

Instructors:

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Office/Lab Hours:
 Before/after class. Also by appointment.

Class Sections: MON 3:30 – 5:20 p.m. PENN 129 (Physics Lab)

Prerequisites: DMSG 103 with a C or better & *Math 120, 140, or 150*
 This is an Algebra-based course. Students are expected to be competent in Algebra, and be familiar with Geometry and some Trigonometry (sine, cosine).

Required Text: *Ultrasound Physics & Instrumentation*, Pegasus Lectures, Inc. Miele Enterprises.

Suggested Supplies: your brain.

Course Description

DMSG 105 covers basic acoustical physics, principles of ultrasound instruments, modes of operation, operator control options, frequency selection, and echogenic properties; emphasis is on ultrasound transmission in soft tissues, attenuation of sound energy, parameters affecting sound transmission, and resolution of sound beams. The goal of the course is for you to gain a practical understanding of the acoustical physics and instruments used in diagnostic medical sonography, and to prepare for the National Certification Exam.

Class Schedule & Topics (listed by week): *Note: schedule subject to change*

Week	Topics/Chapters Covered	Exam
1	Ch 3 - Attenuation	1
2		
3		
4		
5	Ch 4 Pulsed Waves	2
6		
7		
8	Ch 5 Transducers	3
9		
10		
11		
12		
13	Ch 6 System Operation	4
14		
15		
16		
17		
-	FINAL EXAM - TBA	FINAL

Class Agenda

Similar to last semester in DMSG 103. As before, students and instructor are all considered mutual learners. The life experiences of the students are to be respected. The sharing of those experiences as they relate to the subject of the course is not only welcomed, it is encouraged. We will take class 'breaks' as needed. PLEASE PLEASE PLEASE ask questions when you don't understand something during class. Chances are another student has the same question. And since this material builds on itself, you don't want to fall behind!

Attendance Policy

- Attendance is expected of all students. Please arrive on-time. Your participation is important. Should you arrive late, you may not be given credit for attendance or miss an unscheduled quiz.
- If you miss more than two weeks of class meetings without contacting the instructor with a valid excuse (see section *Missed Lecture*, below), NCC may withdraw you from the class in accordance with policy.
- **You are responsible** for any assignments missed during your absence (excused or unexcused). You should contact a fellow classmate to obtain any class notes or assignments that you missed.

Course Grading

EXAM GRADE (60%)

- Exams – 1 per chapter

HOMEWORK GRADE (10%)

- Student created 25 question "review" exam + written assignment
- Miscellaneous assignments, worksheets, online quizzes, etc.

FINAL EXAM (30%)

- comprehensive

FINAL GRADES: *Grading scale is based on the Allied Health Department requirement.*

A	94 -100	B	83 - 86	C	75 - 76
A-	90 – 93	B-	80 - 82	*F	< 75
B+	87 – 89	C+	77 - 79		

***note: failing this course will require you to retake it prior to graduating**

Missed Lecture, Exams and Quizzes

- You must contact the instructor directly (via phone, email or in person) if you know you're going to miss class or an exam (due to travel, work, etc.). This must be done prior to the missed class. In this case, we can reschedule any exams that you will miss. Makeup exams will NOT contain the same problems as the regular exam, and the problems may be harder.
- MAKE-UP TESTING will be done in the Library and will be proctored by library staff. Testing will be done during the regular library hours. You will need to present picture-id (e.g., driver's license) at the time of the exam to be admitted.
- VALID EXCUSES: you **MUST** leave a message on my office phone **prior** to the start of the exam or class with a valid excuse (medical, auto, weather, work). If you do not leave a message **before** the exam, you will receive a 0 (zero) for the exam. No exceptions.
- No makeups for unannounced quizzes.

Reading Assignments

Other than for the first class session, reading assignments should be completed before each class session which deals with the subject matter. Reading the material beforehand will greatly enhance your comprehension during lecture.

Schedule of Examinations and/or Quizzes:

The dates and the material covered for examinations will be announced at least a week prior to the exam. Because of the nature of the course, all tests may be comprehensive. Unannounced quizzes may be given at any time.

Availability of Additional Information

The book publisher has provided PowerPoint files to accompany each chapter. Find them at www.williamdoney.com/students/DMSG/. Also, the NCC Learning Center (3rd floor, College Center) provides tutoring for physics and math. If you are struggling, PLEASE get help immediately!

Academic Integrity Policy (dishonesty, plagiarism, ...)

Academic dishonesty or plagiarism will not be tolerated! Anyone caught as a 'doer' or as a 'willing accomplice' will automatically receive a 0 (zero) grade for the exam or assignment. If the incident happens again, you will receive an F for the course and will be subject to the college's disciplinary action for such offenses. Please note the college policy on academic dishonesty.

Miscellaneous

- If school is closed or class/lab is cancelled, please check the website for any last minute instructions.
- All assignments must be submitted by the due date/time, even if class is cancelled. If the school is closed that day, the assignment is due the next day the school is open. No exceptions.
- The instructor is not responsible for missed assignments due to the student not having the textbook.
- Please do not wait until the day before an exam to try and learn this stuff – it won't work. Get help as soon as possible - from another student, the learning center, or stop by my office. I'm more than happy to work on problems with you.
- A one-time award of 5 bonus points will be added to one of your exams if you stop in my office for a 10-minute, informal, "how's the semester going?" meeting after the 2nd week & before mid-semester break.
- All communication with students outside of class will be done through email to the email address in NCC's SpartanNet system. It is the student's responsibility to check email. Even if you leave a message, I reserve the right to email you a response. Note that I only return calls during my regular office hours.
- If an issue arises, this syllabus will be used as the final word in resolving the issue.
- **If you are doing something other than PHYSICS during my class (eg. on your phone, txting, etc), you will be asked to leave. If you do not, Security will be called to escort you out.**
- **All disciplinary or inappropriate behavior will be handled by Security, the Director of the program, and the Dean of Students**
- Students have 1 week to discuss the expectations in this syllabus, after that it will be considered "law".

DMSG 105

*** PRINTOUT THIS PAGE, SIGN IT, AND BRING TO THE FIRST DAY OF CLASS***

By signing below, I confirm that I received a copy of the syllabus, and will be held accountable to the guidelines and policies listed. I also will *not* hold the instructor responsible for my having to “take this class” or for any of the laws of physics. I am taking this course as a responsible adult and understand that I may experience extreme intellectual growth and gain boat-loads of knowledge, thereby becoming a much smarter, life-long productive, and more interesting person. Which, I agree, is a good thing.

Print Name: _____ Signature: _____

Date: _____

VOLUNTARY INFORMATION - FILL OUT AS MUCH AS YOU ARE COMFORTABLE

What clinical sites have you visited? _____

How do you feel about your performance in class last semester? _____

What topic did you struggle with most last semester? _____

What hinders your ability to do better in physics? _____

What do you plan to do differently this semester to improve your grade? _____

What is the highest level of math you have completed (e.g. Algebra, Trig, ???) _____

If you have a job, what do you do? _____ # of hours per week: _____

How do you view Physics so far? painful ____ boring ____ difficult ____ scary ____ I love it! ____

What did you *like* about your favorite teacher’s teaching style: _____

What did you *dislike* about your least favorite teacher’s teaching style: _____

I believe UFO’s / Aliens / Life on other planets exist: (*circle one*) YES NO POSSIBLE

Game platform of choice?: (*circle one*) Xbox Wii Playstation Pinball None

Is there is life after death?: (*circle one*) YES NO MAYBE

Something you would absolutely want if stuck on a deserted island: _____

If I didn’t become a sonographer, I would be a: _____

If I hit the lottery tonite, I would: _____