Course Syllabus
SEMESTER
School of Nursing and Health Professions
Department of Sonography

Course Name:	Ultrasound Basics
Course & Section Number:	MIT 105-XXX
Meeting Day(s) & Time(s):	Lecture – DATE at TIME Labs – DATE at TIME
Credits:	1.0
Contact Hours:	**Lecture** 0.5 **Lab** 1.5
Lecture & Lab Instructor's Name:	
Office Hours & Location:	
OCC Email:**	
Lab Instructor's Name:	
Office Hours & Location:	
Email:	

Additional Contact Information:	

**Please use only Owens email for course communications.

Catalog description:
Introduces the student to the ultrasound profession. Discusses sonographic terminology, ultrasound equipment, knobology, patient care, patient positioning, image production and characteristics, professionalism, and ergonomics. Sonographic scanning experiences within the laboratory setting will provide students an opportunity to apply principles and skills learned.

Prerequisite/Corequisites:
Acceptance into a sonography program or chair approval.

Course Materials:
Penny, S., Introduction to Sonography and Patient Care, 2nd edition, Wolters Kluwer, 2020
ISBN-13: 978-1975120108

MIT105 Reference Manual

*Microsoft Word/PowerPoint will be necessary to access course materials in Blackboard.

*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. Introduce students to the ultrasound profession.
2. Provide opportunities for students to use ultrasound equipment for image production through the application of hands-on laboratory activities.
3. Provide opportunities for students to develop professional behaviors necessary for success in the ultrasound profession.

Student Learning Outcomes:

Students will:

1. Define and utilize basic terminology appropriate to the sonography discipline.

2. Manipulate the sonographic equipment in the laboratory to obtain diagnostic images.
3. Identify and describe ultrasound image characteristics.
4. Demonstrate behaviors appropriate for an ultrasound professional.

Outcome	Where Assessed
Define and utilize basic terminology appropriate to the sonography discipline.	Discussion Posts, In-Class Activities, Lab Assignments, Quizzes, Comprehensive Final Exam, Machine Clearance
Manipulate the sonographic equipment in the laboratory to obtain diagnostic images.	Lab Assignments, Machine Clearance
Identify and describe ultrasound image characteristics.	Discussion Posts, In-Class Activities, Lab Assignments, Quizzes, Comprehensive Final Exam, Machine Clearance
Demonstrate behaviors appropriate for an ultrasound professional.	Discussion Posts, In-Class Activities, Lab Assignments, Machine Clearance

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 and 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

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.

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

Comprehensive Final Exam	**40%**
In-Class Activities	**20%**
Discussion Posts	**5%**
Quizzes	**10%**
Lab Assignments	**25%**
Machine Clearance	**0%**
Total:	**100%**

****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 Exam
A comprehensive final exam will be given covering all topics presented in the course. The comprehensive final exam is worth 40% 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 exam to receive full credit. If no notification is received prior to missing the test, a ten (10) point reduction will be taken from the score of the make-up test. Make-up tests will be taken within three days of the original test date.

In-Class Activities
Attending class and being an active learner will carry a lot of weight in this course. There will typically be an in-class activity each week that will be completed in groups and reviewed as a class. Students must submit the assignment on Blackboard by midnight on the day of class to receive points for in-class activities. No late submissions will be accepted without prior approval from the instructor. 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. In-class activities are worth 20% of the total course grade.

Discussion Posts
After reviewing the upcoming material and watching the recorded lecture, students will make a discussion post that will help guide in-class discussion. Please see the rubric on Blackboard for grading. A substantial, thoughtful post will be required to earn points. Late discussion posts will not be accepted. Discussion posts are worth 5% of the total course grade.

Quizzes
Six 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. These quizzes will be averaged for 10% of the overall course grade.

Lab Assignments
Lab assignments can be found on Blackboard for the corresponding week. These will be completed during your scheduled lab time and will be worth 20% of the course grade. Some assignments will need to be saved to a flash drive and submitted in **POWERPOINT** to the lab instructor through Blackboard. These are to be completed and uploaded prior to the due date, giving the instructor enough time to grade and possibly send back for corrections**. Each lab assignment will be worth 5 points (see breakdown below). Students will <u>not</u> be permitted to sit for the Machine Clearance until <u>all</u> lab assignments are <u>complete</u>.** Any lab assignments not submitted by the student's final lab class (DATE)will receive a 0, unless previously approved by the lab instructor.

Attend Lab for Assignment	1 point
Completion of Assignment	3 points
Complete Assignment by the Due Date	1 point
Total Points Possible	**5 points**

Machine Clearance

Students will be given an orientation to the sonography equipment. At the end of the course, students will then be given the opportunity to prove competency on the ultrasound machines. This will be treated much like a practical situation to prepare students for the upcoming semesters. Students will be expected to complete the introductory portion of a practical as well as six technical manipulations given by the instructor. Students will have fifteen (15) minutes to

complete the exercise. A suggested score will be given to the student for them to assess their progress and knowledge in the course. Students cannot sit for the Machine Clearance until all Lab Assignments are complete. If a student is absent on the final day of lab, the student must contact the instructor for make-up. The Machine Clearance is a course requirement and must be completed to pass the course- although it is worth 0% of the course grade. An incomplete will be issued until the Machine Clearance is completed. By the deadline date of DATE, the Machine Clearance must be complete or the student will not pass the course.

Lecture Calendar

Week/Date	Topic	Reading Assignment	Assignment Due Date	Student Learning Outcomes
DATE Week 1	Syllabus Intro to Sonography Sonographic Terminology	Chapter 1 Chapter 2	**Discussion Post-** Due DATE at TIME **In-Class Activity**	1, 3, 4
DATE Week 2	Intro to Scanning Patient Positioning	Pages 251-261	**Discussion Post-** DATE at TIME **QUIZ 1** **In-Class Activity**	1, 3, 4
DATE Week 3	Knobology	Pages 266-278	**Discussion Post-** Due DATE at TIME **QUIZ 2** **In-Class Activity**	1, 3, 4
DATE Week 4	Knobology Cont.		**Discussion Post-** DATE at TIME **QUIZ 3** **In-Class Activity**	1, 3, 4
DATE Week 5	Transducers Resolution Ergonomics	Pages 253-258 Chapter 5	**Discussion Post-** Due DATE at TIME **QUIZ 4** **In-Class Activity**	1, 3, 4

DATE Week 6	Professionalism Taking a Patient History Sonographer-Patient Interaction	Pages 220-223 Pages 66-70 Pages 288-295	**Discussion Post-** Due DATE at TIME **QUIZ 5** **In-Class Activity**	1, 3, 4
DATE Week 7	Image Characteristics Sonographic Descriptions Review		**Discussion Post-** Due DATE at TIME **QUIZ 6** **In-Class Activity**	1, 3, 4
DATE Week 8	**Comprehensive Final Exam**			1, 3, 4

Lab Calendar

Week/ Date	Topic	Pre-Class Assignment(s)	Assignment Due Date (See Blackboard for specific date)	Student Learning Outcomes
DATE Week 1	Syllabus Taking Care of the Machines Equipment Manipulation Transducer Grip & Probe Manipulation	Lab Maintenance & Machine Care Video Equipment Manipulation Videos Transducer Grip & Probe Manipulation Videos		
DATE Week 2	Patient Positioning Screen Orientation Scan Planes Image Labeling	Review Pages 23-30 in Lab Manual Screen Orientation Video	**Equipment Manipulation Assignment**	1-4

DATE Week 3	Knobology – 2D Settings	Review Pages 19-21 in Lab Manual Review Machine Cheat Sheets	**Positioning and Transducer Movements At- Home Assignment** **Patient Positioning Lab Assignment** **Screen Orientation/Image Labeling Lab Assignment**	1-4
DATE Week 4	Knobology – Doppler	Review Machine Cheat Sheets		
DATE Week 5	Knobology - Review	Review Machine Cheat Sheets		
DATE Week 6	Transducers Resolution Ergonomics Patient Histories	Basics of Ultrasound Ergonomics Video Importance of Good Arm Support Video Sonographer Stretches Video	**1st Knobology Lab Assignment**	1-4
DATE Week 7	Image Characteristics Sonographic Descriptions Review	Review pages 31-32 in Lab Manual Image Characteristics and Artifacts Video	**2nd Knobology Lab Assignment** **Transducer Lab Assignment** **Patient History At-Home Assignment**	1-4
DATE Week 8	Machine Clearance		**Sonographic Descriptions Lab Assignment – due** DATE	1-4

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.