



Course Prefix/Number/Title: DMS 201 – Ultrasound Foundation Concepts

Number of Credits: 3 semester credits

Course Description:

This course is designed to provide the student with basic introductory knowledge of diagnostic medical sonography. Physical principles, instrumentation, equipment operation and patient procedural preparation concepts are presented as an introduction into ultrasound including medical applications. Students will also be introduced to medical and sonographic terminology, OSHA safety regulations, infection control, disease transmission, ergonomic optimization to reduce Work Related Musculoskeletal Disorders (WRMSDs) and CDC's Standard Precaution guidelines. This course is completed during the first month of the DMS program in preparation of clinical experiences.

Pre-requisites: General Post-Secondary Courses

Course Objectives:

The goal of this course is to familiarize the student with policies, procedures and terminology applicable to the program, the radiology department and Trinity Health. The student will learn what is expected of them while enrolled in the DMS program, be oriented to the hospital campus, review pertinent program and Trinity Health policies and the Clinical Plan. Description of the roles, responsibilities and the rules of the Diagnostic Medical Sonographer will be introduced, also the indication and applications of the diagnostic procedures, safety, protection and imaging processing will be covered. Students will learn through observation, scanning and application of knowledge obtained during didactic coursework and scanning labs. Student will be directly supervised.

Objectives:

1. Understand the locations of and general daily operation of the DMS program and sonography, and radiology department at Trinity Health.
2. Become familiar with pertinent Trinity Health and DMS program policies
3. Develop a basic knowledge of OSHA safety requirements and Center for Disease Control (CDC) Standard Precautions.
4. Develop an understanding of proper patient care, treatment and confidentiality.
5. Achieve Basic CPR Certification
6. Develop a basic understanding of sonographic imaging principles and operation of sonographic imaging equipment used in the department.
7. Establish EMR, PACS and clinical time/activity record systems (Trajecsys) accounts.

Instructor: Amy Hofmann, Keshia Gathman

Office: Suite 302 5th Ave Building, Trinity Health

Office Hours: 9 AM to 2 PM Tu, Th and by appointment

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Lecture Schedule: 9:00 – 3:00 pm M-F, August 22nd to Sept 15th in Suite 301

Lab Schedule: Scanning Thyroid, Aorta, OB Phantom; **AIC, MAC, Classroom**

Textbook: Diagnostic Sonography, Hagen-Ansert, 8th Edition; Workbook Diagnostic Sonography, Hagen-Ansert, 8th Edition; Introduction to Sonography and Patient Care, S. Penny, 2nd, edition

Lab Manual: NA

Course Requirements:

Grading is based on completion of assignments, quizzes and test.

Assignments 15%

Quizzes 15%

Test 70%

Consistent with class attendance policy, the student is responsible for attending every class and for the material presented. If a student will not be attending a class, he/she must notify the Program Director prior to absence to plan for makeup time and activities.

Grading Criteria

A = 94-100% of the total points

B = 87 - 93% of the total points

C = 80 - 86% of the total points

F = <79% of the total points

Tentative Course Outline:

| <u>DATE</u> | <u>TOPIC</u> | <u>READING/ASSIGNMENT</u> |
|----------------------|---|---------------------------|
| <u>Week 1</u> | | |
| 8-21 | Trinity Health Orientation, Riverside | |
| 8-22 | Introductions, Syllabus & DMS Handbook Review | |
| 8-23 | Medical terminology, Role of Sonographer | Chpt 1 |
| 8-24 | Foundational Concepts, Sonographer's Role | Chpt 1 |
| 8-25 | <u>Mandatory education modules</u> , Trinity Health | |
| <u>Week 2</u> | | |
| 8-28 | Instrumentation/Knobology, US principles Student Introductions Power Point | Chpt 1 & Chpt 8 |
| 8-29 | Patient Care and Patient Rights, HIPAA Scanning Lab/Tour at MAC | Chpt 2 |

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| 8-30 | Patient care vital signs, infection control Scanning Lab/Tour at MOB | Chpt 2 |
| 8-31 | Introduction to superficial tissue, aorta, OB Scanning Lab Thyroid/Aorta at MAC | Quiz 1 on Chpt 1 |
| 9-1 | <u>Mandatory education modules</u> , Trinity Health | |

Week 3

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|-----|---|------------------------------|
| 9-4 | Labor Day NO CLASS | |
| 9-5 | Basic Ultrasound Imaging terminology, tips, techniques Scanning Lab Aorta at MAC | Chpt 6 |
| 9-6 | DMS Handbook Clinical Practicum Section transducers, scanning planes Scanning Lab Thyroid/Aorta at MAC | Appendix A Quiz 2 Ch 2; 8 |
| 9-7 | Trajecsys Clinical Reporting System Scanning Lab Pelvis/OB at MAC | |
| 9-8 | eCare EMR, RIS and PACS training | |

Week 4

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|------|---|------------------|
| 9-11 | Ergonomics, WRMSD Scanning Lab at MAC | Chpt 3 |
| 9-12 | Types and mechanisms of injury Introduction to EMR, PACS Scanning Lab at MAC | Quiz 3 Ch 6 |
| 9-13 | Patient clinical history in EMR, PACS Scanning Lab at MAC | |
| 9-14 | Trinity Health Hospital Tour | Quiz 4 Ch 3 |
| 9-15 | Test Review | |
| 9-18 | Test Review | |
| 9-20 | Test | Ch 1, 2, 3, 6; 8 |

CTE Competency/Department Learning Outcomes:

CTE Competency #1: Employ industry specific skills in preparation for workplace readiness

Learning outcome #1 - Students will demonstrate professional behavior in the classroom and clinical setting by modeling ethical health care standards related to HIPAA, patient rights, dignity, respect and compassion. SLO 3.2

Relationship to Campus Theme:

This course addresses a DMS Program theme by introducing students to foundational sonography concepts to include overview of diagnostic sonography procedures and other primary technologies that are currently used in sonographic imaging.

Classroom Policies

1. Cell phones and related devices are monitored in the classroom at all times. It is recommended that you do not bring your cell phone or other electronic devices into the classroom or, at the very least, get instructor permission to use approved devices as classroom learning resources.
2. Food and beverages are permitted in accordance with classroom policy.
3. Be respectful of other students, instructors, and guests.

Student Email Policy

The Dakota College at Bottineau campus community is increasingly dependent upon electronic communication among faculty, staff and students. A student's campus-assigned e-mail address will be the only one recognized by the campus for official mailings. The liability for missing or not acting upon important information conveyed via email because of a failure to access a campus-assigned e-mail address rests with the student. Additionally, student must provide Trinity Health DMS faculty with a personal email address for communication while in the program.

Academic Integrity

According to the DCB Student Handbook, students are responsible for submitting their own work. Students who cooperate on oral or written examinations or work without authorization share the responsibility for violation of academic principles and the students are subject to disciplinary action even when one of the students is not enrolled in the course where the violation occurred. The Code detailed in the Academic Honesty/Dishonesty section of the Student Handbook will serve as the guideline for cases where cheating, plagiarism or other academic improprieties have occurred. Additionally, dishonesty in the classroom or laboratory and with assignments, quizzes and exams is a serious offense and is subject to disciplinary action by the DMS Program Director. For more information, refer to the Trinity Health DMS Program Handbook policies.

Disabilities and Special Needs

Students with disabilities or special needs (academic or otherwise) are encouraged to contact the instructor, DMS Program Director and Disability Support Services.

Title IX:

Dakota College at Bottineau (DCB) faculty are committed to helping create a safe learning environment for all students and for the College as a whole. Please be aware that all DCB employees (other than those designated as confidential resources such as advocates, counselors, clergy and healthcare providers) are required to report information about such discrimination and harassment to the College Title IX Coordinator. This means that if a student tells a faculty member about a situation of sexual harassment or sexual violence, or other related misconduct, the faculty member must share that information with the College's Title IX Coordinator. Students wishing to speak to a confidential employee who does not have this reporting responsibility can find a list of resources on the DCB Title IX webpage.