# DMS A123: SECTIONAL ANATOMY FOR MEDICAL IMAGING

| Item | Value |
|---|---|
| Curriculum Committee Approval Date | 12/02/2020 |
| Top Code | 122700 - Diagnostic Medical Sonography |
| Units | 4 Total Units |
| Hours | 108 Total Hours (Lecture Hours 54; Lab Hours 54) |
| Total Outside of Class Hours | 0 |
| Course Credit Status | Credit: Degree Applicable (D) |
| Material Fee | No |
| Basic Skills | Not Basic Skills (N) |
| Repeatable | No |
| Grading Policy | Standard Letter (S) |

## Course Description

This is a study of specific areas of the human body in serial sections. Designed for diagnostic medical sonography and radiologic imaging technology. Emphasis is on structures observable on diagnostic medical sonography, computerized tomography and related imaging studies. PREREQUISITE: BIOL A221; or BIOL A220 and BIOL A225. Transfer Credit: CSU.

## Course Level Student Learning Outcome(s)

1. Integrate and analyze knowledge of cross-sectional anatomy related to diagnostic medical sonography and other related imaging modalities.

## Course Objectives

- 1. Identify and describe anatomy of the head in sagittal and transverse planes and with sonographic imaging.
- 2. Identify and describe anatomy of the abdominal cavity in sagittal and transverse sections and with sonographic anatomy.
- 3. Identify and describe anatomy of the pelvis in sagittal and transverse sections and with sonographic imaging.
- 4. Identify and describe the anatomy of the neck in transverse sections and with sonographic sonographic imaging.
- 5. Identify and describe anatomy of the chest in sagittal and transverse sections and with sonographic imaging.
- 6. Identify and describe veins and arteries in the extremities with a sonographic approach.
- 7. Identify and describe anatomy of the eye in sagittal and transverse planes and with sonographic imaging.

## Lecture Content

I. The Head A. Skeleton B. Foramina C. Cranial nerves D. Brain E. Enclosing structures/membranes F. Sinuses and veins G. Arteries H. Ventricles II. The Neck A. Skeleton B. Cartilage and other structures C. Viscera 1. Thyroid and parathyroid nb 2. Salivary glands D. Arteries E. Veins F. Muscles III. The Chest A. Skeleton B. Enclosing structures C. Airway structures D. Viscera 1. Heart E. Arteries F. Veins IV. The Abdomen A. Skeleton B. Enclosing structures C. Viscera 1. Stomach 2. Spleen 3. Kidneys and ureters 4. Pancreas 5. Liver 6. Gallbladder and ducts 7. Small intestine 8. Large intestine 9. Abdominal aorta 10. Inferior vena cava (IVC) 11. Adrenals D. nb Arteries E. Veins F. Muscles V. The Male and Female Pelvis A. Skeleton B. Viscera 1. Bladder 2. Sigmoid Colon 3. Rectum C. Arteries D. Veins E. Muscles F. Male urogenital system G. Female urogenital system VI. Peripheral Vasculature A. b Upper extremities 1. Veins 2. Arteries B. Lower extremities 1. Veins 2. Arteries VII. The Eye 1. Muscles 2. Eye ball 3. Lens

## Lab Content

Labs consists of reinforcement of lecture material on cross-sectional anatomy by using models, workbooks, YouTube videos, sonographic images, and other pertinent radiologic imaging. Primary focus is on these regions. 1. Abdomen 2. Pelvis 3. Head/Neck 4. Arterovascular anatomy 5. Chest structures 6. Eye

## Method(s) of Instruction

- Lecture (02)
- DE Live Online Lecture (02S)
- Lab (04)
- DE Live Online Lab (04S)

## Instructional Techniques

Lecture with application of ideas, use of models, study groups, YouTube Video and PowerPoint.

## Reading Assignments

It is recommended that students read 4 hours per week from the assigned textbook.

## Writing Assignments

Students will demonstrate writing proficiency by describing cross-sectional anatomy seen during a songraphic examination in short answer format.

## Out-of-class Assignments

Students will complete out-of-class assignments from the text workbook which will require 2 hours per week. It is recommended that students spend an additional 3 hours per week in the lab studying anatomy models and images in preparation for lab exams.

## Demonstration of Critical Thinking

Critical thinking will be demonstrated through quizzes, objective tests, demonstration of problem solving skills by participation in classroom discussions and exercises.

## Required Writing, Problem Solving, Skills Demonstration

Students will demonstrate writing proficiency by describing cross-sectional anatomy observed during a sonographic examination. Skills are demonstrated through a final examination.

## Eligible Disciplines

Diagnostic medical technology-diagnostic medical sonography, neurodiagnosti...: Any bachelors degree and two years of professional experience, or any associate degree and six years of professional experience.

## Textbooks Resources

1. Required Netter, F.. Atlas of Human Anatomy, Sixth ed. Philadelphia: Elsevier Health Sciences, 2019 Rationale: . 2. Required Curry, R.A. Tempkin, B.B.. Sonography: Introduction to Normal Structure and Function, Fourth ed. St. Louis: Elsevier Saunders, 2016 3. Required Applegat, E.J.. The Sectional Anatomy Learning System, Third ed. St. Louis: Saunders Elsevier, 2010 Rationale: This text introduces the human body/anatomy in sections. It is most appropriate for imaging professionals such as ultrasound and CT. A workbook accompanies the text to reinforce learning.

## Other Resources

1. Anatomical models