Course Number and Title: DMS 210 Scanning Applications

Campus Location:
Wilmington

Effective Date:
2020-51

Prerequisite:
DMS 114, DMS 122, VAS 112

Co-Requisites:
none

Course Credits and Hours:
1.00 credits
1.00 lecture hours/week
1.00 lab hours/week

Course Description:
This course is integrates previously learned didactic knowledge and laboratory skills to strengthen sonographic scanning techniques. Applications of these skills are emphasized and reviewed.

Required Text(s):
Obtain current textbook information by viewing the campus bookstore - 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, including policies and DMS Clinical Competency Requirements
CCHS Non-Employee Orientation Manual
Allied Health/Science Department Policy Manual
Instructor Handouts

Schedule Type:
Classroom Course

Disclaimer:
None

Core Course Performance Objectives (CCPOs):

1. Explain proper pre-examination preparation and acquisition of pertinent patient medical information. (CCC 1, 2, 5, 6; PGC 1, 2, 4)
2. Operate ultrasound instrumentation and other equipment necessary for sonographic procedures competently. (CCC 1, 2, 5, 6; PGC 2, 3, 4)
3. Perform the diagnostic views of the abdominal structures and the non-cardiac chest using real-time ultrasound equipment. (CCC 1, 2, 3, 4, 5, 6; PGC 1, 2, 3, 4)
4. Interpret extremity arterial cases using patient medical history and testing data from pulse volume recording/segmental limb pressure (PVR/SLP), treadmill stress test, transcutaneous oximetry, and/or duplex imaging. (CCC 1, 2, 5, 6; PGC 1, 2, 4)
5. Perform lower extremity venous duplex exam using previously learned didactic and laboratory skill in a timely manner. (CCC 1, 2, 3, 4, 5, 6; PGC 1, 2, 3, 4)
6. Perform carotid and vertebral duplex exam using previously learned didactic and laboratory skill in a timely manner. (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. Explain proper pre-examination preparation and acquisition of pertinent patient medical information.
    1. Perform pre-examination preparation in a laboratory scenario by:
        1. Explaining proper patient pre-examination preparation.
        2. Obtaining examination indication and patient history and identifying clinical signs and symptoms.
        3. Using proper patient positioning and safely assisting the patient for the procedure.
    2. Properly prepare and maintain the patient area within the laboratory.
2. Operate ultrasound instrumentation and other equipment necessary for sonographic procedures competently.
    1. Identify and explain the function of the basic, generic instrumentation controls on a duplex ultrasound system and other equipment necessary for sonographic procedures.
    2. Select the appropriate transducer according to both the procedure requested and the patient body habitus.
    3. Demonstrate the correct usage of the controls for optimal 2D and/or color/Doppler imaging.
    4. Modify the controls to enhance the image quality or waveform acquisition.
    5. Describe the system components for documentation of the ultrasound study.
3. Perform the diagnostic views of the abdominal structures and the non-cardiac chest using real-time ultrasound equipment.
    1. Select appropriate transducer and instrument settings appropriate to the requested part and body habitus.
    2. Perform the required competency to include diagnostic views of the abdomen and the non-cardiac chest.
    3. Document properly annotated diagnostic images of the pertinent normal and abnormal anatomy in all the appropriate scan planes of the abdomen, including pancreas, liver, gall bladder/biliary system, spleen, great vessels, and kidneys.
    4. Document properly annotated diagnostic images and measurements of the pertinent normal and abnormal anatomy in all the appropriate scan planes of the non-cardiac chest.
4. Interpret extremity arterial cases using patient medical history and testing data from pulse volume recording/segmental limb pressure (PVR/SLP), treadmill stress test, transcutaneous oximetry, and/or duplex imaging.
    1. Describe signs and symptoms of extremity arterial diseases.
    2. Describe risk factors of extremity arterial diseases.
    3. Explain diagnostic criteria in interpreting physiological testing results of pulse volume recording/segmental limb pressure (PVR/SLP), treadmill stress test, and transcutaneous oximetry.
    4. Explain diagnostic criteria in interpreting extremity arterial duplex examination for stenosis/occlusion.
    5. Form a preliminary report based on patient history, diagnostic data, and diagnostic criteria.
5. Perform lower extremity venous duplex exam using previous learned didactic and laboratory skill in a timely manner.
    1. Perform proper pre-examination preparation and acquisition of pertinent patient medical information in a laboratory scenario.
    2. Apply lower extremity venous duplex protocol according to instructor competency outline.
    3. Perform required competency of lower extremity venous duplex to rule out deep venous thrombosis (DVT).
6. Perform carotid and vertebral duplex exam using previous learned didactic and laboratory skill in a timely manner.
    1. Perform proper pre-examination preparation and acquisition of pertinent patient medical information in a laboratory scenario.
    2. Apply carotid and vertebral arteries duplex protocol according to instructor competency outline.
    3. Perform required competency of carotid and vertebral arteries duplex to evaluate cerebrovascular diseases.

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 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
Tests (4 x 10%) (summative)	40%
Lab competencies (4 x 15%) (summative)	60%
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 web page or visit the campus Advising Center.