Figure 1: Owens Logo.

Course Syllabus
Semester:
School of Nursing and Health Professions
Department of Sonography

Course Name:	**Diagnostic Medical Sonography**
Course & Section Number:	**DMS 102-XXX, BXX, BXX, BXX**
Meeting Day(s) & Time(s):	**Lecture:**
	Lab BXX –
	Lab BXX –
	Lab BXX –
Credits:	**3**
Contact Hours:	**5 (2 lecture, 3 lab)**
Instructor's Name:	
Office Hours & Location:	
OCC Phone:	
OCC Email:**	
Additional Contact Information:	

**Please use only Owens email for course communications.

Catalog description:
Emphasizes sonographic protocols, anatomy and physiology of the abdomen, the liver, gallbladder/biliary system, pancreas, spleen, kidneys, abdominal vasculature, male pelvis, and thyroid. Discuss vascular anatomy and applications of Doppler/color imaging along with hemodynamics as it pertains to each topic. Also discuss correlation of pertinent patient history/assessment, laboratory tests, including other imaging modalities. Includes interpersonal relationships of the imaging department and patient management skills. Achieves didactic objectives through the use of texts, images, supplemental reading materials, lecture, and class discussion. Emphasizes real-time scanning techniques and imaging protocols in laboratory experiences and enhances psychomotor skills in laboratory activities. Achieves psychomotor objectives through laboratory practice sessions enhanced by instructor evaluations.

Prerequisite/Corequisites:
Prerequisite – MIT105

Course Materials:
Hagen-Ansert, Sandra L. Textbook of Diagnostic Ultrasound. 8th Edition, 2017.

deJong, Robert. Sonography Scanning Principles and Protocols, 5th Edition, Elsevier, Inc., 2020. ISBN: 978-0323597388

*If a **print book, e-book, or access code** is required for class, you can access the Owens Community College e-Campus Bookstore by accessing the online link, called "Find Books" on the course schedule for each course section.*

What You Will Learn in the Course

Course Objectives:

This course will:

1. Introduces the normal anatomy and scanning protocols of several structures including, but not limited to, the gallbladder, liver, pancreas, spleen, kidneys, thyroid, scrotum, retroperitoneal and superficial structures.
2. Discusses vascular anatomy and applications of Doppler/color imaging along with hemodynamics as it pertains to structures in the upper abdomen.
3. Correlates pertinent patient history/assessment, laboratory tests and other imaging modalities'
4. Provides scanning experiences in the laboratory setting.

Student Learning Outcomes:
Students will:

Outcome	Where Assessed
1. Be able to identify anatomical structures of the upper abdomen, thyroid and male pelvis to include the liver, gallbladder/biliary system, spleen, kidneys, abdominal vasculature, pancreas, scrotum and thyroid.	Lecture Tests/Quizzes, In-Class Activities, Journal Article Presentation, Homework, Lab Tests, Practicals, Lab Assignments, Lab Check-Offs, Lab Instructor Evaluation
2. Successfully perform scanning protocols of the upper abdomen to include the liver, gallbladder/biliary system, spleen, kidneys, abdominal vasculature, and pancreas.	Practicals, Lab Assignments, Lab Check-Offs, Lab Instructor Evaluation
3. Correlate the patient's history, laboratory tests and other imaging modalities with the examination.	Lecture Tests/Quizzes, In-Class Activities, Journal Article Presentation, Homework, Image IDs, Lab Tests, Practicals, Lab Assignments, Lab Check-Offs, Lab Instructor Evaluation

Technology, Lab, and File Requirements:

Microsoft Office 365
https://www.owens.edu/office365/

Respondus
https://download.respondus.com/lockdown/download.php?id=139313370

Academic Support

Disability Services Resource Center: If you have a disability or acquire one, you may be entitled to receive reasonable accommodations intended to assure you an equal opportunity to participate in and benefit from the program. To receive more information or to register for accommodations, please contact the Disability Resource Center at 567-661-7007, email disability@owens.edu, visit https://www.owens.edu/disability/, or stop by College Hall 124.

Tutoring Services: Owens Community College offers academic tutoring and assistance in a variety of subjects including: accounting, computing, economics, mathematics, science, and writing. For more information go to: https://www.owens.edu/successcenters/.

Counseling Services: Counseling Services provides assistance to students experiencing personal, educational, interpersonal/relationship, family, social, or psychological difficulties. If you feel you may benefit from this service, please contact them at counselingservices@owens.edu. More information is at https://www.owens.edu/counseling/.

Campus and Community Connections: The Center for Campus and Community Connections (College Hall 123) is a walk-in office created to provide retention support through resource stability initiatives and community connections. Go here for more information:

https://www.owens.edu/connection/ or contact connections@owens.edu

Owens Library: The Owens Library offers two locations (Toledo and Findlay) as well as online resources. For more information visit https://www.owens.edu/library/.

Students can find more information on campus resources, student support, student life, and security at this link.

General Information

Student Code of Conduct: All students are expected to follow Owens Community College's Student Code of Conduct, which includes academic honesty, encompassing plagiarism. See the Board Policy for more information.

Anti-Discrimination and Harassment & Title IX/Sexual Misconduct: All students, faculty, and staff are expected to follow Owens Community College's Anti-Discrimination and Harassment Policy and the College's Title IX Policy/Sexual Misconduct Procedures and Guidelines. The College strictly prohibits and will not tolerate harassment, discrimination, intimidation, or hostile/offensive working or learning environments.

Religious Accommodations: A student seeking an accommodation for an absence permitted under Ohio's Testing Your Faith Act must provide the instructor with a written email notice with the specific dates for an absence, and must do so not later than fourteen (14) days after the first day of instruction. Alternative accommodations are not retroactive, and no academic penalty will be imposed for an absence under the policy*. The request for an alternative accommodation will be kept confidential. Students with questions about a religious accommodation under Ohio's Testing your Faith Act may contact the College's Office of Academic Affairs: provost@owens.edu The policy may be found on the Owens website: 3358:11-2-63 Accommodation for a Student Absence for the Observance of Religious Beliefs and Practices Policy

Document Collection: Throughout the semester, your instructors may ask for a variety of assignments including tests and/or quizzes for student learning of institutional general education competencies or program assessment. Please save all your class materials until the end of the semester.

Classroom Admittance: OCC classes shall only be attended by the officially registered OCC students or perspective students, instructor of record, guest lecturer, or substitute. Visitors are not permitted to be in the classroom and should not be invited to attend or participate in the class. See FERPA regulations for more information.

Use of AI Tools: This course permits you to use artificial intelligence (AI) tools, such as chatbots, text generators, paraphrasers, summarizers, or solvers, to get guidance on assignments, as long as you do so in an ethical and responsible manner. Essentially, you can think of these tools as ways to help you learn but not to entirely create work for assignments like discussion board posts, essays, presentation slides, and so on. AI is more like your tutor or TA, not a replacement for your independent thinking.

This means that you must:

- Not use AI tools to replace your own thinking or analysis or to avoid engaging with the course content.
- Cite or explain any AI tools you use. Provide the name of the AI tool, the date of access, the URL of the interface, and the specific prompt or query you used to generate the output.
- Be transparent and honest about how you used the AI tool and how it contributed to your assignment. Explain what you learned from the AI tool, how you verified its accuracy and reliability, how you integrated its output with your own work, and how you acknowledged its limitations and biases.

You are accountable for any mistakes or errors made by the AI tool. Always check and edit the output before submitting your work. If you discover any inaccuracies or inconsistencies in the output after submission, notify the instructor immediately and correct them as soon as possible. Using AI tools in an unethical or irresponsible manner, such as copying or paraphrasing the output without citation or transparency, using the output as your own work without verification or integration, or using the output to misrepresent your knowledge or skills, is considered a form of academic dishonesty and will result in a zero grade for the assignment and possible disciplinary action. If you have any questions about what constitutes ethical and responsible use of AI tools, please consult with the instructor **before** submitting your work.

Student Responsibilities & Instructor Expectations

Student Responsibilities:

- You are expected to attend weekly classes and arrive on time. If you are going to be absent, please email your instructor before class begins. Afterward, review the assignment calendar to see what was missed and reach out if you have questions.
- You are expected to fully engage with the course material and consistently put forth your best effort in lecture and lab.
- If you are unable to complete an assignment on time, contact your instructor as soon as possible to discuss your options.
- Email is the preferred method of communication outside of office hours. Please include clear and specific details in your message so your instructors can respond efficiently.
- You are encouraged to ask questions or request clarification. Unless we hear otherwise, we will assume you understand the material. Each class builds on previous concepts, so staying current is important.
- Show respect for your instructors, classmates, and the learning environment.
- You are expected to follow all guidelines and procedures outlined in the Sonography Department Procedure Manual.
- For technical issues related to Blackboard, contact the Owens Help Desk.

Instructor Expectations:

- The instructor will be respectful of your time and begin and end class on time. If any changes to class times occur, you will be notified by email.

- Your instructor's goal is to review and return assignments that require student corrections within three days of submission. Assignments that do not require corrections or resubmission may take longer to be fully graded. If it has been more than three days and you are waiting on feedback for an assignment you believe may need revision, please email your instructor.
- Your instructor checks their email several times a day, but also has responsibilities outside of teaching this course. They will do their best to respond to your email with 24 hours on weekdays and within 72 hours on the weekends.
- Office hours are available outside of class time to support you with any questions or concerns related to the course. Please don't hesitate to make use of this time.
- Your instructor welcomes and encourages questions.
- Teaching is a two-way process, and your instructor hopes to learn from your insights, questions, and feedback throughout the course.

How Grades are Determined and Major Assignments

Grading Procedure:
Grades will be calculated on the following scale.

93% and Above	A
85% to 92%	B
76% to 84%	C
60% to 75%	D
59% or Below	F

Students must earn a passing grade of 76% in both the lab and lecture portions the course. If the percentage earned is less than 76% for the course, the student will earn a grade of "D or F" for the course and will not be able to continue in the program.

Breakdown of combined Course Grade:

Lecture Portion	50%
Lab Portion	50%
Total:	**100%**

LECTURE PORTION

The final grade for the lecture portion of the course will be computed using the following weights.

Lecture Content Breakdown:

Comprehensive Final	20%
Lecture Tests	10%
In-Class Activities	5%
Quizzes	5%
Journal Article Presentation	5%
Homework	5%
Total:	**50%**

****Please note that ½ point will be deducted from all homework, tests, and assignments for each spelling error. Using abbreviations will also result in a ½ point deduction. ****

Comprehensive Final
One comprehensive final exam will be given and will include all lecture content covered in DMS 102. It will be worth 20% of the total course grade. Any student who is tardy to the exam will receive a five (5) point deduction on the exam. The exam will still end at the scheduled time. Any student, who is unable to take the exam as scheduled, must notify the course instructor at least 30 minutes prior to the start of the test in order to receive full credit. If no notification is received prior to missing the test a ten (10) point deduction will be taken from the score of the make-up test. The makeup test will be taken within three (3) days of the original test date and must be taken in the testing center.

Lecture Tests
Two written tests will be given and averaged for 10% of the total course grade. Any student who is tardy to the exam will receive a five (5) point deduction on the exam. The exam will still end at the scheduled time. Any student who is unable to take the exam as scheduled must notify the course instructor at least 30 minutes prior to the start of the test in order to receive full credit. If no notification is received prior to missing the test a five (5) point deduction will be taken from the score of the make-up test. The makeup test will be taken within five (5) days of the original test date and must be taken in the testing center.

In-Class Activities
Attending class and being an active learner will elevate student success in the course. Most weeks there will be an in-class activity to be completed and reviewed as a class. Students must submit the assignment on Blackboard by midnight on the day of class in order to receive points for in-class activities. Any student who is unable to attend class for the week must notify the course instructor at least 30 minutes prior to the start of class to be eligible for a make-up assignment. If no notification is received, then the student will forfeit the in-class participation points from the activity for the week. There will be two pop quizzes in the course and these will not be eligible for a make-up assignment. Therefore, any student who is unable to attend class on the day of a pop quiz will forfeit the points. In-class activities and pop quizzes are worth 5% of the total course grade.

Quizzes
Quizzes will be given online through Blackboard. Students must complete these prior to the due date. No late quizzes will be accepted without prior approval from the instructor. These will cover designated terminology words and previously covered material. A study list of all the words can be found on Blackboard. Make-up quizzes will not be given. Quizzes are worth 5% of the course grade.

Journal Article Presentation
Students will choose an interesting article from the Journal for Diagnostic Medical Sonography. Students will submit a one-page typed paper about the article and give a 3-5 minute presentation to teach the class about the article. Please see Blackboard for Journal Article Presentation

Guidelines and grading rubrics. No late assignments will be accepted without prior approval from the instructor. This will be worth 5% of the total course grade.

Homework
Homework will consist of assignments, webinars and discussion posts on Blackboard. All homework must be submitted through Blackboard by the due date to receive full credit. Late assignments will be accepted at half credit up to 24 hours past the due date. Beyond 24 hours after the due date, late assignments will not be accepted without prior approval from the instructor. Homework will be worth 5% of the total course grade.

LABRATORY PORTION

The final grade for the lab portion of the course will be computed using the following weights.

Laboratory Content Breakdown:

Image ID's	7.5%
Lab Tests	7.5%
Comprehensive Final Image ID	10%
Comprehensive Final Exam	10%
Practicals	0%
Lab Instructor Evaluation	5%
Lab Assignments	5%
Lab Check-Offs	5%
Total:	**50%**

****Please note that ½ point will be deducted from all homework, tests, and assignments for each spelling error. Using abbreviations will also result in a ½ point deduction. ****

Image ID's
Two Image ID exams will be given and combined will total 7.5% of the course grade. Image IDs must be passed with a 76% or higher or the student will be given a repeat Image ID with reduced total points possible. Please refer to Procedure 4.002 in the Department of Sonography Procedure Manual regarding the lab testing sequence. Any student who is unable to attend to take the exam must notify the course instructor at least 30 minutes prior to the due date in order to receive full credit. If no notification is received prior to missing the test a five (5) point deduction will be taken from the score of the make-up test. The makeup test will be taken within five (5) days of the original test date.

Lab Tests
Two Lab tests will be given and combined will be worth 7.5% of the total course grade. Lab tests must be passed with a 76% or higher or the student will be given a repeat lab test with reduced total points possible. Please refer to Procedure 4.002 in the Department of Sonography Procedure

Manual regarding the lab testing sequence. Any student who is unable to attend to take the exam must notify the course instructor at least 30 minutes prior to the due date in order to receive full credit. If no notification is received prior to missing the test a five (5) point deduction will be taken from the score of the make-up test. The makeup test will be taken within five (5) days of the original test date.

Comprehensive Final Image ID
A comprehensive final Image ID will be given covering anatomy from all topics presented throughout DMS 102. Any student who is tardy to the exam will receive a five (5) point deduction on the exam. The exam will still end at the scheduled time. Any student who is unable to attend to take the exam must notify the course instructor at least 30 minutes prior to the class period in order to receive full credit. If no notification is received prior to missing the test a ten (10) point deduction will be taken from the score of the make-up test. The makeup test must be taken in the testing center within three (3) days of the original test date. The comprehensive Image ID is worth 10% of the total course grade.

Comprehensive Written Final
A comprehensive final exam will be given covering all topics presented in DMS 102. Any student who is tardy to the exam will receive a five (5) point deduction on the exam. The exam will still end at the scheduled time. Any student who is unable to attend to take the exam must notify the course instructor at least 30 minutes prior to the class period in order to receive full credit. If no notification is received prior to missing the test a ten (10) point deduction will be taken from the score of the make-up test. The makeup test will be taken in the testing center within three (3) days of the original test date. The comprehensive final exam is worth 10% of the total course grade.

Practicals
1st attempt practicals will be given during the student's regularly scheduled instructional lab. **The student will need to arrive 15 minutes prior to your scheduled time ready to take the practical.** A patient will be provided.

The student will have six images to acquire in 20 minutes. All practicals are comprehensive and may include information from previous protocols. The student will be given five minutes to set up the room and prepare for the practical. The 20-minute scan time will begin when the transducer is placed on the patient. If the student would like a five-minute warning, please make the evaluator aware. If the student has finished before time has expired, please consider repeating and improving on images to receive a higher grade.

The first attempt at a scanning practical must be passed with an 85%. A total of two (2) repeat practicals will be given and must be passed with a 90%. An unsuccessful 3rd practical attempt will result in the student not being allowed to proceed in the program. The student must pass all

practicals by the deadline of **DATE**. If the deadline is not met, the student will not pass the course.

Refer to Procedure 4.003 of the Sonography Procedure Manual for more information regarding practicals.

Lab Instructor Evaluation
The lab instructor will complete a final evaluation on Trajecsys prior to the final exams assessing the student's knowledge-based skills, scanning proficiency, and professional conduct demonstrated throughout the course. This evaluation will be worth 5% of the grade.

Lab Assignments
Lab assignments will be worth 5% of the total course grade and can be found in the lab assignment folder on Blackboard. Images must be submitted through StudyCast by assigning the reading group to the instructor and updating the status to "Preliminary" for grading. In addition, students must mark the assignment as "Ready to Grade" in Blackboard. Both steps are required for the assignment to be graded. If either step is completed after the deadline, the assignment will be considered late.

Students must spend at least one week on an assignment prior to submission to the lab instructor. Therefore, one week must lapse from the introduction of a protocol in laboratory class until the assignment submission can occur. Students should use the Self-Review Sheet found on Blackboard for guidance on choosing their best images prior to submission.

A submission without the following items counts as a first submission and will be returned to the student without grading:

- All required images
- Images in protocol sequence
- Correct and complete labeling
- A complete patient history
- Completed worksheet
    - Indications
    - Chart with measurements/velocities
    - Findings
    - Conclusion

Once lab assignment corrections are given to a student, they will need to return to the lab to practice the skill or technique. Images that are dated prior to the instructor corrections will not be accepted for the assignment.

Lab assignments should be submitted prior to the due date, giving the instructor ample time to grade and possibly return for corrections. It should be expected that a student may need to complete corrections, therefore, it is highly recommended that you do not wait until the last minute to submit these assignments.

Students will not be permitted to take their practical until the assignment is complete and of practical image quality.

Each lab assignment will be worth 5 points (see break down below).

Completion of Assignment	3 points
Completion of Assignment by the Due Date	1 point
Completion of Assignment by 2nd submission	1 point
Total Points Possible	**5 points**

Lab Check-Offs

Lab check-offs can be completed with any credentialed supervising sonographer during supervised lab, open lab (ensure instructor availability to review), or instructional lab review weeks. These are not required to be completed in order to sit for practicals or to pass the course, however any check-off that is not completed by the due date will earn a 0 in the gradebook. Please refer to the "Lab Check-off Guidelines" on Blackboard.

The following check-offs can be earned in this course:

Gallbladder
Liver
Thyroid
Renal

Lab check-offs are worth 5% of the overall course grade. Deadline for completion is Monday, December 1.

Lecture Assignment Calendar

Week	Topic	Reading Assignment Complete prior to class	Assignment Due Date (Due by 11:59pm)	SLO
One	Syllabus- Course Expectations Anatomic Relationships, Sectional Anatomy, Body Divisions Gallbladder and Biliary System	Syllabus Chapter 4 Chapter 5 Chapter 10 Body Systems PPT Biliary System PPT	**Body Divisions and Gallbladder Worksheet** **In-Class Activity** **Quiz 1**	1 & 3
Two	NO CLASS - HOLIDAY			
Three	Liver/ Portal System	Chapter 8 p. 178-188 Chapter 9 Liver PPT Portal System PPT	**Liver Worksheet** **In-Class Activity** **Quiz 2**	1 & 3
Four	**Review**		**Artifacts in Sonography Webinar- Discussion Post** **In-Class Activity**	1 & 3
Five	**Test 1**			1 & 3
Six	Spleen Pancreas	Chapter 11 Chapter 12 Pancreas Spleen PPT	**Spleen & Pancreas Worksheet** **In-Class Activity** **Quiz 3**	1 & 3
Seven	Urinary System	Chapter 15 Urinary System PPT	**Urinary Worksheet** **In-Class Activity** **Quiz 4**	1 & 3
Eight	Thyroid & Parathyroid	Chapter 22 Thyroid & Parathyroid PPT	**Thyroid Worksheet** **In-Class Activity** **Quiz 5**	1 & 3
Nine Oct. 20	**Review**		**In-Class Activity**	1 & 3

Ten	**Test 2**			1 & 3
Eleven	Male Pelvis - Scrotum - Prostate	Chapter 23 Male Pelvis PPT	**Male Pelvis Worksheet** **In-Class Activity** **Quiz 6**	1 & 3
Twelve	GI tract Misc. Exams	Chapter 13 Chapter 14 Chapter 16 MISC. Exams PPT	**Misc. Worksheet** **In-Class Activity** **Quiz 7**	1 & 3
Thirteen	**Review**		**Yoga for Sonographers: Ergonomics for the New Millennium Webinar-Quiz**	1 & 3
Fourteen	**Review**		**In-Class Activity**	1 & 3
Fifteen	**Comprehensive Final Exam**			1 & 3
Sixteen Dec. 8	**Journal Article Presentations**		**Journal Article Written Assignment**	1 & 3

Lab Assignment Calendar

Week	Topic	Reading Assignment* Practice Image ID* *Complete *before* class*	Assignment (Due by 11:59pm The day of Lab class)	SLO
One	Gallbladder	Chapter 7 Gallbladder Lab Lecture PPT Gallbladder Practice Image ID		
Two	Liver	Chapter 6 Liver Lab Lecture PPT Liver Practice Image ID		
Three	Review		Gallbladder Protocol	1-3
Four	Liver & GB **Review**		Liver Protocol **Written Lab Test & Image ID**	1-3
Five	**Practical #1** Liver & GB			1-3
Six	Spleen Pancreas	Chapters 8 & 10 Spleen/Pancreas Lab Lecture PPT Spleen/Pancreas Practice Image IDs		
Seven	Urinary System	Chapter 9 Urinary System Lab Lecture PPT RI Document Kidney Practice Image ID		
Eight	Thyroid	Chapter 16 Thyroid Lab Lecture PPT Thyroid Practice Image ID	Pancreas Protocol Spleen Protocol	1-3
Nine	Pancreas, Urinary System, Spleen, Thyroid **Review**		Urinary System Protocol Thyroid Protocol **(Due Sunday, October 26th at Midnight)** **Written Lab Test & Image ID**	1-3
Ten	**Practical #2** Pancreas, Urinary System, Spleen, Thyroid			1-3

Eleven	Male Pelvis -Scrotum -Prostate	Chapter 14 Prostate Handout Male Pelvis Lab Lecture PPT Male Pelvis Practice Image ID		
Twelve	**Review**			
Thirteen	**Review**		Scrotum Protocol *Phantom	1-3
Fourteen	**NO CLASS – HOLIDAY** ***Some supervised labs running***			
Fifteen	****Lab Checkoffs Deadline DATE** **Comprehensive Final Scanning Practical**			1-3
Sixteen	**Comprehensive Final Written Exam** – on campus **Comprehensive Final Image ID** – on campus ****ALL STUDENTS on DATE****			1-3

Refer to Blackboard for exact due dates

***Students will be required to attend the 1st year Interprofessional Education (IPE) event on DATE. More details will be given at a later date. Missing this event will result in an incomplete for the course until a make-up assignment is completed and turned in to the course instructor.**

Disclaimer: The instructor reserves the right to amend this syllabus as deemed necessary and will communicate such amendment to the students in the course. Please note that while unlikely, there is a possibility courses might need to change the delivery method due to external issues like public health concerns, weather issues, etc. If this happens, the college will communicate any changes via email and/or other communication methods.