

# DMS-1303: INTRODUCTION TO SONOGRAPHY

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## Cuyahoga Community College

### Viewing: DMS-1303 : Introduction to Sonography

**Board of Trustees:**

January 2023

**Academic Term:**

Fall 2023

**Subject Code**

DMS - Diagnostic Medical Sonography

**Course Number:**

1303

**Title:**

Introduction to Sonography

**Catalog Description:**

Introduction to the profession of Diagnostic Medical Sonography. Topics focus on professionalism, sonographic terminology, anatomical scanning planes, standard presentation and annotation of ultrasound images, body mechanics, and ergonomics with an overview of diagnostic related imaging specialties.

**Credit Hour(s):**

2

**Lecture Hour(s):**

2

### Requisites

**Prerequisite and Corequisite**

BIO-2331 Anatomy and Physiology I or concurrent enrollment; and ENG-0995 Applied College Literacies, or appropriate score on English Placement Test.

Note: ENG-0990 Language Fundamentals II taken prior to Fall 2021 will also meet prerequisite requirements.

### Outcomes

**Course Outcome(s):**

Recognize the various issues involved in the profession of Diagnostic Medical Sonography.

**Objective(s):**

- a. Identify and list applications of the characteristics of a professional.
- b. Identify the various diagnostic imaging specialties that are used in conjunction with sonography.
- c. Discuss the development of the sonography profession and its current organizational structure.
- d. Use medical terminology, abbreviations, and annotations appropriately.
- e. Describe a sonographic image using ultrasound related terminology.
- f. Define and demonstrate the various scanning planes utilized for sonographic imaging.
- g. Explain the importance of proper image labeling.
- h. Explain why proper body mechanics is essential to the longevity of a career in diagnostic medical sonography.
- i. Describe the work related injuries associated with scanning.
- j. Examine advancements and legislative changes related to diagnostic medical sonography.

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**Methods of Evaluation:**

- a. Article reviews
- b. Class participation
- c. Homework assignments
- d. Final Exam
- e. Role playing
- f. Self assessment
- g. Written tests/quizzes

**Course Content Outline:**

**Topical Outline**

- a. Professionalism
  - i. Professional vs. non-professional vs. unprofessional
    - 1. Time management
    - 2. Stress management
    - 3. Problem solving and critical thinking
    - 4. Managing change
  - ii. Personal Image
    - 1. Work image
    - 2. Off the clock appearance
    - 3. Social media perception
  - iii. Teamwork/diversity
    - 1. Establishing a professional rapport with the patient, family and health care workers
    - 2. Maintaining patient privacy and confidentiality
    - 3. Cultural and emotional sensitivity within a diverse population
      - a. Age
      - b. Customs and culture
      - c. LGBTQ+
        - i. Preferred name
        - ii. Gender identity
        - iii. Personal pronoun
      - d. Psychological and emotional
      - e. Religious
- b. Medicolegal Ethics
  - i. Code of Ethics for the Profession of Diagnostic Medical Sonography
  - ii. Patient Rights and Responsibilities
  - iii. Confidentiality - HIPAA
  - iv. Scope of Practice and Clinical Standards for the Diagnostic Medical Sonographer
- c. Development of sonography as a profession
  - i. Historical events/people
  - ii. Professional organizations
    - 1. Credentialing bodies
    - 2. Accreditation agencies
  - iii. Trends in the field
- d. Ultrasound related medical terminology
  - i. Relating to structure orientation
  - ii. Relating to sonographic images
  - iii. Relating to pathology
  - iv. Commonly used medical abbreviations
- e. Standard presentation of ultrasound images
  - i. Patient position
  - ii. Standard scanning planes
  - iii. Image presentation on the monitor
  - iv. Basic cross-sectional anatomy presentation
- f. Image labeling and annotation
  - i. Purpose of labeling - legal document
  - ii. Recommended format
  - iii. Recommended location
- g. Body mechanics

- i. Ergonomics
  - 1. Equipment
  - 2. Legislation - OSHA alliance with SDMS
  - 3. Industry Standards for the Prevention of Work-Related Musculoskeletal Disorders in Sonography
- ii. Work-related musculoskeletal disorders (WRMSD)
  - 1. Contributing and risk factors
  - 2. Types of WRMSD
  - 3. Signs and symptoms
  - 4. Stages of severity
  - 5. Diagnosis and treatment
  - 6. Prevention
    - a. Changing your approach to scanning
    - b. SDMS recommended exercises
- h. Diagnostic related imaging specialties
  - i. Radiography
  - ii. Mammography
  - iii. Computed Tomography (CT)
  - iv. Magnetic Resonance Imaging (MRI)
  - v. Magnetic Resonance Angiography (MRA)
  - vi. Nuclear Medicine
  - vii. Angiography
- i. Diagnostic Medical Sonography Program requirements and application process

## Resources

Penny, Steven M. *Introduction to Sonography and Patient Care*. 2nd ed. Philadelphia: Wolters Kluwer, 2020.

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Dutton, Andrea G and TerriAnn Ryan. *Patient Care in Imaging Technology*. 9th ed. Philadelphia: Wolters Kluwer, 2019.

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DeJong, Robert M. Jr. *Craig's Essentials of Sonography and Patient Care*. 4th ed. St. Louis: Elsevier , 2018.

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Judson, Karen & Carlene Harrison. *Law and Ethics for the Health Professions*. 8th ed. Columbus, OH: McGraw Hill, 2018.

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