:

- Iatrogenic
- Degenerative
- Inflammatory
- Traumatic
- Neoplastic
- Infections
- Obstructive
- Congenital
- Metabolic
- Immunologic

Contraceptive devices

Infertility procedures

Doppler applications

7. Recognize, identify, and appropriately document the sonographic appearance of obstetric abnormalities, disease, pathology and pathophysiology:
 - History and physical examination
 - Related imaging, laboratory and functional testing procedures
 - Differential diagnosis
 - Role of ultrasound in patient management

Abnormal sonographic patterns in pregnancy:

- Placenta
- Congenital/genetic anomalies
- Growth abnormalities
- Amniotic fluid
- Viability
- Multiple gestation

- Fetal monitoring
 - Maternal factors
 - Postpartum
 - Fetal therapy
8. Demonstrate knowledge and understanding the role of the sonographer in performing interventional/invasive procedures.

APPENDIX 4

GENERIC ABILITIES BEHAVIORAL CRITERIA

Beginning Level

- Identifies problem
- Formulates appropriate questions
- Identifies and locates appropriate resources
- Demonstrates a positive attitude (motivation) toward learning

- Offers own thoughts and ideas
- Identifies need for further information

Developing Level (builds on preceding level)

- Prioritizes information needs
- Analyzes and subdivides large questions into components
- Seeks out professional literature
- Sets personal and professional goals
- Identifies own learning needs based on previous experiences
- Plans and presents an in-service, research or case studies
- Welcomes and/or seeks new learning opportunities

Entry Level (builds on preceding levels)

- Applies new information and re-evaluates performance
- Accepts that there may be more than one answer to a problem
- Recognizes the need to and is able to verify solutions to problems
- Reads articles critically and understands limits of application to professional practice
- Researches and studies areas where knowledge base is lacking

Post-Entry Level (builds on preceding levels)

- Questions conventional wisdom
- Formulates and re-evaluates position based on available evidence
- Demonstrates confidence in sharing new knowledge with all staff levels
- Modifies programs and treatments based on newly-learned skills and considerations
- Consults with other allied health professionals
- Acts as mentor in area of specialty for other staff

2. INTERPERSONAL SKILLS

Beginning Level

- Maintains professional demeanor in all clinical interactions
- Demonstrates interest in patients as individuals
- Respects cultural and personal differences of others; is nonjudgmental about patients' lifestyles
- Communicates with others in a respectful, confident manner
- Respects personal space of patients and others
- Maintains confidentiality in all clinical interactions
- Demonstrates acceptance of limited knowledge and experience

Developing Level (builds on preceding level)

- Recognizes impact of non-verbal communication and modifies accordingly
- Assumes responsibility for own actions
- Motivates others to achieve
- Establishes trust
- Seeks to gain knowledge and input from others
- Respects role of support staff

Entry Level (builds on preceding levels)

- Listens to patient but reflects back to original concern
- Works effectively with challenging patients
- Responds effectively to unexpected experiences
- Talks about difficult issues with sensitivity and objectivity
- Delegates to others as needed
- Approaches others to discuss differences in opinion
- Accommodates differences in learning styles

Post-Entry Level (builds on preceding levels)

- Recognizes role as a leader
- Builds partnerships with other professionals
- Establishes mentor relationships

3. COMMUNICATION SKILLS**Beginning Level**

- Demonstrates understanding of basic English (verbal and written); uses correct grammar, accurate spelling and expression
- Writes legibly
- Recognizes impact of non-verbal communication: maintains eye contact, listens actively
- Maintains eye contact

Developing Level (builds on preceding level)

- Utilizes non-verbal communication to augment verbal message
- Restates, reflects and clarifies message
- Collects necessary information from the patient interview

Entry Level (builds on preceding levels)

- Modifies communication (verbal and written) to meet the needs of different audiences
- Presents verbal or written message with logical organization and sequencing
- Maintains open and constructive communication
- Utilizes communication technology effectively
- Dictates clearly and concisely

Post-Entry Level (builds on preceding levels)

- Demonstrates ability to write scientific research papers and grants
- Fulfills role as patient advocate
- Communicates professional needs and concerns
- Mediates conflict

4. EFFECTIVE USE OF TIME AND RESOURCES**Beginning Level**

- Focuses on tasks at hand without dwelling on past mistakes
- Recognizes own resource limitations
- Uses existing resources effectively
- Uses unscheduled time efficiently
- Completes assignments in a timely fashion

Developing Level (builds on preceding level)

- Sets up own schedule
- Coordinates schedule with others
- Demonstrates flexibility
- Plans ahead

Entry Level (builds on preceding levels)

- Sets priorities and reorganizes as needed
- Considers patient's goals in context of patient, clinic, and third party resources
- Has ability to say "No"
- Performs multiple tasks simultaneously and delegates when appropriate
- Uses scheduled time with each patient efficiently

Post-Entry Level (builds on preceding levels)

- Uses limited resources creatively
- Manages meeting time effectively
- Takes initiative in covering for absent staff members
- Develops programs and works on projects while maintaining case loads
- Follows up on projects in timely manner
- Advances professional goals while maintaining expected workload

5. USE OF CONSTRUCTIVE FEEDBACK**Beginning Level**

- Demonstrates active listening skills
- Actively seeks feedback and help
- Demonstrates a positive attitude toward feedback
- Critiques own performance
- Maintains two-way communication

Developing Level (builds on preceding level)

- Assesses own performance accurately
- Utilizes feedback when establishing pre-professional goals
- Provides constructive and timely feedback when establishing preprofessional goals
- Develops plan of action in response to feedback

Entry Level (builds on preceding levels)

- Seeks feedback from clients
- Modifies feedback given to clients according to their learning styles
- Reconciles differences with sensitivity
- Considers multiple approaches when responding to feedback

Post-Entry Level (builds on preceding levels)

- Engages in non-judgmental, constructive problem-solving discussions
- Acts as conduit for feedback between multiple sources
- Utilizes feedback when establishing professional goals
- Utilizes self-assessment for professional growth

6. PROBLEM SOLVING**Beginning Level**

- Recognizes problems

- States problems clearly
- Describes known solutions to problem
- Identifies resources needed to develop solutions
- Begins to examine multiple solutions to problems

Developing Level (builds on preceding level)

- Prioritizes problems
- Identifies contributors to problem
- Considers consequences of possible solutions
- Consults with others to clarify problem

Entry Level (builds on preceding levels)

- Implements solutions
- Reassesses solutions
- Evaluates outcomes
- Updates solutions to problems based on current research
- Accepts responsibility for implementing solutions

Post-Entry Level (builds on preceding levels)

- Weighs advantages
- Participates in outcome studies
- Contributes to formal quality assessment in work environment
- Seeks solutions to community health-related problems

7. PROFESSIONALISM

Beginning Level

- Abides by SDMS Code of Ethics
- Demonstrates awareness of state licensure regulations
- Abides by facility policies and procedures
- Projects professional image
- Attends professional meetings
- Demonstrates honesty, compassion, courage and continuous regard for all

Developing Level (builds on preceding level)

- Identifies positive professional role models
- Discusses societal expectations of the profession
- Acts on moral commitment
- Involves other health care professionals in decision-making
- Seeks informed consent from patients

Entry Level (builds on preceding levels)

- Demonstrates accountability for professional decisions
- Treats patients within scope of expertise
- Discusses role of physical therapy in health care
- Keeps patient as priority

Post-Entry Level (builds on preceding levels)

- Participates actively in professional organizations

- Attends workshops
- Actively promotes the profession
- Acts in leadership role when needed
- Supports research

8. RESPONSIBILITY

Beginning Level

- Demonstrates dependability
- Demonstrates punctuality
- Follows through on commitments
- Recognizes own limits

Developing Level (builds on preceding level)

- Accepts responsibility for actions and outcomes
- Provides safe and secure environment for patients
- Offers and accepts help
- Completes projects without prompting

Entry Level (builds on preceding levels)

- Directs patients to other health care professionals when needed
- Delegates as needed
- Encourages patient accountability

Post-Entry Level (builds on preceding levels)

- Orients and instructs new employees/students
- Promotes clinical education
- Accepts role as team leader
- Facilitates responsibility for program development and modification

9. CRITICAL THINKING

Beginning Level

- Raises relevant questions
- Considers all available information
- States the results of scientific literature
- Recognizes “holes” in knowledge base
- Articulates ideas

Developing Level (builds on preceding level)

- Feels challenged to examine ideas
- Understands scientific method
- Formulates new ideas
- Seeks alternative ideas
- Formulates alternative hypotheses
- Critiques hypotheses and ideas

Entry Level (builds on preceding levels)

- Exhibits openness to contradictory ideas
- Assesses issues raised by contradictory ideas
- Justifies solutions selected
- Determines effectiveness of applied solutions

Post-Entry Level (builds on preceding levels)

- Distinguishes relevant from irrelevant patient data
- Identifies complex patterns of associations
- Demonstrates beginning intuitive thinking
- Distinguishes when to think intuitively vs. analytically
- Recognizes own biases and suspends judgmental thinking
- Challenges others to think critically

10. STRESS MANAGEMENT**Beginning Level**

- Recognizes own stressors or problems
- Recognizes distress or problems in others
- Seeks assistance as needed
- Maintains professional demeanor in all situations

Developing Level (builds on preceding level)

- Maintains balance between professional and personal life
- Demonstrates effective affective responses in all situations
- Accepts constructive feedback
- Establishes outlets to cope with stressors

Entry Level (builds on preceding levels)

- Prioritizes multiple commitments
- Responds calmly to urgent situations
- Tolerates inconsistencies in health-care environment

Post-Entry Level (builds on preceding levels)

- Recognizes when problems are unsolvable
- Assists others in recognizing stressors
- Demonstrates preventative approach to stress management
- Establishes support network for self and client
- Offers solutions to the reduction of stress within the work environment

APPENDIX 5**DIRECTIONS TO CLINICAL AFFILIATES****Oberlin Medical Center (200 West Lorain St., Oberlin, OH 44074)**

From Elyria:

State Route (S.R.) 57 South to S. R. 10 West

Exit at S.R. 511 and follow into Oberlin. Hospital is on Right after the Oberlin College campus.

From Lorain or S.R. 2 (I-90) West:

Proceeding West on S.R. 2 (I-90), Exit at S.R. 58, the Lorain/Amherst exit.

Turn Left onto S.R. 58 and proceed through Amherst. Follow S.R. 58 to Oberlin. When arriving in Oberlin, turn Right at S.R. 511. Hospital is on right, after the Oberlin College campus.

- Amy Brasee, Sonographer

Amherst Hospital (234 Cleveland Ave., Amherst, OH 44001)

From the College:

Abbe Road North to S.R. 254

Turn Left onto S.R. 254 to I-90/S.R. 2 West

Turn Left onto I-90/S.R. 2 West

Go West (Follow Signs for Route 2) to Lorain/Amherst Exit at S.R. 58.

Turn Left off of exit onto S.R. 58 South.

Go on S.R. 58 South into Amherst to Cleveland Street. (first major intersection).

At Cleveland Street - Midas Muffler on left and a new drug store on opposite diagonal.

Turn right onto Cleveland Street. Proceed on Cleveland Street to the Sunoco Gas Station.

Turn left at Sunoco Gas Station. Hospital will be 100 yards on right, behind Bank.

Park in the visitors Lot in front of hospital.

Go in Main Entrance. Go through waiting room to x-ray (Imaging department).

After going through door of waiting room, go past hallway about 5 steps on right will be the Imaging Area, go in double doors.

Introduce yourself and Identify that you are a LCCC student.

Ultrasound Personnel – Kristyn Mull, Sonographer .

Cleveland Clinic Foundation, (One Clinic Center, 9500 Euclid Ave., Cleveland OH 44195)

Access CCF's website at www.ccf.org, click on "about us", then click on "Maps & Directions.

Directions to CCF from the western suburbs:

Take I-90 east to downtown Cleveland.

Exit at Chester Ave. Turn right (east) and proceed to East 93rd Street.

Turn right (south) on East 93rd Street and drive one block to Euclid Avenue.

Turn left onto Euclid Avenue and then take an immediate right into the Euclid Avenue, Visitor Parking Garage. Bring the parking ticket with you and it will be validated the first day.

Enter the "H" building, which is just south of the parking garage, and take the elevators down to the basement. Report to desk Hb-6 Radiology at 8:00 am in uniform .

- Ask for Elizabeth Gildone, Education Coordinator, Division of Radiology, Program Liaison
- Karen Godek, Ultrasound Supervisor

Community Health Partners – Lorain (3700 Kolbe Road, Lorain, OH 44053)

From the College:

Abbe Road North to S.R. 254

Turn Left onto S.R. 254 to I-90/S.R. 2 West

Turn Left onto I-90/S.R. 2 West

Go West (Follow Signs for Route 2) to Lorain/Amherst Exit at S.R. 58.

Turn Right off of exit onto S.R. 58 North to first major intersection (Cooper-Foster Road)

Turn Left onto Cooper-Foster Road to Kolbe Road.

Turn Right onto Kolbe Road, Hospital on Left about 2 miles.

At hospital, park in front visitors lot. Enter at Outpatient building. Follow signs to Radiology Department.

Go through waiting area through double doors, down corridor.

When you get to a large waiting area, that is Radiology. Immediately before waiting area turn right and go through double doors. Turn right at first corner, Turn left at the next corner. Ultrasound should be a door on the Right (CT scan on Left).

or

Find the main Radiology Desk. Identify yourself as an LCCC ultrasound student. Ask for directions to ultrasound.

- Tonya Cazzell, Ultrasound Supervisor

EMH Regional Medical Center (630 East River St., Elyria, OH 44035)

From the College, Proceed South on North Abbe Road to Route 57.

Turn right onto Route 57. Proceed to first stoplight (Gulf Road)

Turn left onto Gulf Road. Proceed to the end of Gulf Road (~2 miles) to Cleveland St.

Turn Right onto Cleveland Street, Proceed to Bridge Street (under Train Bridge)

Turn Left onto Bridge Street.

Proceed to the end of Bridge Street at the intersection of East Broad St.

Turn Left onto East Broad Street. Then Turn Right at the first street, Park Avenue

(Across from

Friendly's). Turn Left into the Parking lot. Students are to park in the Park Avenue /East Broad Street

Parking Lot.

Enter Hospital at main entrance. Follow signs to Radiology.

Ultrasound/Vascular Lab is in Special Imaging of the Radiology Department. Once in Radiology, go to Basement for Special Imaging.

- Lori Hoefs, Supervisor, Ultrasound/Vascular Lab
- Heidi Willis, Program Liaison

EMH Center of Health and Fitness, 1996 Healthway Drive, Avon, OH 44011,

From the College, North on Abbe Road to Detroit Road (S.R. 254).

Turn Left onto Detroit Road. Proceed to Interstate-90 (State Route 2) entrance ramp, East.

I-90 East to Cleveland, Exit at State Route 83. Turn right onto SR 83.

SR 83 to Detroit Road (SR 254), Turn right onto Detroit Road.

Health way Drive is on right within 1 mile from SR 83.

- Terri Gabriele, Sonographer

Fairview Hospital (Fairview Perinatology- Dr. Moodley and Dr. Shah) (18101 Lorain Ave., Cleveland, OH 44111)

Via I-90 (S.R. 2):

I-90 East to Cleveland

Exit at McKinley Road

Turn right at first light (coming off of exit) onto McKinley

Proceed to next stoplight, Rocky River Drive

Turn left onto Rocky River Drive

Proceed to Lorain Road (1-2 miles) Shell station, Duncan Doughnuts, Pizza Hut)

Turn Right onto Lorain Road

Hospital on Left hand side. Park on 3rd floor of parking garage. . Enter the Physicians building from the garage on the 3rd floor. Obstetric offices on 3rd floor

Fairview Hospital (Fairview Perinatology- Dr. Moodley and Dr. Shah)**Via Route 10 to I-480:**

I-480 East to Cleveland
 Exit at Grafton Road
 Turn Left onto Grafton Road (North)
 Proceed on Grafton Road until it dead-ends at Puritas Road
 Turn Right onto Puritas Road (East) proceed to Rocky River Drive
 Turn Left onto Rocky River Drive (North), proceed on Rocky River Drive to Lorain Road. Turn Left onto Lorain Road (West), proceed on Lorain Road to Fairview Hospital on lefthand side. Park in visitors parking garage 3rd floor. Enter the Physicians building from the garage on the 3rd floor. Obstetric offices on 3rd floor.

- Marcia Fritz, Sonographer Program Liaison

Firelands Regional Medical Center (1101 Decatur Street, Sandusky, OH 44870)**From Elyria:**

State Route 2 West to State Route 4 Sandusky
 Exit SR 2 onto (turn right) North SR 4
 Follow SR 4 North into Sandusky (Go Past the South Campus of Firelands Regional Medical Center)
 Continue North on SR 4, the North Campus will be about 1-1.5 miles past the South Campus on the left side of the road.

Park in the visitors parking lot. Go to the Radiology Department.

- Melissa Fitz, Ultrasound Supervisor, Clinical Liaison
-

MetroHealth Medical Center (2500 Metrohealth Drive, Cleveland, OH 44109)**From State route 10/I-480 from Elyria**

Drive I-480 East to I-71 North to Cleveland
 Proceed on I-71 into Cleveland to Fulton Road/Pearl Road/West 25th street exit.
 Exit at Pearl Road/West 25th street.
 Turn Left onto West 25th off of exit ramp. Get in the Right hand lane. Road forks after the overpass. Take the right branch (Scranton Road).

From I-90 (Eastbound)

Take I-90 into Cleveland, to I-71 South. Exit at Pearl Road /West 25th street(first exit)
 Turn left onto West 25th street from exit ramp. Take West 25th street to first stoplight.
 Turn Right. Turn Left at intersection (stoplight) onto Scranton Road.

Enter hospital grounds at Main hospital entrance after you pass the hospital (on right). Park in visitors parking garage across from Twin Towers. Enter hospital and take elevators to ground floor. Go to Radiology Department. Go through the main hall of Radiology Department to the end.. Proceed to left around Radiology Registration Desk. Turn Right and the Ultrasound Section is in front of you.

Enter through double doors.

- Diane Gramer, Ultrasound Supervisor, Program Liaison

SouthWest General Health Center (18697 East Bagley Road, Middleburg Hts., OH 44130)**From Elyria:**

S.R. 57 South to S.R 10 East to I-480 East

Exit I-480 onto I-71 South to Bagley Road Exit.
 Turn Right onto Bagley Road
 Southwest General Hospital is on Left about 2 miles
 Turn Left onto Old Oak Road
 Park in parking lot on Right side of Old Oak Road across the street from the Outpatient Surgery Center. Enter facility at Outpatient Surgery Center. Ultrasound is on Left (Across hallway from Giftshop)

- Barb Becher, Sonographer, Program Liaison

University Hospitals of Cleveland, Westlake Medical Center, Radiology (960 Clague Road, Westlake, OH 44145)

From Interstate 90 (State Route 2) eastbound.
 Exit at Clague Road. Turn Right. Facility is on north side of street.
 Students should park in back behind facility and enter the rear of the building.
 Go to radiology department.

- Diane Dugan, Sonographer, Clinical Liaison
- Ron Collister, Radiology Manager

Wadsworth- Rittman Hospital (195 Wadsworth Rd., Wadsworth, OH 44281)

From Elyria:

S.R. 57 South to S.R. 82 East (Marathon Station)
 Turn Left onto S.R. 82 East
 Take S.R 82 East to S. R. 83 South (Stop Light)
 Turn Right onto S.R. 83 South
 Take S.R. 83 South into Lodi
 Turn Left at first Stoplight in Lodi
 Go 1 mile out of town to Entrance Ramp for U.S 224 East
 Turn onto U.S. 224 East (towards Akron)
 U.S. 224 becomes Interstate 76
 Take I-76 to the first Wadsworth exit. (S.R. 57).
 Turn South onto S.R. 57
 Go Over overpass, immediately after overpass turn Left onto a small road (look for hospital sign)
 Turn Right at stop sign, go up hill about 150-200 yards to a three-way stop. (Wadsworth Road)
 Turn Left onto Wadsworth Road (See Hospital on Rt. At top of the hill).
 Entrance to hospital about one-quarter mile on right.
 Park in visitors area.
 Go to the x-ray (radiology department)
 Tell them who you are and identify yourself as an LCCC Student.

- Terri Di' Ambrosio, Sonographer, Program Liaison

APPENDIX 6

DMS HOLDINGS IN LCCC LIBRARY

BOOKS

	Call #
Abdominal Sonography, Koenigsburg, M., and Hoffman-Tretin, J.	617. 5507543 K78
Abdominal ultrasound : a practitioner's guide / Kathryn A. Gill;	617.55 A135
An atlas of ultrasound color flow imaging / edited by Barry B. Goldberg, Daniel A. Merton, Colin R. Deane;	616.07543 A881
Atlas of human anatomy / by Frank H. Netter ; Sharon Colacino, consulting editor;	611 N474a
Atlas of Human cross-sectional anatomy with CT and MR images, 2nd ed., Cahill, D.	611 C132a2
Atlas of Ultrasonographic Variants and Artifacts, 2nd ed., Sanders, R.	616.07543 S215
Atlas of ultrasound in obstetrics and gynecology : a multimedia reference / Peter M. Doubilet, Carol B. Benson., Philadelphia : Lippincott Williams & Wilkins,	618.2 D726

c2003.	
Basic Atlas of Sectional Anatomy : with correlated imaging, 2nd ed., Bo, W., et al.	611 B311
Breast imaging / Robert L. Egan;	618.19 E28
Breast ultrasound / A. Thomas Stavros	618.1 S798
Choosing assisted reproduction : social, emotional & ethical considerations / Susan Lewis Cooper, Ellen Sarasohn Glazer	618.178 C778
Ciba collection of medical illustrations,	611 N474
Ciba collection of medical illustrations / prepared by Frank H. Netter;	611 N474c2
Clinically oriented anatomy / Keith L. Moore, Arthur F. Dalley II	611 M822
Clinical Applications of Doppler Ultrasound, editors, Taylor, Burns, Wells	616.07543 c641
Clinical Doppler ultrasound / edited by Paul L. Allan [... et al.];	616.07543 C6415
Clinical guide to ultrasonography / Charlotte Henningsen ; with a foreword by Lennard D. Greenbaum;	616.07543 H517
Clinical sonography : a practical guide / editor, Roger C. Sanders ; assistant editor, Nancy Smith Miner, with Joan Campbell ... [et al.];	616.07543 C6414
Diagnostic imaging of fetal anomalies / edited by David A. Nyberg ... [et al.]. Philadelphia : Lippincott Williams & Wilkins, c2003.	618.3 D536
Diagnostic Medical Sonography: Abdomen, Kawamura, D.	617.5507543 A135
Diagnostic Medical Sonography: Obstetrics and Gynecology, Berman, M.	616.07543 O14
Diagnostic Ultrasound of Fetal Anomalies: Text and Atlas, Nyberg, David	618.3207543 N993
Diagnostic Ultrasound, Rumack, Carol	616. 07543 D536
Diagnostic Ultrasound: Principles, Instruments and Exercises, 4th ed., Kremkau, F.	616.07543 K92
Dorland's Illustrated Medical Dictionary, 27th ed., Dorland, W.	610.3 D711d27
Essentials of ultrasound physics / James A. Zagzebski;	616.07543 Z18
Exercises in Diagnostic Radiology, Squire, Lucy et al., 5 volumes	616.0757 E96
Fetal Echocardiography, Drose, G.	618.3 F419
Gray's anatomy	611 G779a38
Greene's Gynecology: Essentials of Clinical Practice, 4th ed., Clarke-Pearson, D.	618.1 C612
Handbook of gynecologic oncology / edited by Richard R. Barakat ... [et al.];	616.99465 H236
Manual of Ultrasound, Lutz, Harold	616.07543 L975
Melloni's Illustrated Medical Dictionary, 3rd ed., Dox, I.	610.3 d752m3
Mosby's Medical, Nursing and Allied Health Dictionary, 4th ed.	610.3 M894m4
National certification examination review : abdomen / Kerry Weinberg;	617.55 W423
National certification examination review : breast ultrasound / Catherine Carr-Hoefer, Joyce A. Grube	618.19 C311
National certification examination review : ultrasound physics and instrumentation / Sheila Hughes, Pamela Butler	616.07543 H894
National certification examination review : obstetrics and gynecology / Charlotte Henningsen	618.1 H517
National certification examination review : neurosonology / Craig Peneff, Regina Swearingin	616.804757 P398
Neurosonology / [edited by] Charles Tegeler, Viken L. Babikian, Camilo R. Gomez;	618.178 A567
New conceptions : a consumer's guide to the newest infertility treatments, including in vitro fertilization, artificial insemination, and surrogate motherhood / by Lori B. Andrews;	616.8 N4945
Novak's Textbook of Gynecology, 11th ed., Jones, H.	618.1 J77
Obstetrics Illustrated, 3rd ed., Garrey, M., et al.	616.2 O14
Prenatal diagnosis of congenital anomalies / Roberto Romero [et al.];	618.2
P926	
Quick Reference to Abdominal Ultrasonography, Hagen-Ansert, S.	616.07543 H143q
Segmental Anatomy: Applications to Clinical Medicine, Wagner, M., Lawson, T.	611 W134
Selected Drugs used during Labor and Delivery: Effects on the Fetus and Neonate 2nd ed., Blum, M.	618.32 B658
Textbook of Diagnostic Ultrasonography, 4th ed., Hagen-Ansert, S., 2 vols.	616.07543 H143
Textbook of Gynecology, Copeland, L.	618.1 T355

The Developing Human: Clinically Oriented Embryology, Moore, K.	612.64 M822
The high-risk pregnancy sourcebook / by Denise M. Chism ; foreword by Eleanor D. Sabin;	618.3 C542
The Obstetrician/Gynecologist in the 21st century: meeting society's needs, Wallach Transvaginal Ultrasound, Nyberg, David et al.	618.1 O14 618.047543 TT772
Ultrasound diagnosis of fetal anomalies / Michael Entezami ... [et al.] ; with contributions by U. Knoll, L. Schmitz, R.D. Wegner ; translated by Sanyukta Runkel. Stuttgart ; New York : Georg Thieme, c2004.	618.3 U47
Ultrasonography in Obstetrics and Gynecology, 3rd ed., Callen, P.	616.07543 U47
Ultrasonography in obstetrics and gynecology, 4 th ed. / [edited by] Peter W. Callen; Ultrasonography of the Prenatal and Neonatal Brain, Timor Tritsch et al.	616.07543 U474 TBA
Ultrasonography: An Introduction to Normal Structure and Functional Anatomy, Curry, R., and Tempkin, B.	616.07543 U468
Sonography : introduction to normal structure and function / [edited by] Reva Arnez Curry, Betty Bates Tempkin;	616.07543 U468 2004
Ultrasound of fetal syndromes / Beryl R. Benacerraf	618.3 B456
Ultrasound Exam Review: Sonographers Self-Assessment Guide, Craig, M.	616.07543 C886
Ultrasound Markers for Fetal Chromosomal Defects, Snijders.	618.3 S672
Ultrasound physics and instrumentation / Wayne R. Hendrick, David L. Hykes, Dale E. Starchman;	616.07543 H456
Williams Obstetrics, 19th ed., Cunningham, F.	618.2 W728

[videorecording]

Introduction to carotid duplex/color flow imaging] / [presented by] Gulfcoast

[616.07543 I61](#)

Ultrasound Institute, Inc;

Venous imaging techniques [videorecording] / produced in cooperation with Advanced

[616.07548 V464](#)

Technology Laboratories;

[Formation of sex cells and chromosomal abnormalities,](#)

[574.32](#)

[F7242](#)

Keith L. Moore ; with the collaboration of David M. Cox and Manoranjan Ray

APPENDIX 7**Code of Ethics for the Profession of Diagnostic Medical Sonography**

Approved by SDMS Board of Directors, September 29, 2004

PREAMBLE

The goal of this code of ethics is to promote excellence in patient care by fostering responsibility and accountability among diagnostic medical sonographers. In so doing, the integrity of the profession of diagnostic medical sonography will be maintained.

OBJECTIVES

To create and encourage an environment where professional and ethical issues are discussed and addressed. To help the individual practitioner identify ethical issues. To provide guidelines for individual practitioners regarding ethical behavior.

PRINCIPLES

Principle I: In order to promote patient well-being, the diagnostic medical sonographer shall:

- A. Provide information to the patient about the purpose, risks, and benefits of the ultrasound procedure and respond to the patient's questions and concerns.
- B. Respect the patient's autonomy and the right to refuse the procedure.
- C. Recognize the patient's individuality and provide care in a non-judgmental and non-discriminatory manner.
- D. Promote the privacy, dignity and comfort of the patient (relatives and significant others) by thoroughly explaining procedure protocols and implementing proper draping techniques.
- E. Protect confidentiality of acquired patient information.
- F. Strive to ensure patient safety.

Principle II: To promote the highest level of competent practice, diagnostic medical sonographers shall:

- A. Obtain appropriate ultrasound education and clinical skills to ensure competence.
- B. Achieve and maintain specialty specific ultrasound credentials. Ultrasound credentials must be awarded by a national sonography credentialing body recognized by the Society of Diagnostic Medical Sonography (SDMS) Board of Directors.
- C. Uphold professional standards by adhering to defined technical protocols and diagnostic criteria established by peer review.
- D. Acknowledge personal and legal limits, practice within the defined scope of practice, and assume responsibility for his/her actions.
- E. Maintain continued competence through continuing education and/or recertification.
- F. Perform only medically indicated studies, ordered by a physician or their designated health care provider.
- G. Protect patients and/or study subjects by adhering to oversight and approval of investigational procedures, including documented informed consent.
- H. Refrain from the use of any substances that may alter judgment or skill and thereby compromise patient care.
- I. Be accountable and participate in regular assessment and review of equipment, procedures, protocols, and results.

Principle III: To promote professional integrity and public trust, the diagnostic medical sonographer shall:

- A. Be truthful and promote appropriate and timely communications with patients, colleagues, and the public.
- B. Respect the rights of patients, colleagues, the public and yourself.
- C. Avoid conflicts of interest and situations that exploit others or misrepresent information.
- D. Accurately represent his/her level of competence, education and certification.
- E. Promote equitable care.

F. Collaborate with professional colleagues to create an environment that promotes communication and respect.

G. Recognize that well-intentioned healthcare providers can find themselves in ethical dilemmas; communicate and collaborate with others in resolving ethical practice. Report deviations from the SDMS Code of Ethics for the Profession of Diagnostic Medical Sonography to supervisors, so that they may be addressed according to local policy and procedures.

H. Engage in ethical billing practices.

I. Engage only in legal arrangements in the medical industry.

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APPENDIX 8

Scope of Practice for the Diagnostic Ultrasound Professional

Preamble:

The purpose of this document is to define the Scope of Practice for Diagnostic Ultrasound Professionals and to specify their roles as members of the health care team, acting in the best interest of the patient. This scope of practice is a "living" document that will evolve as the technology expands.

Definition of the Profession:

The Diagnostic Ultrasound Profession is a multi-specialty field comprised of Diagnostic Medical Sonography (with subspecialties in abdominal, neurologic, obstetrical/gynecologic and ophthalmic ultrasound), Diagnostic Cardiac Sonography (with subspecialties in adult and pediatric echocardiography), Vascular Technology, and other emerging fields. These diverse specialties are distinguished by their use of diagnostic medical ultrasound as a primary technology in their daily work. Certification¹ is considered the standard of practice in ultrasound. Individuals who

are not yet certified should reference the Scope as a professional model and strive to become certified.

Scope of Practice of the Profession:

The Diagnostic Ultrasound Professional is an individual qualified by professional credentialing² and academic and clinical experience to provide diagnostic patient care services using ultrasound and related diagnostic procedures. The scope of practice of the Diagnostic Ultrasound Professional includes those procedures, acts and processes permitted by law, for which the individual has received education and clinical experience, and in which he/she has demonstrated competency.

Diagnostic Ultrasound Professionals:

- Perform patient assessments
- Acquire and analyze data obtained using ultrasound and related diagnostic technologies
- Provide a summary of findings to the physician to aid in patient diagnosis and management
- Use independent judgment and systematic problem solving methods to produce high quality diagnostic information and optimize patient care.

¹ An example of credentials: RDMS (registered diagnostic medical sonographer), RDCS (registered diagnostic cardiac sonographer), RVT (registered vascular technologist); awarded by the American Registry of Diagnostic Medical Sonographers,® a certifying body with NCCA Category "A" membership.

² Credentials should be awarded by an agency certified by the National Commission for Certifying Agencies (NCCA).

Endorsed by:

- Society of Diagnostic Medical Sonography
- American Institute of Ultrasound Medicine
- American Society of Echocardiography*
- Canadian Society of Diagnostic Medical Sonographers
- Society for Vascular Sonography

* Qualified endorsement

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APPENDIX 9

Diagnostic Ultrasound Clinical Practice Standards

Standards are designed to reflect behavior and performance levels expected in clinical practice for the Diagnostic Ultrasound Professional. These Clinical Practice Standards set forth the standards (principles) that are common to all of the specialties within the larger category of the diagnostic ultrasound profession. Individual specialties or subspecialties may adopt standards that extend or refine these general Standards and that better reflect the day to day practice of these specialties. Certification is considered the standard of practice in ultrasound. Individuals not yet certified may reference these Clinical Practice Standards to optimize patient care.

Section 1

Patient Information Assessment and Evaluation Patient Education & Communication, Procedure Plan

STANDARD - Patient Information Assessment & Evaluation:

- 1.1** Information regarding the patient's past and present health status is essential in providing appropriate diagnostic ultrasound information. Therefore, pertinent data regarding the patient's medical history, including familial history as it relates to the diagnostic ultrasound procedure, should be collected whenever possible and evaluated to determine its relevance to the ultrasound examination.

The Diagnostic Ultrasound Professional:

- 1.1.1 Verifies patient identification and that the requested procedure correlates with the patient's clinical history and presentation. In the event that the requested procedure does not correlate, either the interpreting physician or the referring physician will be notified.
- 1.1.2 Uses interviewing techniques to gather relevant information from the patient or patient's representative and the patient's medical records regarding the patient's health status and medical history.
- 1.1.3 Assesses the patient's ability to tolerate procedures.
- 1.1.4 Evaluates any contra-indications to the procedure, such as medications, insufficient patient preparation or the patient's inability or unwillingness to tolerate the procedure.

STANDARD - Patient Education and Communication:

- 1.2** Effective communication and education are necessary to establish a positive relationship with the patient and/or the patient's representative, and to elicit patient cooperation and understanding of expectations.

The Diagnostic Ultrasound Professional:

- 1.2. Communicates with the patient in a manner appropriate to the patient's
1 ability to understand. Presents explanations and instructions in a manner which can be easily understood by the patient and other health care providers.
- 1.2. Explains the examination procedure to the patient and responds to patient
2 questions and concerns.
- 1.2. Refers specific diagnostic, treatment or prognosis questions to the
3 patient's physician.

STANDARD - Analysis and Determination of Procedure Plan for Conducting the Diagnostic Examination

- 1.3** The most appropriate procedure plan¹ seeks to optimize patient safety and

comfort, diagnostic ultrasound quality and efficient use of resources, while achieving the diagnostic objective of the examination.

The Diagnostic Ultrasound Professional:

- 1.3. Analyzes the previously gathered information and develops a procedure
 - 1 plan for the diagnostic procedure. Each procedure plan is based on age appropriate and gender appropriate considerations and actions.
- 1.3. Uses independent professional judgment to adapt the procedure plan to
 - 2 optimize examination results. Performs the ultrasound or vascular technology procedure under general² or direct³ supervision, as defined by the procedure.
- 1.3. Consults appropriate medical personnel, when necessary, in order to
 - 3 optimize examination results.
- 1.3. Confers with the interpreting physician, when appropriate, to determine if
 - 4 contrast media administration will enhance image quality and provide additional diagnostic information.
- 1.3. Uses appropriate technique for intravenous line insertion and contrast
 - 5 media administration when the use of contrast is required.
- 1.3. 1.3.6 Determines the need for accessory equipment.⁴
 - 6
- 1.3. Determines the need for additional personnel to assist in the examination.
 - 7
- 1.3. Acquires prior written approval from the medical director for contrast
 - 8 media injection.⁵

STANDARD - Implementation of the Procedure Plan

1.4 Quality patient care is provided through the safe and accurate implementation of a deliberate procedure plan.

The Diagnostic Ultrasound Professional:

- 1.4.1 Implements a procedure plan that falls within established protocols.⁶
- 1.4.2 Elicits the cooperation of the patient in order to carry out the procedure plan.
- 1.4.3 Modifies the procedure plan according to the patient's disease process or condition.
- 1.4.4 Uses accessory equipment, when appropriate.
- 1.4.5 Modifies the procedure plan, as required, according to the physical circumstances under which the procedure must be performed (i.e., operating room, ultrasound laboratory, patient's bedside, emergency room.)
- 1.4.6 Assesses and monitors the patient's physical and mental status during the examination.
- 1.4.7 Modifies the procedure plan according to changes in the patient's clinical status during the procedure.
- 1.4.8 Administers first aid, or provides life support in emergency situations, as required by employer policy.
- 1.4.9 Performs basic patient care tasks, as needed.
- 1.4.10 Requests the assistance of additional personnel, when warranted.
- 1.4.11 Recognizes sonographic characteristics of normal and abnormal tissues, structures and blood flow; adjusts scanning technique to optimize image quality and spectral waveform characteristics.

- 1.4.12 Analyzes sonographic findings throughout the course of the examination so that a comprehensive exam is completed and sufficient data is provided to the physician to direct patient management and render a final diagnosis.
- 1.4.13 Performs measurements and calculations according to laboratory protocol.
- 1.4.14 Strives to minimize patient exposure to acoustic energy without compromising examination quality or completeness.

STANDARD - Evaluation of the Diagnostic Examination Results

- 1.5** Careful evaluation of examination results⁷ in the context of the procedure plan is important in order to determine whether the procedure plan goals have been met.

The Diagnostic Ultrasound Professional:

- 1.5. Establishes that the examination, as performed, complies with applicable 1 protocols and guidelines.⁸
- 1.5. Identifies any exceptions to the expected outcome.⁹
2
- 1.5. Documents any exceptions¹⁰ clearly, concisely and completely. When 3 necessary, develops a revised procedure plan in order to achieve the intended outcome.
- 1.5. Initiates additional scanning techniques or administers contrast agents as 4 indicated by the examination and according to established laboratory policy and procedures under state law.
- 1.5. Notifies an appropriate health provider when immediate medical attention 5 is necessary, based on procedural findings and patient conditions.
- 1.5. Evaluates the patient's physical and mental status prior to discharge from 6 the Diagnostic Ultrasound Professional.
- 1.5. Upon assessment of the examination findings, recognizes the need for an 7 urgent rather than routine report and takes appropriate action.
- 1.5. Provides a written or oral summary of preliminary findings to the 8 physician.

STANDARD - Documentation

- 1.6** Clear and precise documentation is necessary for continuity of care, accuracy of care and quality assurance.

The Diagnostic Ultrasound Professional:

- 1.6. Documents diagnostic and patient data in the appropriate record, 1 according to the policy and procedure of the facility.
- 1.6. Ensures that the documentation is timely, accurate, concise and complete. 2
- 1.6. Documents any exceptions from the established protocols and procedures. 3
- 1.6. Records diagnostic images and data for use by the interpreting physician 4 in rendering a diagnosis and for archival purposes.
- 1.6. Provides an oral or written summary of preliminary findings to the 5 interpreting physician.

Section 2

Quality Assurance Performance Standards

STANDARD - Implementation of Quality Assurance

2.1 Implementation of a quality assurance action plan is imperative for quality diagnostic procedures and patient care.

The Diagnostic Ultrasound Professional:

- 2.1.1 Obtains assistance appropriate personnel to implement the quality assurance action plan.
- 2.1.2 Implements the quality assurance action plan.

STANDARD - Assessment of Equipment, Procedures and the Work Environment

2.2 The planning and provision of safe and effective medical service relies on the collection of pertinent information about equipment, procedures and the work environment.

The Diagnostic Ultrasound Professional:

- 2.2.1 Strives to maintain a safe workplace environment.
1
- 2.2.2 Performs equipment quality assurance procedures, as required, to determine that equipment operates at an acceptable performance level.
2
- 2.2.3 Seeks to ensure that each work site in which the Diagnostic Ultrasound Professional conducts patient examinations has in place a policy manual that addresses environmental safety, equipment maintenance standards and equipment operation standards and that this policy manual is reviewed and revised on a regular basis. Knows, understands and implements the policies set forth in the work site policy manual.
3

STANDARD - Analysis and Determination of a Quality Assurance Plan

2.3 The Diagnostic Ultrasound Professional uses quality assurance and continuous quality improvement methods to assess and evaluate all aspects of ultrasound practice.

The Diagnostic Ultrasound Professional:

- 2.3.1 Strives to become knowledgeable about the theory and practice of quality assurance and continuous quality improvement methods and procedures as they are applied in the clinical environment. Works with all concerned parties to implement such methods and procedures with the objective of continuously improving the quality of ultrasound diagnostic services.
1
- 2.3.2 Compares quality assurance results to established and acceptable values.
2
- 2.3.3 Works with all concerned parties to formulate and implement an action plan.
3

STANDARD - Outcomes Measurement

2.4 Outcomes assessment¹¹ is an integral part of the ongoing quality assurance plan to enhance diagnostic services.

The Diagnostic Ultrasound Professional:

- 2.4.1 Based on outcomes assessment, determines whether the performance, of equipment and materials is in accordance with established guidelines and protocols.
1
- 2.4.2 Based on outcomes assessment, determines whether the diagnostic
2

- 2 information provided as a result of the ultrasound examination correlates with other diagnostic testing or procedures performed on the same patient.
- 2.4. Based on outcomes assessment, determines that each test achieves the same outcome when performed by different Diagnostic Ultrasound Professionals.
- 2.4. Develops and implements an action plan when outcome measurement results are not within currently accepted tolerances.
- 2.4. Is knowledgeable of, or works with the medical director to develop, written diagnostic ultrasound procedure protocols that meet or exceed established guidelines.¹²

STANDARD - Documentation

2.5 Documentation provides evidence of quality assurance activities designed to enhance the safety of patients, the public, and health care providers, during diagnostic ultrasound procedures.

The Diagnostic Ultrasound Professional:

- 2.5.1 Maintains documentation regarding quality assurance activities, procedures, and results, in accordance with the established laboratory policies and protocols.
- 2.5.2 Provides timely, concise, accurate and complete documentation of quality assurance activities.
- 2.5.3 Adheres to the established quality assurance performance standards.

Section 3

Professional Performance Standards

STANDARD - Quality of Care

3.1 All patients expect and deserve excellent care during the ultrasound examination.

The Diagnostic Ultrasound Professional:

- 3.1. Works in partnership with other health care professionals to provide the best medical care possible for all patients.
- 3.1. Obtains and maintains appropriate professional credentials.¹³
- 3.1. Adheres to the standards,¹⁴ policies,¹⁵ and procedures¹⁶ adopted by the profession and regulated by law.
- 3.1. Provides the best possible diagnostic exam for each patient by applying professional judgment and discretion.
- 3.1. Anticipates and responds to the needs of the patient.
- 3.1. Participates in quality assurance programs.
- 3.1. Stays current with required continuing medical education (CME) in order to stay abreast of changes in the field of diagnostic ultrasound and to maintain professional credentials.

STANDARD - Self-Assessment

3.2 Self-assessment is an essential component in professional growth and

development. Self-assessment involves evaluation of personal performance, knowledge and skills.

The Diagnostic Ultrasound Professional:

- 3.2.1 Recognizes personal strengths and uses them to benefit patients, coworkers, and the profession.
- 3.2.2 Performs diagnostic procedures only after receiving appropriate education and supervised clinical experience.
- 3.2.3 Recognizes and takes advantage of educational opportunities, including improvement in technical and problem-solving skills and personal growth.

STANDARD - Education

- 3.3** Advancements in medical science and technology occur very rapidly, requiring an on-going commitment to professional education.

The Diagnostic Ultrasound Professional:

- 3.3.1 Maintains professional credentials that are specifically related to the currently practiced discipline(s).
- 3.3.2 Participates in continuing education activities through professional societies and organizations, to enhance knowledge, skills and performance.

STANDARD - Collaboration

- 3.4** Quality patient care is provided when all members of the health care team communicate and collaborate efficiently.

The Diagnostic Ultrasound Professional:

- 3.4.1 Promotes a positive and collaborative atmosphere with all members of the health care team.
- 3.4.2 Effectively communicates with all members of the health care team regarding the welfare of the patient.
- 3.4.3 Shares knowledge and expertise with colleagues, patients, students, and all members of the health care team.

STANDARD - Ethics

- 3.5** All decisions made and actions taken on behalf of the patient adhere to the *Code of Ethics*¹⁷ upon which the accepted professional standards are based.

The Diagnostic Ultrasound Professional:

- 3.5.1 Adheres to the accepted professional ethical standards as defined by the *Code of Ethics*.
 - 3.5.2 Is accountable for professional judgments and decisions, as outlined in the professional standard of ethics.
 - 3.5.3 Provides patient care with bias toward none and equal respect for all.
 - 3.5.4 Respects and promotes patients rights.
 - 3.5.5 Provides patient care with respect for patient dignity and needs.
 - 3.5.6 Acts as a patient advocate supporting patient rights.
 - 3.5.7 Adheres to the established professional performance standards of practice.
-

¹ **Procedure Plan:** A plan for conducting the ultrasound or related examination. The procedure plan must take into account the skills and knowledge of the Diagnostic Ultrasound Professional, the condition and history of the patient, the objectives of the examination, the diagnostic criteria, the capabilities of available ultrasound and related equipment and a wide range of other factors.

² **General Supervision:** the minimal level of physician supervision; physician is not required to be present in the office suite when the ultrasound procedure is performed.

³ **Direct Supervision:** physician must be present in office suite when ultrasound exam or vascular procedure is performed.

⁴ **Accessory equipment:** Equipment which extends or modifies the function of the ultrasound scanning device, or which provides ancillary or complimentary diagnostic information (i.e. non-ultrasound testing equipment).

⁵ **Note:** Approval of individuals for contrast media injection and IV line insertion requires that the individual have obtained education and training for this function and have demonstrated competency. The Diagnostic Ultrasound Professional is encouraged to obtain continuing medical education related to the materials being injected and the procedures being performed.

⁶ **Protocols:** A standardized description of the elements of a task, procedure or process; a detailed plan of a procedure.

⁷ **Examination results:** The ultrasound images, data and measurements which results from the examination process.

⁸ **Guideline:** A written document which provides suggestions (guidance) on how to accomplish a particular task, procedure or process on how to respond to specified circumstances.

⁹ **Expected outcome:** The expected information and data which was anticipated to have resulted from the examination.

¹⁰ **Exceptions:** Any elements of the examination protocol that were not performed; the Diagnostic Ultrasound Professional must document exceptions in the written summary of examination findings.

¹¹ **Outcome Assessment:** Assessment of an action, process or procedure based on the ultimate outcome of that action, process or procedure. In this case, the term refers to assessment of the outcome of the diagnostic test (the results of the test or the diagnosis) in comparison to other sources of information (i.e. other types of diagnostic testing) which can be used to assess the validity of the conclusions reached on the basis of the ultrasound examination.

¹² **Guidelines:** (Relevant to the development of diagnostic procedure protocols): Professional organizations, including the American Institute of Ultrasound in Medicine, the American College of Radiology, the American College of Obstetrics and Gynecology, the American Society of Echocardiography, the Society of Diagnostic Medical Sonography and the Society for Vascular Sonography have published guidelines for clinical ultrasound procedures.

¹³ **Professional Credentials:** Competency based ultrasound credentials awarded by a National Commission for Certifying Agencies (NCCA) accredited certification body; an example is the American Registry of Diagnostic Medical Sonographers (ARDMS).

¹⁴ **Standards:** Statements of the minimum behavioral or performance levels that are acceptable. Something established by authority as a rule for the measure of quantity or quality.

¹⁵ **Policies:** Written statements indicating what actions are to be taken when specific criteria are encountered. A definite course or method of action selected from among alternatives and in light of given conditions to guide and determine present and future decisions.

¹⁶ **Procedures:** Written guidelines that state how a task is to be accomplished, the specific steps to be taken, or how a policy is to be executed.

¹⁷ **Code of Ethics:** Document defining the expected professional standard of conduct for Diagnostic Ultrasound Professionals; published by the Sonography Coalition and included in the [appendix](#).

Endorsed by:

- Society of Diagnostic Medical Sonography
- American Institute of Ultrasound Medicine
- American Society of Echocardiography
- Canadian Society of Diagnostic Medical Sonographers
- Society for Vascular Sonography

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APPENDIX 10

DIAGNOSTIC MEDICAL SONOGRAPHY PROGRAM CLINICAL MASTER PLAN

Semester	Lab Protocols	Assisted Clinical Competencies	Unassisted Clinical Competencies	Floating Clinical Competencies
Spring 6 hrs/wk college lab & 8 hrs/wk clinical	Basic Equipment Aorta & Abd. Vessels Liver Gallbladder Pancreas Kidneys Female Pelvis	NONE (Students perform 8 clinical hours of patient care/hospital orientation per week)	NONE	NONE
Summer 24 hrs/wk clinical	Early Obstetrics Advanced Obstetrics Scrotal Thyroid Breast	1 Easy & 1 Difficult Liver Pancreas Gallbladder Kidneys Female Pelvis/Early Ob <u>Equipment</u> Basic Equipment Evaluation at Clinical Facility	NONE	Based on Availability at Clinical Site During Summer, Fall & Spring Semesters -Must be completed for program Completion Assisted Breast Transvaginal Sterile Procedure Advanced OB -1 easy & 1 Difficult Rt. Carotid Lt. Carotid Venous Leg Specialty (Determined by clinical facility)
Fall 28 hrs/wk clinical	Orientation to Doppler Controls in lab Practice Carotids & Venous legs in lab <u>Equipment</u> Basic Equipment Evaluation at Clinical Facility	1 Easy & 1 Difficult Liver Pancreas Small Parts/Infrequent	1 Easy & 1 Difficult Gallbladder Kidneys Female Pelvis/Early Ob	Unassisted Breast Transvaginal Sterile Procedure Advanced OB -1 Easy & 1 Difficult Rt. Carotid Lt. Carotid Venous Leg Specialty (Determined by clinical facility)
Spring 30 hrs/wk clinical		Equipment Basic Equipment Evaluation & Doppler Control Evaluation at Clinical Facility	1 Easy & 1 Difficult Liver Pancreas Small part/Infrequent <u>1 of Each (2 Difficult)</u> Gallbladder Kidney Female Pelvis/Early Ob	Unassisted Breast Transvaginal Sterile Procedure Advanced OB -1 Easy & 1 Difficult Rt. Carotid Lt. Carotid Venous Leg Specialty (Determined by clinical facility) Bonus Specialty – Additional specialty competency at a different facility – earns 2 hours off clinical time

**Lorain County Community College
Division of Allied Health and Nursing**

**Diagnostic Medical Sonography Program
Laboratory waiver**

My signature below verifies that I have had the following information explained to me, and was given the opportunity to ask any questions I wished:

General Information

The field of diagnostic medical sonography consists of physical and personal contact between the operator (sonographer or sonography student) and the patient. This physical contact includes but is not limited to moving, lifting and positioning patients, assisting them in changing clothes, using restroom facilities, bedpans, or urinals, bathing, inserting probes/catheters rectally or vaginally, touching their skin for physical assessment and scanning with the ultrasound transducer.

Live Scanning

The laboratory content of the sonography courses will contain live real-time scanning, provided that equipment is available. The students and faculty of the program will scan each other to demonstrate and promote comprehension of the material and skills necessary to perform the diagnostic sonography exams. This will entail touching of the abdominal, back, pelvic, extremities and neck areas. Also due to the nature of teaching one how to scan and provide guidance, the instructor/lab assistants will have to hold the student's hand and stand within close body distance. While the laboratory will remain professional decorum, exposing only necessary areas to be scanned, wearing gloves, and using clean linen, a student who is uncomfortable with close personal distance should notify the program faculty or lab instructor immediately.

There is also a possibility of finding pathology in a student who is being the scanning model. If pathology is identified, the student will be made aware of the finding and counseled to contact their personal physician to determine if further workup would be necessary. Because practice scanning sessions may be targeted to specific areas and are not diagnostic examinations, the possibility exists that pathology may not be seen or identified and the College, Program or Program faculty are not liable.

Biologic Effects

Ultrasound uses nonionizing energy and does not possess the effects found with ionizing energy such as radiation from x-rays. Although the possibility exists that biological effects may occur with diagnostic medical sonography, the AIUM statement on clinical safety states that within the diagnostic imaging intensity levels, no harmful effects have been known to occur since its use for medical diagnoses in the 1960s on patients or its operators.

Scanning Models

The student has the right to volunteer or not volunteer to be used as a scanning model without the fear of being ridiculed or have their decision affect his/her grade. If one does not wish to volunteer to be a scanning model, he/she should inform the instructor of their wishes.

If a student wishes to use a friend or family member for scanning practice, they may be asked to sign a similar waiver. If a volunteer for scanning practice is for obstetric practice, it is required that they have had a prior normal diagnostic ultrasound exam and provide a copy of their report before being scanned in the diagnostic medical sonography program laboratory.

Student Signature: _____ Date: _____

Signature of Witness: _____ Date: _____