

DMS 80A: ADVANCED SONOGRAPHIC PRINCIPLES

Foothill College Course Outline of Record

Heading	Value
Units:	4
Hours:	3 lecture, 3 laboratory per week (72 total per quarter)
Prerequisite:	DMS 60D.
Degree & Credit Status:	Degree-Applicable Credit Course
Foothill GE:	Non-GE
Transferable:	CSU
Grade Type:	Letter Grade Only
Repeatability:	Not Repeatable

Student Learning Outcomes

- Employ interpretative and analytical skills with an emphasis on advanced techniques
- Prepare to pass the ARDMS board exams.

Description

Continuation of all courses as well as new developments with advanced analysis of current sonographic practice. Final preparation for completion and participation of national registry examinations. Student presentation and critique of neoplastic cases. Intended for students in the Diagnostic Medical Sonography Program; enrollment is limited to students accepted in the program.

Course Objectives

The student will be able to:

- identify human anatomy, embryological development, physiology, and pathophysiology appropriate to medical sonography.
- recite normal measurements of organs and their structures.
- evaluate nomograms associated with sonography.
- employ interpretative and analytical skills with an emphasis on advanced techniques.
- recite laws of physics and relationship to medical sonography, including control functions of equipment and image acquisition.
- define acoustic powers and intensity with regards to national standards and current legislation.
- discuss ethical dilemmas for health care personnel when in conflict with cultural interests.

Course Content

- Human anatomy, physiology, embryology lab data and pathophysiology of the body's organs, vascular system, male and female reproductive system
 - taken in testing format in preparation for national board examinations
- Measurements
 - taken in testing format in preparation for national board examinations
- Image acquisition and nomograms
 - taken in testing format in preparation for national board examinations
- Interpretative and analytical skills with an emphasis on advanced techniques
 - taken in testing format in preparation for national board examinations

- Sonographic equipment and the laws of physical principles
 - taken in testing format in preparation for national board examinations
- Define acoustic powers and intensity with regards to national standards and current legislation
 - advanced sonographic techniques, including analytical skills conforming to national standards of practice
 - future developments and trends
 - preparation for national registry examinations
- Patient care techniques and ethical dilemmas for the health care professional
 - taken in testing format in preparation for national board examinations

Lab Content

- Completion of multiple mock board examinations modeled on national credentialing exams.

Special Facilities and/or Equipment

- DVD/TV, computer, monitor, viewboxes.
- When taught via Foothill Global Access, on-going access to computer with email software and hardware; email address.

Method(s) of Evaluation

- Demonstration of mastery of all lecture material by written quizzes.
- Incorporates clinical skills leading to mock ARDMS registry exams. Outcomes are based on 75% or higher pass rate for each exam.

Method(s) of Instruction

- Lecture presentations
- Classroom discussions
- Canvas assignments

Representative Text(s) and Other Materials

Kawamura, D., and T. Nolan. *Abdomen and Superficial Structure*. 4th ed. Philadelphia, PA: Wolters Kluwer, MD, 2018.

Stephenson, S., and J. Dmitrieva. *Diagnostic Medical Sonography: Obstetrics and Gynecology*. 4th ed. Philadelphia, PA: Wolters Kluwer, MD, 2018.

Edelman, Sidney. *Understanding Ultrasound Physics*. 4th ed. Woodlands, TX: ESP, Inc., 2012.

Types and/or Examples of Required Reading, Writing, and Outside of Class Assignments

- Students use a registry prep book to assist for exam preparation.
- Students use several online registry prep examinations. Some of the preparatory examinations will be completed via Canvas. All tests will be timed.

Discipline(s)

Diagnostic Medical Technology