



Course Number and Title: DMS 121 Abdominal Sonography I

Campus Location:

Wilmington

Effective Date:

2018-51

Prerequisite:

BIO 120, DMS 106, SSC 100 or concurrent

Co-Requisites:

none

Course Credits and Hours:

2.00 credits

2.00 lecture hours/week

1.00 lab hours/week

Course Description:

This course covers the study of diagnostic medical sonography of the abdomen. Instruction includes cross-sectional anatomy, physiology, and pathophysiology of abdominal viscera.

Required Text(s):

Obtain current textbook information by viewing the [campus bookstore - https://www.dtcc.edu/bookstores](https://www.dtcc.edu/bookstores) online or visit a campus bookstore.

Check your course schedule for the course number and section.

Additional Materials:

DMS Program Student Manual

CCHS Non-Employee Orientation Manual

Allied Health/Science Department Policy Manual

Refer to separate instructor handout

Schedule Type:

Classroom Course

Disclaimer:

None

Core Course Performance Objectives (CCPOs):

1. Integrate previous knowledge of anatomy and physiology to examine the cross-sectional anatomy of the abdominal viscera. (CCC 1, 2, 5, 6; PGC 4)
2. Implement the principles of scanning techniques in examining the abdominal viscera. (CCC 1, 2, 3, 4, 5, 6; PGC 1, 2, 3, 4)
3. Integrate previous knowledge of anatomy and physiology to sonographically identify normal anatomy and the physiology of the abdominal vasculature. (CCC 1, 2, 5, 6; PGC 4)
4. Integrate previous knowledge of anatomy and physiology to sonographically identify and document the pathology and pathophysiology of the abdominal viscera. (CCC 1, 2, 5, 6; PGC 1, 2, 3, 4)
5. Discuss the laboratory testing associated with the abdominal viscera. (CCC 1, 2, 6; PGC 2, 3, 4)
6. Explain and document the preparation that should precede a sonographic examination of the abdominal viscera. (CCC 1, 2, 5, 6; PGC 2, 3, 4)
7. Perform basic abdominal imaging views using examination equipment and techniques. (CCC 1, 2, 3, 4, 5, 6; PGC 1, 2, 3, 4)

See Core Curriculum Competencies and Program Graduate Competencies at the end of the syllabus. CCPOs are linked to every competency they develop.

Measurable Performance Objectives (MPOs):

Upon completion of this course, the student will:

1. Integrate previous knowledge of anatomy and physiology to examine the cross-sectional anatomy of the abdominal viscera.
 1. Explain normal gross anatomy, location, size, and adjacent organ relationships of the abdominal viscera, including but not limited to the abdominal wall, peritoneal cavity, noncardiac chest, liver, gallbladder and biliary system, kidney and urinary bladder, and prevertebral vessels.
 2. Discuss the importance of a technically systematic approach in examining the normal morphological structures of the viscera.
 3. Define directional terms, anatomic position, and anatomic planes relating to cross-sectional anatomy.
 4. Define image quality terms and internal echo patterns used in sonographic procedures.
2. Implement the principles of scanning techniques in examining the abdominal viscera.
 1. Discuss the importance and benefit of using proper transducer selection and technique in abdominal examinations.
 2. Describe the accepted guidelines and scanning protocols of abdominal examinations.
 3. Practice the scan protocol within the allowable scan time.
3. Integrate previous knowledge of anatomy and physiology to sonographically identify normal anatomy and the physiology of the abdominal vasculature.
 1. Discuss hemodynamic characteristics in abdominal vessels in both fasting and postprandial states.
 2. Discuss vessel composition and systemic circulation.
 3. Discuss visceral physiology and its importance to life.
4. Integrate previous knowledge of anatomy and physiology to sonographically identify and document the pathology and pathophysiology of the abdominal viscera.
 1. Discuss and identify the sonographic appearances of pathologies relating to inflammatory, neoplastic, infectious, obstructive, metabolic, traumatic, degenerative, iatrogenic, congenital, and immunologic process of abdominal viscera, including but not limited to the abdominal wall, peritoneal cavity, noncardiac chest, liver, gallbladder and biliary system, kidney and urinary bladder, and prevertebral vessels.
 2. Discuss and identify various anatomic variants.
5. Discuss the laboratory testing associated with the abdominal viscera.
 1. Discuss the liver function tests (LFTs).
 2. Discuss the renal function tests.
 3. Discuss the role of cholecystokinin (CCK) in gallbladder function.
 4. Discuss the roles of amylase, lipase, and bilirubin in pancreatic studies.
6. Explain and document the preparation that should precede a sonographic examination.
 1. Describe the steps involved in patient preparation for abdominal studies.
 2. Discuss and demonstrate the scanning unit preparation with regard to transducer selection, exam table height, and patient body habitus.
7. Perform basic abdominal imaging views using examination equipment and techniques.
 1. Perform imaging and evaluate normal relational anatomy of organs/systems, including but not limited to the abdominal wall, peritoneal cavity, noncardiac chest, liver, gallbladder and biliary system, kidney and urinary bladder, and prevertebral vessels.
 2. Produce written reports of findings using sonographic terminology.

Evaluation Criteria/Policies:

Students must demonstrate proficiency on all CCPOs at a minimal 75 percent level to successfully complete the course. The grade will be determined using the Delaware Tech grading system:

92	-	100	=	A
83	-	91	=	B
75	-	82	=	C
0	-	74	=	F

Students should refer to the [Student Handbook - https://www.dtcc.edu/handbook](https://www.dtcc.edu/handbook) for information on the Academic Standing Policy, the Academic Integrity Policy, Student Rights and Responsibilities, and other policies relevant to their academic progress.

Final Course Grade:

Calculated using the following weighted average

Evaluation Measure	Percentage of final grade
7 Tests (4.3% each)	30%
Mid-term exam	20%
2 Competencies (15% each)	30%
Final Exam	20%
TOTAL	100%

Core Curriculum Competencies (CCCs are the competencies every graduate will develop):

1. Apply clear and effective communication skills.
2. Use critical thinking to solve problems.
3. Collaborate to achieve a common goal.
4. Demonstrate professional and ethical conduct.
5. Use information literacy for effective vocational and/or academic research.
6. Apply quantitative reasoning and/or scientific inquiry to solve practical problems.

Program Graduate Competencies (PGCs are the competencies every graduate will develop specific to his or her major):

1. Perform competently a full range of diagnostic medical sonographic procedures pertaining to their learning concentration.
2. Utilize professional verbal, nonverbal, and written communication skills in patient care, procedure intervention, and professional relationships.
3. Act in a professional and ethical manner and comply with professional scope of practice.
4. Integrate critical thinking and problem solving skills as expected of a healthcare professional.

Disabilities Support Statement:

The College is committed to providing reasonable accommodations for students with disabilities. Students are encouraged to schedule an appointment with the campus Disabilities Support Counselor to request an accommodation needed due to a disability. A listing of campus Disabilities Support Counselors and contact information can be found at the [disabilities services - https://www.dtcc.edu/disabilitysupport](https://www.dtcc.edu/disabilitysupport) web page or visit the campus Advising Center.