

# DMS-1940: FIELD EXPERIENCE I

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## Cuyahoga Community College

**Viewing: DMS-1940 : Field Experience I**

**Board of Trustees:**

May 2020

**Academic Term:**

Fall 2020

**Subject Code**

DMS - Diagnostic Medical Sonography

**Course Number:**

1940

**Title:**

Field Experience I

**Catalog Description:**

Supervised practical application of sonography scanning techniques in clinical setting under personal supervision of registered diagnostic medical sonographer, or qualified physician. Emphasis on simple-level scanning skills. Student develops skills related to departmental processes, procedures, protocols, and patient care. Clinical experiences in an ultrasound lab.

**Credit Hour(s):**

1

**Other Hour(s):**

192

**Other Hour Details:**

192 hours per semester offering

## Requisites

**Prerequisite and Corequisite**

DMS-1311 Initial Sonographic Scanning.

## Outcomes

**Course Outcome(s):**

Demonstrate cooperation and collaboration within a diverse health care environment.

**Objective(s):**

1. Exhibit proper communication skills with diverse populations in the laboratory environment.
2. Seek to assist and cooperate when opportunity arises.
3. Display a work ethic that is considerate to their fellow peers
4. Demonstrate professionalism in the clinical environment.
5. Model behavior of a professional health care provider.

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**Course Outcome(s):**

Recognize the importance of the patient.

**Objective(s):**

1. Adhere to infectious control policies and standard precautions.
  2. Respect and protect the confidentiality of acquired patient information and patient rights.
  3. Engage in clear effective communication with diverse populations.
  4. Provide for patient needs.
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**Course Outcome(s):**

Perform basic level technical functions within the scope of practice of a sonographer.

**Objective(s):**

1. Demonstrate continuous improvement in skills and behaviors.
  2. Identify and produce quality examinations by using appropriate equipment capabilities while maintaining safety.
  3. Recognize normal vs. abnormal anatomy while scanning a patient.
  4. Perform sonographic procedures indicated in the Diagnostic Medical Sonography Clinical Manual using proper protocols.
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**Methods of Evaluation:**

1. Observation
2. Oral quizzing
3. Image Interpretation
4. Student clinical evaluation
5. Exam competency
6. Completion of all clinical requirements

**Course Content Outline:**

1. Concepts
  - a. Exam specific protocols
    - i. Abdomen-OB/GYN according to American Institute of Ultrasound in Medicine (AIUM) clinical guidelines
      1. aorta
      2. liver
      3. gallbladder
      4. pancreas
      5. kidney
      6. transvaginal pelvis
      7. transabdominal pelvis
    - ii. Cardiac according to American Society of Echocardiography (ASE) Guidelines and standards
      1. parasternal views
      2. apical views
      3. subcostal views
      4. suprasternal
    - iii. Vascular according to Society for Vascular Ultrasound (SVU) positions and guidelines
      1. venous lower extremities
      2. vein mapping
      3. arterial lower physiological testing
      4. carotids
  - b. Scope of practice
  - c. Professionalism
  - d. Cooperation and collaboration
  - e. Quality
  - f. Work flow
  - g. Facility policies and procedures
  - h. Exam protocols
    - i. Workplace politics
2. Skills
  - a. Using independent judgment when scanning a patient
  - b. Working as a functional member of the team
  - c. Performing a technical scan of organs specific to the option:
    - i. Abdomen-OB/GYN according to AIUM Clinical Guidelines
      1. aorta
      2. liver
      3. gallbladder
      4. pancreas
      5. kidney
      6. transvaginal pelvic scan

- 7. transabdominal pelvic scan
  - 8. 1st trimester gravid exam
  - ii. Cardiac according to ASE Guidelines and Standards
    - 1. aortic stenosis
    - 2. aortic regurgitation
    - 3. mitral stenosis
    - 4. mitral regurgitation
    - 5. tricuspid regurgitation
    - 6. left ventricular systolic function
    - 7. left ventricular diastolic function
    - 8. all 2D and M-mode measurements
  - iii. Vascular according to SVU positions and guidelines
    - 1. venous lower extremities
    - 2. vein mapping
    - 3. arterial lower physiological testing
    - 4. carotids
  - d. Correlating exam findings with patient medical information
  - e. Taking appropriate safety precautions in the lab environment
  - f. Continuing to demonstrate patient care skills previously taught
  - g. Communicating to a diverse population
  - h. Using proper body mechanics while scanning and positioning patients
  - i. Using ergonomic features of the equipment to your benefit
  - j. Preparing the exam room and equipment for the exam
  - k. Manipulating equipment controls for a quality exam
  - l. Selecting the proper equipment to perform a procedure
3. Issues
- a. Ethics
  - b. Legal
  - c. Standards of practice
  - d. Diversity
  - e. Standard precautions
  - f. Safety
  - g. Quality
  - h. Scope of practice
  - i. Workplace politics

#### Topical Outline

- 1. Clinical site orientation (see clinical site orientation checklist)
- 2. Equipment instrumentation
  - a. Safe operation
  - b. Maintenance for quality assurance and safety
  - c. Equipment capabilities and inabilities
    - i. Probes
    - ii. Doppler
    - iii. 3D and 4D
    - iv. Harmonics
    - v. PACS - Picture Archiving and Communication System
    - vi. Measurement reports/worksheets
- 3. Department processes
  - a. Information system
  - b. Procedure/report routing system
  - c. Test results
  - d. HIPAA and Patient Rights
  - e. Scan lab preparation and maintenance
- 4. Development of appropriate communication skills
  - a. Patient and visitors
  - b. Medical site associates
  - c. Medical professionals
- 5. Development of appropriate behavioral skills

- a. Patient and visitors
- b. Medical site associates
- c. Medical professionals
- d. Workplace politics
6. Infection control and prevention
  - a. Standards
  - b. Techniques
  - c. Reporting
7. Exam protocols for sonographic procedures to be performed as indicated in the Diagnostic Medical Sonography Clinical Manual
8. Performance of clinical procedures
  - a. Progressive development of skills
    - i. Professional
    - ii. Personal
    - iii. Technical
    - iv. Speed progression
  - b. Scan techniques assessment
    - i. Observance
    - ii. Assistance
    - iii. Independent
  - c. Demonstration of sonographic anatomy
    - i. Normal
    - ii. Anomaly
    - iii. Pathology
    - iv. Pathophysiology
  - d. Normal values vs. abnormal
    - i. Anatomical structure
    - ii. Doppler
    - iii. Laboratory values
  - e. Evaluation and analysis
    - i. Patient medical history
    - ii. Supportive clinical data
    - iii. Sonographic exam information
  - f. Accurate technical findings
    - i. Oral
    - ii. Written

## Resources

Curry, Reva Arnez, and Betty Bates Tempkin. *Sonography: Introduction to Normal Structure and Function*. 4th ed. St Louis: Saunders, 2015.

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Otto, Catherine M. *Textbook of Clinical Echocardiography*. 6th ed. Philadelphia: Elsevier, 2018.

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Rumack, Carol M. and Deborah Levine. *Diagnostic Ultrasound*. 5th ed. Philadelphia: Elsevier, 2018.

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Rumwell, Claudia, and Michalene McPharlin. *Vascular Technology: An Illustrated Review*. 5th ed. Pasadena: Appleton Davies, 2014.

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Tempkin, Betty B. *Sonography Scanning: Principles and Protocols*. 4th ed. Philadelphia: Saunders, 2014.

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Harry, Mark J and Tess Behrends. *Essentials of Echocardiography: An Illustrative Guide*. 4th ed. Cardiac Ultrasound Consulting, 2014.

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Armstrong, William F. and Thomas Ryan. *Feigenbaum's Echocardiography*. 8th ed. Philadelphia: Wolters Kluwer, 2019.

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Kupinski, Anh Marie. *Diagnostic Medical Sonography: The Vascular System*. 2nd ed. Baltimore: Wolters Kluwer, 2018.

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