



*Figure 1: Owens Logo.*

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

|                                               |                               |
|-----------------------------------------------|-------------------------------|
| <b><i>Course Name:</i></b>                    | <b>Cardiac Ultrasound III</b> |
| <b><i>Course &amp; Section Number:</i></b>    | <b>DMS 230</b>                |
| <b><i>Meeting Day(s) &amp; Time(s):</i></b>   |                               |
| <b><i>Credits:</i></b>                        | <b>3</b>                      |
| <b><i>Contact Hours:</i></b>                  | <b>3</b>                      |
| <b><i>Instructor's Name:</i></b>              |                               |
| <b><i>Office Hours &amp; Location:</i></b>    |                               |
| <b><i>OCC Email:**</i></b>                    |                               |
| <b><i>Additional Contact Information:</i></b> |                               |

**\*\*Please use only Owens email for course communications.**

**Catalog description:** Examines pathology and pathophysiologic conditions of the heart. Comparison of physical signs, symptoms, and indications for an echocardiogram will be

reviewed for each major pathology or disease. Correlation with history and physical examination, laboratory tests, pharmacology, invasive and non-invasive evaluations, and sonographic findings as it relates to various cardiovascular pathologies and disease processes. Doppler techniques and measurements of the diseased heart will be discussed. The necessary analytical skills of differential diagnosis needed in the clinical environment are emphasized.

**Prerequisite/Corequisites:** DMS 222/DMS 223, DMS 224

**Course Materials:**

Palma, Richard. Echocardiographer's Pocket Reference Fifth Edition. Arizona Heart Foundation School of Cardiac and Vascular Ultrasound. 2020 ISBN 0578687178

Dewitt, Susan. Echocardiography...From a Sonographer's Perspective. Launch Printing & Promotions. 2022

Laptop or Tablet for in-class assignments and research

*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. Examine pathology and pathophysiologic conditions of the heart in depth.
2. Correlate patient history and physical examination, laboratory tests, invasive and non-invasive evaluations, and sonographic findings as it relates to cardiovascular pathologies and disease processes.
3. Discuss Doppler techniques and measurements of the diseased heart.
4. Discuss the importance of critical thinking skills and the differential diagnosis.

**Student Learning Outcomes:**

Students will:

| Outcome                                                                         | Where Assessed                                                                                   |
|---------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|
| 1. Compare signs, symptoms, and risk factors for discussed cardiac pathologies. | Comprehensive Final Exam, Tests, Quizzes, In-Class Activities, Case Study Presentation, Homework |
| 2. Describe disease processes and pathophysiologic conditions of the heart.     | Comprehensive Final Exam, Tests, Quizzes, In-Class Activities, Case Study Presentation,          |

| Outcome                                                      | Where Assessed                                                                                   |
|--------------------------------------------------------------|--------------------------------------------------------------------------------------------------|
|                                                              | Homework                                                                                         |
| 3. Interpret cardiovascular pathology on sonographic images. | Comprehensive Final Exam, Tests, Quizzes, In-Class Activities, Case Study Presentation, Homework |

**\*\* You must be able to apply content from previous DMS courses. \*\***

### 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](mailto: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](mailto: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](mailto: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](mailto: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, paraphraser, 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 |

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 be removed from the program.

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

| Evaluation Measure           | Value | Student Learning Outcome Assessed |
|------------------------------|-------|-----------------------------------|
| Comprehensive Final Exam     | 25%   | 1,2,3                             |
| Tests (2)                    | 25%   | 1,2,3                             |
| Homework/In-Class Activities | 15%   | 1,2,3                             |
| Quizzes                      | 15%   | 1,2,3                             |
| Case Presentation and Report | 20%   | 1,2,3                             |

**\*\*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

One comprehensive final exam will be given and will include **all** lecture content covered in DMS 230. It will be worth 25% of the total course grade. Any student who is tardy for 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. Note: a thorough understanding of content from previous DMS courses is essential to understanding pathophysiology presented in DMS 230. Please bring your laptop computer or tablet and be prepared to utilize Respondus.

### Tests

Two tests will be taken in class and averaged at 25% of the total course grade. Any student who is tardy for the exam will receive a five (5) point deduction on the exam. Any student who is unable to take the test as scheduled must notify the course instructor at least 30 minutes prior to the date/time of the test to possibly receive full credit. Students are responsible for reaching out to the instructor. 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 due date, or the score will be reduced by an additional ten (10) points. Make-up tests could have a format of multiple choice, true/false, essay, or fill-in. Please bring your laptop computer tablet and be prepared to utilize Respondus.

### Homework/In-Class activities

Homework assignments can be found on Blackboard and will be submitted via Blackboard. Homework assignments and in-class activities will be worth 15% of the course grade. Late assignments will be accepted at half credit up to 24 hours past the due date. Beyond 24 hours after the due date they will not be accepted without prior approval from the instructor. Please bring your laptop computer or tablet to class as you will be doing research.

### Quizzes

Quizzes will be completed on Blackboard. Quizzes are worth 15% of the course grade. Late quizzes will be accepted at half credit up to 24 hours past the due date. Beyond 24 hours after the due date, they will not be accepted without prior approval from the instructor. Students are responsible for reaching out to the instructor before the quiz due date.

### Case Presentations

Students will present interesting cases obtained from their clinical experiences. Case presentations will be worth 20% of the course grade. Case presentations should cover topics discussed this semester and will be part of the review for the final comprehensive exam. Details about this assignment can be found on Blackboard.

## Assignment Calendar

Books: Echo Pocket Reference =EPR Echocardiography: A sonographer's perspective = DeWitt

**\*Refer to Blackboard for due dates\***

| Week       | SLO        | Topic                                                                                                           | In class assignment                                                                   | Reading/Study materials/Homework                                                                                                                                                          |
|------------|------------|-----------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>One</b> | 1-3        | Syllabus, Blackboard Review Case study assignment<br>Heart failure<br>Begin Valvular Heart disease- MR, MS, MVP | Worksheet diastolic function<br>Discuss Heart Failure<br>Discuss Mitral valve disease | DeWitt IV, Ch XIII<br>EPR 80-103<br>Review PPT on systolic and diastolic function<br>Review PPT on Heart Failure<br>Review PPT on Mitral Valve Disease<br>DeWitt Workbook Ch XIII p.87-89 |
| <b>Two</b> | <b>1-3</b> | <b>No Class-<br/>HOLIDAY WHEN<br/>NEEDED</b><br>Mitral Valve Disease                                            |                                                                                       | ASE article on diastolic function<br>EPR p 460<br>EPR 218-250<br>Continue Review of PPT Mitral Valve Disease<br>Homework 2: Aging Changes<br>DeWitt Workbook Ch XIII p.87-89              |

|              |            |                                                                                                                    |                                                                                                                 |                                                                                                                                                                   |
|--------------|------------|--------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Three</b> | 1-3        | Mitral valve disease continued<br>AS/AI                                                                            | Lecture MV Disease<br>Begin Lecture AV disease<br>5- minute papers on MS, MR, AS, AI<br>AND/OR Chart to fill in | EPR 218-250<br>EPR 196-217<br>DeWitt Ch VIII, XVIII<br>DeWitt Workbook Ch. VIII & XVIII                                                                           |
| <b>Four</b>  | 1-3        | Finish AV disease<br>Diseases of the aorta<br>Tricuspid and Pulmonic valve disease                                 | Lecture<br>5- minute paper on Diseases of the aorta<br>Kahoot game on TV and PV<br>Worksheet on AV disease      | EPR 196-217<br>EPR 251-266<br>DeWitt Ch VIII, XVIII<br>Review PPTs on AV disease, Diseases of the aorta, Aortic Dissection, TV & PV disease                       |
| <b>Five</b>  |            | Finish TV and PV if necessary<br>Review for Test 1                                                                 | Kahoot game<br>Worksheet Exam One                                                                               | EPR Ch 10,13<br>DeWitt Ch VIII, XVIII<br>EPR 60-63, 80-103<br>DeWitt 65<br>Review Guide Test 1; Review DeWitt PPTs<br>Practice Quizzes MS, MR, Valve calculations |
| <b>Six</b>   | <b>1-3</b> | <b>Test 1</b>                                                                                                      | <b>In class Exam Using Respondus</b>                                                                            |                                                                                                                                                                   |
| <b>Week</b>  | <b>SLO</b> | <b>Topic</b>                                                                                                       | <b>In class assignment</b>                                                                                      | <b>Reading/Study materials/Homework</b>                                                                                                                           |
| <b>Seven</b> | 1-3        | Systemic Hypertension<br>Pulmonary Vascular Disease: Pulmonary Hypertension, Pulm Arterial HTN, pulmonary embolism | Review exam one<br>Lecture<br>Kahoot game<br>Worksheet to do in class                                           | EPR Ch 7<br>EPR p. 490                                                                                                                                            |
| <b>Eight</b> | 1-3        | Ischemic Heart Disease<br>Cardiac Catheterization                                                                  | Lecture<br>Worksheet<br>Kahoot                                                                                  | EPR ch 8<br>DeWitt ch 7, XI<br>Dewitt Workbook Ch XI                                                                                                              |
| <b>Nine</b>  | 1-3        | Cardiomyopathies- Dilated, Congestive, Ischemic, Idiopathic, hypertrophic, toxin related, restrictive/infiltrative | Lecture<br>Kahoot                                                                                               | EPR 465<br>DeWitt Ch XII<br>EPR Ch 9, p.494                                                                                                                       |
| <b>Ten</b>   | 1-3        | Cardiomyopathies-continued<br>Review for Exam 2                                                                    | Lecture<br>Kahoot                                                                                               | DeWitt Ch XII<br>EPR Ch 9<br>DeWitt Workbook ch XII<br>Ischemic heart disease quiz<br>Cardiomyopathy quiz<br>Review Practice Pulm Disease, plus additional        |



|                 |            |                                                                                            |                                          |                                                                        |
|-----------------|------------|--------------------------------------------------------------------------------------------|------------------------------------------|------------------------------------------------------------------------|
|                 |            |                                                                                            |                                          | practice/review found on Blackboard                                    |
| <b>Eleven</b>   | <b>1-3</b> | <b>Test 2</b>                                                                              | <b>In class exam utilizing Respondus</b> |                                                                        |
| <b>Twelve</b>   | 1-3        | Pericardial disease,<br>Myocarditis<br>Respirometry, pericardio-centesis<br>Cardiac Trauma | Lecture<br>In class drawing activity     | EPR Ch 12<br>DeWitt Ch XIV, XV, XVI<br>DeWitt Workbook Ch XIV, XV, XVI |
| <b>Thirteen</b> | 1-3        | Case Presentations                                                                         | Students will present their case studies |                                                                        |
| <b>Fourteen</b> | 1-3        | Case Presentations                                                                         | Students will present their case studies |                                                                        |
| <b>Fifteen</b>  | 1-3        | Review for Final Exam                                                                      | Kahoot games                             | Study!!!! Prepare for exam.                                            |
| <b>Sixteen</b>  | <b>1-3</b> | <b>Comprehensive Final Exam</b>                                                            | <b>In class exam using Respondus</b>     |                                                                        |

\*Written assignments will be completed in APA format\*

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.