



Course Syllabus: Pulmonary Diagnostics
Robert D. & Carol Gunn College of Health & Human Services
RESP 4403-DX1
Summer I 2022: May 31–August 4

Contact Information

Instructor of Record: Dr. Yasha, DHSc, RRT
Office: Flower Mound Learning Center
Office hours: By Appointment
Email: [Dr. Yasha's email](#)

Communication Policy

My preferred method of communication is [my D2L Email address](#). Please include the course number and your name in the subject line when you email me. Here is an example: **RESP 4403/Last Name/First Name**. I teach several courses. This information will help me to respond promptly. I make every effort to respond to emails within 24 hours during the workweek and within 48-hours over the weekend. Please send a gentle reminder if I do not reply to your email in the 24-48 hours period.

Course Description

This internet-based course is designed to study the standard testing methodologies employed to diagnose and monitor patients with cardiopulmonary disease. Emphasis is placed on the technical aspects as well as disease presentation. Topics include measurement and analysis of lung volumes, ventilation, pulmonary mechanics, gas distribution, diffusion testing, cardiac and pulmonary exercise testing, quality assurance, blood gas analysis, and quality assurance in the pulmonary function lab.

Learning Objectives

1. Explain the instrumentation required to perform basic spirometry, lung volume determination, and diffusion tests.
2. Differentiate between volume sensing and flow sensing spirometers, citing strengths and weaknesses of each design
3. List the indications for pulmonary diagnostic testing.
4. Identify normal and abnormal diffusion study data and can explain challenges relating to the use of DLCO testing.
5. Interpret pulmonary function data and choose appropriate means of intervention.
6. Define commonly utilized pulmonary function terms with the proficiency of an advanced practitioner
7. Define the normal values for lung volumes, performance parameters, and capacities.
8. Discuss the pathophysiology, clinical significance, and techniques used to measure various pulmonary function parameters with the proficiency of an advanced practitioner.

9. Identify conditions relating to respiratory and metabolic dysfunction when evaluating blood gas values.
10. Evaluate exercise tests identifying anaerobic threshold, limitations to exercise based on de-conditioning, pulmonary and cardiac sources.
11. List pulmonary diagnostic tests that help identify abnormal responses to increased carbon dioxide and decreased oxygen levels.
12. Identify common mistakes in quality assurance testing relating to pulmonary diagnostic equipment.

Textbook & Instructional Materials

Mottram, C. (2018). *Ruppel's manual of pulmonary function testing* (11th ed.). Mosby. ISBN: 9780323356251

This textbook can be purchased new or used for approximately \$75-\$91 through the [MSU Bookstore](#).

Tutoring Assistance

Begin drafting papers and projects as early and take advantage of the [Distance Education Tutoring Services](#). Tutors will not edit your papers for you, but they will provide support and feedback at every stage of the writing process, from brainstorming to drafting, revising, and proofreading.

Student Handbook

Refer to: [Student Handbook 2021-22](#)

Academic Misconduct Policy & Procedures

Academic Dishonesty: Cheating, collusion, and plagiarism (the act of using source material of other persons, either published or unpublished, without following the accepted techniques of crediting, or the submission for credit of work, not the individuals to whom credit is given). Additional guidelines on procedures in these matters may be found in the Office of Student Conduct.

Self-plagiarism: Commonly described as recycling or reusing one's own specific words from previously published or submitted work. While self-plagiarism does not cross the line of actual theft of others' ideas, it nonetheless can create issues in the scholarly and academic realms. Beyond verbatim sections of text, self-plagiarism can also refer to the publication of identical papers in two places (sometimes called "duplicate publication.") Papers, projects, or other assignments previously submitted in other courses will not be accepted in this course.

Grading

Course Grade - A minimum grade of 75, or a C, is required in all respiratory courses. All assignments must be completed by 11:59 PM CST on the due date.

Table 1: Grade percentage allocated to each assignment

Assignments	Percentage of Total Grade
Case Studies	30%

Assignments	Percentage of Total Grade
Project Presentation Project Feedback	30%
Quizzes	40%
Total	100%

Table 2: Total percentage for the final grade.

Letter Grade	Percentage Grade
A	90-100%
B	80-89%
C	75-79%
D	70-74%
F	Less than 69%

Email/Course Announcement Requirements

You are required to access and review your emails and D2L Course Announcements regularly. I will often email the entire class with updates regarding your discussions, projects, and assignments. It is your responsibility to check your email regularly to prevent the possibility of missing important information.

Course Tools

1. **Syllabus:** Contains the syllabus.
2. **Announcements:** All announcements will be posted under the NEWS section on the course homepage.
3. **Weekly Course Content Modules:** I have broken down your weekly reading assignments, discussion boards, as well as any exams/quizzes that pertain to that specific week and placed them into individual weekly modules. You will also find PowerPoints that pertain to the assigned chapters for that week.
4. **Learning Tools:** Here, you will find information that may help you during this course, including online research databases tips and APA Guidelines.

Introductions

Write a biography and post on the discussion board, telling the rest of the class about yourself. You may include your current employment, years of experience, prior internet coursework, career plans, status in school (junior, senior), your hometown, current city of residence, hobbies, and anything else you wish all of us to know. Since this is a summer class, please share any vacation plans. Posting pictures is an excellent way for us to put a face to a name.

Case Studies

You will have three Pulmonary Diagnostics case studies where you will apply the reading material into practice. Each Case Study will give you a situation, along with PFT results for a specific patient and few questions. You are required to answer these questions in a

word document and submit them to the Dropbox. These case studies may challenge you. I am not expecting perfection in your answers. I am looking to see that you are critically thinking about the concepts of PFTs and how they pertain to different patients. Case Studies will account for 30% of your final grade.

Quizzes

There will be four quizzes in this course. These will be open-book. You may use any of your assigned resources, notes from online discussions, and posted content from the professor. You may NOT consult with your classmates. These quizzes may consist of multiple-choice, short answers, definitions, listing, true-false, or essays. Each quiz is 30 questions, and you will have 120 minutes for each quiz. Once you have reached the time limit, the quiz will close and be submitted for grading. Make sure you allow the appropriate amount of time to take the quiz in one sitting. Quizzes will account for 30% of your final grade.

Project Presentation

Select a topic of interest within Pulmonary Diagnostics Respiratory Care and create a 15-20 slide presentation (in addition to your title slide and references). The presentation must include the following components:

- Indications/contradictions, associated pathologies, equipment, and any new technology that may be available.
- What is known and reported in the literature and research about your topic?
- Given what the literature and research say about your topic, what conclusions can you draw?
- Will your findings affect your practice or understanding of your given topic?

You must cite your references at the end of your project. The project must have at least five recent scholarly references published within the last five years. Use scholarly sources; apply APA style referencing guidelines, including in-text citations for pictures and graphics. An excellent APA resource can be found on the [Purdue OWL website](#). The following general rules must be followed.

- You must create parenthetical citations whenever you quote, paraphrase, or summarize information from another source.
- The in-text citations are usually located at the end of the sentence before the period, as close as possible to the referenced text or image, or at the bottom of the slide.
- The PowerPoint presentation must have a References slide, which usually is the last slide.
- Sources on the References slide should be formatted exactly as they would be for a written paper.

You are not limited to but may consider the following topics:

Specialized Test Regimens, Pediatric Pulmonary Diagnostics, Quality Assurance in Pulmonary Diagnostics, Metabolic and Nutritional Assessment, Challenge Testing, etc.

Please use the [Moffett Library](#) to help you research databases for your projects.

Project Submission: You will need to submit your project in two places. The first will be to the Dropbox. Secondly, attach your project in the discussion area titled Project Downloads and Feedback. These need to be turned in to both places by *July 17th at 11:59 PM CST*.

Student Feedback:

After presentations are posted, you will provide feedback for **two** student's projects. Attempt to ensure everyone receives feedback. Feedback must be posted by *July 24th at 11:59 PM CST*.

Guidelines for feedback are as follows:

- Acknowledge those things that have been done well
- Determine where you think there could be flaws in the data presented or alternative options to consider
- Ask questions and offer suggestions that might enhance the response and help expand critical thinking

The Project Presentation will account for 30% of your final grade.

Late Work

D2L is designed so that students are locked out of the system after the deadline has passed. Please make a note of all deadlines and adhere to them. All assignments must be completed by 11:59 PM CST on the due date. Any coursework not completed and submitted on time will be graded as a zero. Before the due date, don't hesitate to contact me regarding circumstances that may prevent you from completing an assignment on time.

Important Dates

Last day for term schedule changes: No schedule changes are allowed during the summer.

Deadline to file for August 2022 graduation: June 27, 2022

Deadline to file for December 2022 graduation: September 26, 2022

Last Day to drop with a grade of "W:" July 8, 2022

Refer to: [Drops, Withdrawals & Void](#)

Desire-to-Learn (D2L)

Extensive use of the MSU D2L program is a part of this course. Each student is expected to be familiar with this program as it provides a primary source of communication regarding assignments, examination materials, and general course information. You can log into [D2L](#) through the MSU Homepage. If you experience difficulties, please contact the technicians listed for the program or contact your instructor.

Attendance

This is an online course and students are required to regularly login and check for any announcements posted. Students are expected to attend all meetings of the classes in which they are enrolled. Although, in general, students are graded on intellectual effort and performance rather than attendance, absences may lower the student's grade

where class attendance and class participation are deemed essential by the faculty member. In those classes where attendance is considered part of the grade, the instructor should inform students of the specifics in writing at the beginning of the semester in a syllabus or separate attendance policy statement. An instructor who has an attendance policy must keep records daily. The instructor must give the student a verbal or written warning prior to being dropped from the class. Instructor's records will stand as evidence of absences. A student with excessive absences may be dropped from a course by the instructor. Any individual faculty member or college has the authority to establish an follows the General University Policies.

Online Computer Requirements

Taking an online class requires you to have access to a computer (with Internet access) to complete and upload your assignments. It is your responsibility to have (or have access to) a working computer in this class. *Assignments and tests are due by the due date, and personal computer technical difficulties will not be considered reason for the instructor to allow students extra time to submit assignments, tests, or discussion postings. Your computer being down is not an excuse for missing a deadline!!* There are many places to access your class! Our online classes can be accessed from any computer in the world, which is connected to the internet. Contact your instructor immediately upon having computer trouble. If you have technical difficulties in the course, there is also a student helpdesk available to you. The college cannot work directly on student computers due to both liability and resource limitations; however, we are able to help you get connected to our online services. For help, log into [D2L](#).

Change of Schedule

A student dropping a course (but not withdrawing from the University) within the first 12 class days of a regular semester or the first four class days of a summer semester is eligible for a 100% refund of applicable tuition and fees. Dates are published in the Schedule of Classes each semester.

Refund and Repayment Policy

A student who withdraws or is administratively withdrawn from Midwestern State University (MSU) may be eligible to receive a refund for all or a portion of the tuition, fees, and room/board charges that were paid to MSU for the semester. HOWEVER, if the student received financial aid (federal/state/institutional grants, loans and/or scholarships), all or a portion of the refund may be returned to the financial aid programs. As described below, two formulas (federal and state) exists in determining the amount of the refund. (Examples of each refund calculation will be made available upon request).

Services for Students With Disabilities

In accordance with Section 504 of the Federal Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990, Midwestern State University endeavors to make reasonable accommodations to ensure equal opportunity for qualified persons with disabilities to participate in all educational, social, and recreational programs and activities. After notification of acceptance, students requiring accommodations should

apply for such assistance through Disability Support Services, located in the Clark Student Center, Room 168, (940) 397-4140. Current documentation of a disability will be required in order to provide appropriate services, and each request will be individually reviewed. For more details, please go to [Disability Support Services](#).

College Policies

Campus Carry Rules/Policies

Refer to: [Campus Carry Rules and Policies](#)

Smoking/Tobacco Policy

College policy strictly prohibits the use of tobacco products in any building owned or operated by WATC. Adult students may smoke only in the outside designated smoking areas at each location.

Alcohol and Drug Policy

To comply with the Drug-Free Schools and Communities Act of 1989 and subsequent amendments, students and employees of Midwestern State are informed that strictly enforced policies are in place which prohibits the unlawful possession, use, or distribution of any illicit drugs, including alcohol, on university property or as part of any university-sponsored activity. Students and employees are also subject to all applicable legal sanctions under local, state, and federal law for any offenses involving illicit drugs on University property or university-sponsored activities.

Course Schedule:

Changes in the course syllabus, procedure, assignments, and schedule may be made at the instructor's discretion.

Course Schedule

Week	Activities/Assignments/Exams	Due Date
Week 1: 5/31 to 6/5	Readings: Chapter 1 - Indications for PFTs Review Syllabus Introductions: Personal biographies posted on Discussion Board	Introductions due by June 5 th at 11:59 PM (CST)
Week 2: 6/6 to 6/12	Readings: Chapter 2 – Spirometry Quiz #1: Chapters 1 & 2	Quiz #1 due by June 12 th at 11:59 PM (CST)
Week 3: 6/13 to 6/19	Readings: Chapter 3 – Diffusing Capacity Tests Readings: Chapter 4 - Lung Volumes, Airway Resistance and GDT Assignment: Case Study Chapter 4	Case Study Chapter 4 due by June 19 th at 11:59 PM (CST)
Week 4: 6/20 to 6/26	Readings: Chapter 5 – Ventilation and Ventilatory Control Tests Quiz #2: Chapters 3, 4, & 5	Quiz #2 due by June 26 th at 11:59 PM (CST)
Week 5: 6/27 to 7/3	Readings: Chapter 6 – Blood Gases and Related Tests Readings: Chapter 7 - Cardiopulmonary Exercise Testing Assignment: Case Study Chapter 6	Case Study Chapter 6 due by July 3 rd at 11:59 PM (CST)
Week 6: 7/4 to 7/10	Readings: Chapter 8 - Pediatric Pulmonary Function Testing Quiz #3: Chapters 6, 7, & 8	Quiz #3 due by July 10 th at 11:59 PM (CST)
Week 7: 7/11 to 7/17	Assignment: PROJECT DUE	Project due by July 17 th at 11:59 PM (CST)
Week 8: 7/18 to 7/24	Readings: Chapter 9 – Bronchoprovocation Testing Assignment: Case Study Chapter 9 Assignment: Project Feedback	Case Study Chapter 9 due by July 24 th at 11:59 PM (CST) Project Feedback due by July 24 ^h at 11:59 PM (CST)
Week 9: 7/25 to 7/31	Readings: Chapter 10 - Specialized Test Regimens Readings: Chapter 11 - PFT Equipment	N/A
Week 10: 8/1 to 8/3	Quiz #4: Chapters 9, 10, & 11 Post final thoughts, comments, and suggestions for the course	Quiz #4 due by Wednesday, August 3 th at 11:59 PM (CST)