



INSTRUCTIONAL PACKAGE

DMS 126

Advanced Sonographic Topics

202510
Fall 2025

INSTRUCTIONAL PACKAGE

Part I: Course Information

Effective Term: Fall 2025/Spring 2026/Summer 2026

COURSE PREFIX: DMS 126

COURSE TITLE: Advanced Sonographic Topics

CONTACT HOURS: 4

CREDIT HOURS: 2

RATIONALE FOR THE COURSE:

This course emphasizes the identification of normal abdominal anatomy, sonographic scanning techniques, and related pathologies. Specialized topics include imaging of the head, neck, and thorax. Through the analysis of clinical and pathological case studies, students will enhance their diagnostic skills and build clinical proficiency in preparation for both hands-on rotations and registry examination review.

COURSE DESCRIPTION:

This course is a detailed study of the abdomen, superficial structures and neurosonography with emphasis on the anatomy, physiology, and pathological conditions seen with sonographic imaging.

PREREQUISITES/CO-REQUISITES:

Prerequisite: DMS 114

Co-requisite: DMS 122

REQUIRED MATERIALS:

Please visit the [BOOKSTORE](#) online site for most current textbook information.

Enter the semester, course prefix, number and section when prompted and you will be linked to the correct textbook.

ADDITIONAL REQUIREMENTS:

TECHNICAL REQUIREMENTS:

Access to Desire2Learn (D2L), HGTC's learning management system (LMS) used for course materials.

Access to myHGTC portal for student self-services.

College email access – this is the college's primary official form of communication.

STUDENT IDENTIFICATION VERIFICATION

Students enrolled in online courses will be required to complete identity verification. Please refer to your Instructor Information Sheet for information regarding this requirement.

CLASSROOM ETIQUETTE:

As a matter of courtesy to other students and your professor, please turn off cell phones and other communication/entertainment devices before class begins. If you are monitoring an emergency, please notify your professor prior to class and switch cell phone ringers to vibrate.

NETIQUETTE: is the term commonly used to refer to conventions adopted by Internet users on the web, mailing lists, public forums, and in live chat focused on online communications etiquette. For more information regarding Netiquette expectations for distance learning courses, please visit [Online Netiquette](#).

Part II: Student Learning Outcomes**COURSE LEARNING OUTCOMES and ASSESSMENTS*:**

Module # 1**Materials Covered:** GI Tract and Abdominal Wall

***Assessment(s):** Classroom activity
Unit Test

Learning Outcomes:

- Identify normal sonographic anatomy of the gastrointestinal tract, including the esophagus, stomach, small intestine, appendix, and colon.
- Explain the sonographic characteristics of each layer of the bowel wall and recognize normal wall thickness and peristaltic activity.
- Describe clinical indications for GI tract ultrasound, including evaluation of abdominal pain, suspected appendicitis, intussusception, bowel obstruction, hypertrophic pyloric stenosis, and inflammatory bowel disease.
- Differentiate normal from abnormal bowel findings using grayscale and Doppler techniques, identifying key sonographic signs of pathology such as the "target sign," "pseudo-kidney sign," and lack of compressibility.
- Demonstrate appropriate scanning techniques for evaluating the GI tract, including patient preparation, transducer selection, and patient positioning.
- Correlate sonographic findings with patient history, symptoms, and clinical lab values to support diagnostic impressions.

Abdominal Wall Sonography

- Identify the normal anatomy and sonographic appearance of the abdominal wall, including muscle layers, fascia, and subcutaneous tissues.
- Recognize common abdominal wall pathologies, such as hernias (inguinal, umbilical, incisional), hematomas, abscesses, and masses.
- Apply dynamic scanning techniques (e.g., Valsalva maneuver, patient repositioning) to evaluate suspected abdominal wall defects and differentiate them from intra-abdominal pathology.
- Document and interpret findings accurately, using standardized terminology and protocols to produce clear and diagnostic-quality images for both GI tract and abdominal wall evaluations.
- Understand the role and limitations of sonography in assessing gastrointestinal and abdominal wall conditions, and identify when further imaging or referral may be warranted

Module # 2**Materials Covered:** Non-cardiac Chest and Retroperitoneum***Assessment(s):** Classroom activities
Unit Test**Learning Outcomes:**

- Identify normal sonographic anatomy of the thoracic cavity, including pleural spaces, lung surfaces, diaphragm, mediastinum, and chest wall structures.
- Describe common indications for non-cardiac chest sonography, including pleural effusion, pneumothorax, lung consolidation, masses, and diaphragmatic abnormalities.
- Explain the physical principles and artifacts unique to thoracic sonography, such as lung sliding, comet tail artifacts, and the absence of typical solid-organ echogenicity.
- Differentiate between normal and pathological findings on thoracic ultrasound, including sonographic signs of pleural effusion, pneumothorax, pulmonary edema, and atelectasis.
- Demonstrate correct scanning techniques and protocols for thoracic sonography, including transducer selection, patient positioning, and probe orientation for optimal imaging.
- Apply the principles of ultrasound in emergent settings, including the use of lung ultrasound in trauma (e.g., extended FAST exam) and critical care.
- Correlate clinical signs and symptoms with sonographic findings to assist in accurate and timely diagnosis of thoracic conditions.
- Document and communicate sonographic findings using appropriate terminology, image labeling, and structured reporting for thoracic exams.
- Perform non-cardiac chest sonographic exams in a safe and ethical manner, demonstrating professionalism, patient care, and adherence to scanning protocols..

Module # 3**Materials Covered:** Face and Neck Sonography***Assessment(s):** Classroom activities
Unit Test**Learning Outcomes:**

- Identify normal sonographic anatomy of the face and neck, including salivary glands (parotid, submandibular, sublingual), lymph nodes, thyroid, vasculature, and soft tissue structures.
- Describe common clinical indications for sonographic evaluation of the face and neck, such as palpable masses, inflammation, infection, trauma, and congenital abnormalities.
- Differentiate normal and pathological findings in head and neck structures, including cysts, solid masses, abscesses, lymphadenopathy, sialolithiasis, and neoplasms.
- Demonstrate appropriate scanning techniques for the face and neck, including patient positioning, transducer selection, image optimization, and use of color and spectral Doppler.
- Interpret sonographic characteristics of neck pathology, such as echogenicity, vascularity, border definition, and relationship to surrounding structures.
- Correlate clinical and laboratory findings (e.g., pain, swelling, fever, thyroid function tests) with sonographic appearances to support diagnostic interpretation.
- Recognize patterns of lymph node involvement associated with infection, inflammation, or malignancy, and differentiate between benign and suspicious features.
- Apply knowledge of embryologic development to identify and understand congenital neck anomalies such as thyroglossal duct cysts and branchial cleft cysts.
- Document and communicate findings effectively using standardized sonographic terminology, labeling, and reporting formats for head and neck exams.

Case Study Project

****Course Assessments: Group Case studies
Individual Case study***

Learning Outcomes:

- Select a relevant sonographic cases encountered during clinical rotation that demonstrates significant pathology and provides educational value.
- Gather and organize all pertinent clinical information, including patient history, symptoms, relevant laboratory or imaging studies, and physician notes, while maintaining HIPAA compliance.
- Identify and describe the sonographic findings associated with the selected abdominal pathology, including grayscale and Doppler characteristics.
- Present high-quality sonographic images from the actual clinical examination, clearly labeled and optimized to support diagnostic conclusions.
- Correlate sonographic findings with clinical presentation, laboratory data, and, when applicable, other imaging modalities or pathology reports.
- Formulate a concise differential diagnosis, based on sonographic appearance and clinical context, and support the final diagnosis using evidence-based reasoning.
- Effectively communicate the case study in a professional presentation format, using appropriate medical and sonographic terminology, image interpretation, and clinical logic.
- Demonstrate critical thinking and problem-solving skills in evaluating case complexity, image quality, and diagnostic challenges.
- Reflect on the clinical and educational value of the case and articulate the relevance of the experience to future practice and registry preparation.

****Students – please refer to the Instructor’s Course Information sheet for specific information on assessments and due dates.***

Part III: Grading and Assessment

EVALUATION OF REQUIRED COURSE MEASURES/ARTIFACTS*:

Students’ performance will be assessed, and the weight associated with the various

measures/artifacts are listed below.

EVALUATION*

Tests	40%
Assignments	10%
Case Study	15%
Class Participation	5%
Final Exam	30%
	100%

****Students, for the specific number and type of evaluations, please refer to the Instructor's Course Information Sheet.***

GRADING SYSTEM:

Students will be evaluated testing, classroom activities, homework assignments and projects. Grades will be calculated using the total point system with the percentage of points at:

92 – 100	A
83 – 91	B
74– 82	C
65 – 73	D
64 and below	F

Grades earned in courses impact academic progression and financial aid status. Before withdrawing from a course, be sure to talk with your instructor and financial aid counselor about the implications of that course of action. Ds, Fs, Ws, WFs and Is also negatively impact academic progression and financial aid status.

The Add/Drop Period is the first 5 days of the semester for **full term** classes. Add/Drop periods are shorter for accelerated format courses. Please refer to the [academic calendar](#) for deadlines for add/drop. You must attend at least one meeting of all your classes during that period. If you do not, you will be dropped from the course(s) and your Financial Aid will be reduced accordingly.

Part IV: Attendance

Horry-Georgetown Technical College maintains a general attendance policy requiring students to be present for a minimum of 80 percent (80%) of their classes in order to receive credit for any course. Due to the varied nature of courses taught at the college, some faculty may require up to 90 percent (90%) attendance. Pursuant to 34 Code of Federal Regulations 228.22 - Return to Title IV Funds, once a student has missed over 20% of the course or has missed two

(2) consecutive weeks, the faculty is obligated to withdraw the student, and a student may not be permitted to reenroll. **Instructors define absentee limits for their class at the beginning of each term; please refer to the Instructor Course Information Sheet.**

For online and hybrid courses, check your Instructor's Course Information Sheet for any required on-site meeting times. Please note, instructors may require tests to be taken at approved testing sites, and if you use a testing center other than those provided by HGTC, the center may charge a fee for its services.

Part V: Student Resources



THE STUDENT SUCCESS AND TUTORING CENTER (SSTC):

The SSTC offers to all students the following **free** resources:

1. Academic tutors for most subject areas, Writing Center support, and Academic Coaching for college success skills.
2. Online tutoring and academic support resources.
3. Professional and interpersonal communication coaching in the EPIC Labs.

Visit the [Student Success & Tutoring Center](#) website for more information. To schedule tutoring or coaching, contact the SSTC at ssc@hgtc.edu or self-schedule in the Penji iOS/Android app or at www.penjiapp.com. Email ssc@hgtc.edu or call SSTC Conway, 349-7872; SSTC Grand Strand, 477-2113; and SSTC Georgetown, 520-1455, or go to the SSTC [Online Resource Center](#) to access on-demand resources.



STUDENT INFORMATION CENTER: TECH Central

TECH Central offers to all students the following **free** resources:

1. Getting around HGTC: General information and guidance for enrollment, financial aid, registration, and payment plan support!
2. In-person and remote assistance are available for Desire2Learn, Student Portal, Degree Works, and Office 365.
3. Chat with our staff on TECH Talk, our live chat service. TECH Talk can be accessed on the student portal and on TECH Central's website, or by texting questions to (843) 375-8552. Visit

the Tech Central website for more information. Live Chat and Center locations are posted on the website. Or please call (843) 349 – TECH (8324), Option # 1.



HGTC LIBRARY:

Each campus location has a library where HGTC students, faculty, and staff may check out materials with their HGTC ID. All three HGTC campus libraries have librarians and staff who can aid with research, computers to support academic research and related school-work, and individual/group study rooms. Printing is available as well at each location. Visit the [Library](#) website for more information or call (843) 349-5268.

STUDENT TESTING:

Testing in an **online/hybrid** course and in **make-up exam** situations may be accomplished in a variety of ways:

- Test administered within D2L.
- Test administered in writing on paper.
- Test administered through Publisher Platforms (which may have a fee associated with the usage)

Furthermore, tests may have time limits and/or require a proctor.

Testing candidates must make their appointments 24 hours in advance.

Students must bring a physical ID in order to take a test.

Proctoring can be accomplished either face-to-face at an approved site or online through our online proctoring service. To find out more about proctoring services, please visit the [Online Testing](#) section of the HGTC's Testing Center webpage.

The **Instructor Information Sheet** will have more details on test requirements for your course.

DISABILITY SERVICES:

HGTC is committed to providing an accessible environment for students with disabilities. Students seeking accommodations are encouraged to visit HGTC's [Accessibility and Disability Service webpage](#) for detailed information.

It is the student's responsibility to self-identify as needing accommodations and to provide appropriate documentation. Once documentation is submitted, the student will participate in an interactive process with Accessibility and Disability Services staff to determine reasonable

accommodations. Students may begin the accommodations process at any time; however, accommodations are **not retroactive** and will only be applied from the point at which they are approved. Students must contact the office **each semester** to renew their accommodations.

For assistance, please contact the Accessibility and Disability Services team at disabilityservices@hgtc.edu or 843-796-8818 (call or text).

COUNSELING SERVICES:

HGTC Counseling Services strives to optimize student success through managing personal and academic concerns that may interfere with achieving educational goals. Staff are available to every student for assistance and guidance on personal matters, academic concerns and other areas of concern. HGTC offers free in-person and telehealth counseling services to students. For more information about counseling services, please reach out to counseling@hgtc.edu or visit the website the [Counseling Services webpage](#).

STATEMENT OF EQUAL OPPORTUNITY/NON-DISCRIMINATION STATEMENT:

Our sincere commitment to both effective business management and equitable treatment of our employees requires that we present this Policy Statement as an embodiment of that commitment to the fullest.

Discrimination is conduct that includes unjust or prejudicial treatment based upon an individual's sex, race/color, religion, national origin, age, disability, service in the uniformed services (as defined in state and federal law), veteran status, political ideas, marital or family status, pregnancy, childbirth, or related medical conditions, including, but not limited to, lactation, genetic information, genetic identity, gender expression, or sexual orientation that excludes an individual from participation in, denies the individual the benefits of, treats the individual differently, or otherwise adversely affects a term or condition of a person's working or learning environment. This includes failing to provide reasonable accommodation, consistent with state and federal law, to persons with disabilities.

INQUIRIES REGARDING THE NON-DISCRIMINATION/TITLE IX POLICIES:

Student and prospective student inquiries concerning Section 504, Title II, Title VII, and Title IX and their application to the College or any student decision may be directed to the Vice President for Student Affairs.

Dr. Melissa Batten, VP Student Affairs

Title IX, Section 504, and Title II Coordinator

Building 1100, Room 107A, Conway Campus

PO Box 261966, Conway, SC 29528-6066

843-349-5228

Melissa.Batten@hgtc.edu

Employee and applicant inquiries concerning Section 504, Title II, and Title IX and their application to the College may be directed to the Vice President for Human Resources.

Jacquelyne Snyder, VP Human Resources

Affirmative Action/Equal Opportunity Officer and Title IX Coordinator

Building 200, Room 205B, Conway Campus

PO Box 261966, Conway, SC 29528-6066

843-349-5212

Jacquelyne.Snyder@hgtc.edu

TITLE IX REQUIREMENTS:

Title IX of the Education Amendments of 1972 protects students, employees, applicants for admission and employment, and other persons from all forms of sex discrimination.

HGTC prohibits the offenses of domestic violence, dating violence, sexual assault, and stalking and will provide students, faculty, and staff with necessary information regarding prevention, policies, procedures, and resources.

Any student, or other member of the college community, who believes that they have been a victim of sexual harassment, domestic violence, dating violence, sexual assault, or stalking may file a report with the college's Title IX Coordinator or campus law enforcement*.

*Faculty and Staff are required to report these incidents to the Title IX Coordinator when involving students. The only HGTC employees exempt from mandatory reporting are licensed mental health professionals (only as part of their job description such as counseling services).

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PREGNANCY ACCOMMODATIONS

Under Title IX, colleges must not exclude a pregnant student from participating in any part of an educational program. Horry-Georgetown Technical College is committed to ensuring that pregnant students receive reasonable accommodations to ensure access to our educational programs.

Students should advise the Title IX Coordinator of a potential need for accommodations as soon as they know they are pregnant. It is extremely important that communication between student, instructors, and the Title IX Coordinator begin as soon as possible. Each situation is unique and will be addressed individually.

Title IX accommodations DO NOT apply to Financial Aid. Financial Aid regulations do not give the College any discretion in terms of Financial Aid eligibility.

Certain educational programs may have strict certification requirements or requirements mandated by outside regulatory agencies. Therefore, in some programs, the application of Title IX accommodations may be limited.

To request pregnancy accommodations, please complete the *Pregnancy Intake Form* that can be found [here](#).