COURSE SYLLABUS
Summer 2020

COURSE TITLE:

Pulmonary Diagnostics

COURSE NUMBER:

RESP 4403

COURSE DESCRIPTION:

This is an internet-based course that is designed as an in-depth study of 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.

CREDITS:

3 credits

COURSE INSTRUCTOR:

Yasha MEd, RRT
Phone: 972-537-8487
Office: 100 Parker Square #127 Flower Mound, Texas 75018
Email: Yasha

OFFICE HOURS:

By appointment
Please send messages to me via my D2L email: Yasha

AUDIENCE:

Distance Respiratory Care Students

COURSE 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 provide normal values for lung volumes, performance parameters, and capacities, and perform pulmonary function testing with the proficiency of an advanced practitioner.
8. Discuss pathophysiology, clinical significance of, 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.

REQUIRED TEXT:

Ruppel GL. Manual of Pulmonary Function Testing, Eleventh Edition. Elsevier/Mosby, 2018. ISBN: 9780323356251

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 in 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 be helpful to you during this course. This may include APA and Writing Information as well as information to aid you in researching online databases.

5. **Email---** My D2L email address is Yasha. This is my preferred method of communication. I will check my email periodically throughout the day (Monday – Friday) (8am – 5pm). If you send an email

after 5pm during the week or on the weekends, do not expect an immediate response. Those emails sent after hours will be responded to the following day, and those sent on the weekends will be responded to the following Monday.

6. **Important dates**---Important Dates
Deadline to file for August Graduation: June 29, 2020
Last Day to drop with a grade of "W:" July 9, 2020
Refer to: <u>Drops, Withdrawals & Void</u>

MISSED QUIZ, OR OTHER GRADED ITEM POLICY:

Anything not completed and handed in on time will be subjected to a "0" for that specific grade. Please talk with your professor, prior to the due date, regarding circumstances that may prevent you from completing an assignment. All assignments must be completed by 11:59pm of the due date.

APPROXIMATE GRADING SCALE

90-100 Points	A
80-89	B
75-79	C
60-74	D
< 60	F

A minimum grade of 75 (C) is required in all respiratory courses. Failure to attain a minimum grade of C will prevent the student from progressing in the program.

GRADED ITEMS AND GRADE DETERMINATION:

Assignments	Due Date	Grade Percentage
Case Studies	As assigned in course schedule	30%
Project Presentation Project Feedback	July 19th July 26th	30%
Quiz # 1 Quiz # 2 Quiz # 3 Quiz # 4	June 14th June 28th July 12th August 5th	40%

INTRODUCTIONS:
Please post an introduction to the discussion board. Please introduce yourself with a brief overview of who you are. Give your Name, where you work, how long you have been in RT, Why you got into the profession, family, hobbies, etc. Also, post a picture of yourself so we can put a face with the name!

CASE STUDIES (30% of Final Grade):

Throughout the semester, you will have a series of case studies that focus on Pulmonary Diagnostics. These Case Studies are meant for you to put the information you have gathered from your reading assignments into practice. Each Case Study will give you a situation, along with PFT results for a specific patient as well as a few questions about the case study. You are required to answer these questions in a word document and submit in the dropbox. These case studies may challenge you. I am not looking for 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. There are a total of 3 Case Studies within the semester.

QUIZZES (40% of Final Grade):

There will be four quizzes in this class. These will be open book, as you may use any of your assigned resources, notes from discussions online, posted content from the professor. You may NOT consult your classmates. These quizzes may consist of multiple choices, short answer, definitions, listing, true false, and/or essay. Each quiz is 30 questions and you are given 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 yourself the appropriate amount of time to take the quiz in one sitting.

PROJECT PRESENTATION (30% of Final Grade):
(Rubric at the end of this syllabus)
Select a topic of interest to you within (Pulmonary Diagnostics Respiratory Care) and post a 15-20 slide presentation (in addition to your title slide and references).
- Include 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 site your references at the end of your project.   The project must have at least 5 references. References must be current (within the last 5 years). Use scholarly sources; apply APA style referencing, including pictures and graphics you use. With that said, general rules must be followed.

•One must create parenthetical citations whenever you quote, paraphrase, or summarize information from another source.
•The parenthetical citations are generally located at the end of the sentence (before the period), or as close as possible to the text
   which you quoted, paraphrased, or summarized.
•One must create parenthetical citations for all graphics used.
•The PowerPoint presentation must have a slide that is the References page. Normally this would be the last slide.
•References on the slide are formatted exactly as they would be formatted for the references page of a paper.

You are not limited to but may consider the following topics:
Cardiopulmonary Exercise Testing, Specialized Test Regimens, Pediatric Pulmonary Diagnostics, Quality Assurance in Pulmonary Diagnostics, Metabolic and Nutritional Assessment, Challenge Testing, etc.

Please use the following link to help you research databases for your projects:
MOFFETT LIBRARY

Project Submission: You will need to submit your project in 2 places. The first will be in the dropbox provided. You will also need to submit/attach your project in the discussion area titled Project Downloads and Feedback. These need to be turned in to both places by **July 19th at 11:59pm.**

Student Feedback:

After presentations are posted you will provide feedback for **two** student's projects. Try and make sure everyone receives feedback! Feedback must be posted by **July26th at 11:59pm.**

Guidelines for feedback are as follows:

a) Acknowledge those things that have been done well,

b) Determine where you think there could be flaws in the data presented, or alternatives to consider.

c) Ask questions and offer suggestions that might enhance the response and help expand critical thinking.

American Disabilities Act (ADA)

Midwestern State University (MSU) does not discriminate on the basis of an individual's disability and complies with Section 504 and the Americans with Disabilities Act in its admission, accessibility and employment of individuals in programs and activities. MSU provide academic accommodations and auxiliary aids to individuals with disabilities, as defined by law, who are otherwise qualified to meet academic and employment requirements. For assistance call (940) 397-4618 or 397-4515. Please see the instructor outside of class to make any arrangements involving special accommodations. It is the student's responsibility to declare any disabilities. After declaration, preferably at the beginning of each semester, the student needs to contact individual instructors to determine any reasonable accommodations that may be required.

For more information regarding Disability Services at MSU, please click here: Disability Services

ACADEMIC HONESTY:

Plagiarism is the use of someone else's thoughts, words, ideas, or lines of argument in your own work without appropriate documentation (a parenthetical citation at the end and a listing in "Works Cited")- whether you use that material in a quote, paraphrase, or summary. It is a theft of intellectual property and will **not be tolerated**, whether intentional or not.

Student Honor Creed:

As an MSU Student, I pledge not to lie, cheat, steal, or help anyone else do so."

As students at MSU, we recognize that any great society must be composed of empowered, responsible citizens. We also recognize universities play an important role in helping mold these responsible citizens. We believe students themselves play an important part in developing responsible citizenship by maintaining a community where integrity and honorable character are the norm, not the exception. Thus, we, the Students of Midwestern State University, resolve to uphold the honor of the University by affirming our commitment to complete academic honesty. We resolve not only to be honest but also to hold our peers accountable for complete honesty in all university matters. We consider it dishonest to ask for, give, or receive help in examinations or quizzes, to use any unauthorized material in examinations, or to present, as one's own, work or ideas which are not entirely one's own. We recognize that any instructor has the right to expect that all student work is honest, original work. We accept and acknowledge that responsibility for lying, cheating, stealing, plagiarism, and other forms of academic dishonesty fundamentally rests within each individual student. We expect of ourselves academic integrity, personal professionalism, and ethical character. We appreciate steps taken by University officials to protect the honor of the University against any who would disgrace the MSU student body by violating the spirit of this creed. Written and adopted by the 2002-2003 MSU Student Senate.

Honor System:
All components of this course are designed to represent the efforts of each student INDIVIDUALLY and are NOT to be shared, copied, or plagiarized from other sources. When students submit their efforts for grading, they are attesting they abided by this rule.

Cheating includes, but is not limited to, (1) use of any unauthorized assistance in taking quizzes, tests, or examinations; (2) dependence upon the aid of sources beyond those authorized by the instructor in writing papers, preparing reports, solving problems, or completing other assignments; or (3) the acquisition of tests or other academic materials belonging to the university faculty or staff without permission.

Plagiarism includes, but is not limited to, the use of, by paraphrase or direct quotation without correct citation in the text and on the reference list, the published or unpublished works of another person. Students may NOT submit papers and assignments that they have previously submitted for this or other courses. The use of materials generated by agencies engaged in "selling" term papers is also plagiarism. Students are encouraged to review the tutorials and suggested websites for more information about plagiarism.

Academic dishonesty (cheating, plagiarism, etc.) will not be tolerated in this class. Whenever a student is unsure of whether a particular situation will be interpreted as academic dishonesty, he/she should ask the instructor for clarification. If students are guilty of academic dishonesty, a grade of zero (0) will be given for the quiz, assignment, etc. Cases may also be referred to the Dean of Students for possible dismissal from the university.

***Research papers and projects must be original work for each course assignment. The faculty will not accept a submission that has been or is being submitted for another course. No Exceptions!

PLEASE NOTE:
By enrolling in this course, the student expressly grants MSU a "limited right" in all intellectual property created by the student for the purpose of this course. The "limited right" shall include but shall not be limited to the right to reproduce the student's work product in order to verify originality and authenticity, and for educational purposes. Specifically, faculty may submit student papers and assignments to an external agency to verify originality and authenticity, and to detect for plagiarism.

The MSU Code of Student Conduct can be found in the MSU Student Handbook, which can be found here: *Student Handbook*

Course Schedule:

Date	Assignment
Week 1 – June 1 – June 7	*Readings: Chapter 1 - Indications for PFTs *Review Syllabus *Introductions: Personal biographies posted on Discussion Board
Week 2 – June 8 – June 14	*Readings: Chapter 2 – Spirometry *Quiz #1: Chapters 1 & 2 (Due June 14th)
Week 3 – June 15 – June 21	*Readings: Chapter 3 – Diffusing Capacity Tests *Readings: Chapter 4 - Lung Volumes, Airway Resistance and GDT *Assignment: Case Study Chapter 4 (Due June 21st)
Week 4 – June 22 – June 28	*Readings: Chapter 5 – Ventilation and Ventilatory Control Tests *Quiz #2: Chapters 3, 4, & 5 (Due June 28th)
Week 5 – June 29 – July 5	*Readings: Chapter 6 – Blood Gases and Related Tests *Readings: Chapter 7 - Cardiopulmonary Exercise Testing *Assignment: Case Study Chapter 6 (Due July 5th)
Week 6 – July 6 – July 12	*Readings: Chapter 8 - Pediatric Pulmonary Function Testing *Quiz #3: Chapters 6, 7, & 8 (Due July 12th)
Week 7 – July 13 – July 19	*Assignment: PROJECT DUE!!!!!! (Due July 19th)
Week 8 – July 20 – July 26	*Readings: Chapter 9 – Bronchoprovocation Testing *Assignment: Case Study Chapter 9 (Due July 26th) *Assignment: Project Feedback (Due July 26th)
Week 9 – July 27 – Aug 2	*Readings: Chapter 10 - Specialized Test Regimens *Readings: Chapter 11 - PFT Equipment
Week 10 – Aug 3 – Aug 6	*Quiz #4: Chapters 9, 10, & 11 (Due Aug 5th) Post final thoughts, comments, and suggestions for the course

PFT Project Presentation Rubric:

Criteria	Level 5 5 points	Level 4 4 points	Level 3 3 points	Level 2 2 points	Level 1 1 point
Organization	Project is perfectly organized and extremely detailed. This project is exemplary in focus and providing information to the reader.	Has a well-organized and detailed project that catches audience's interest; maintains focus throughout; summarizes main points	Project that is mostly organized; provides adequate "road map" for the listener	Project is heading in the right direction, yet is lacking the necessary organization. D ifficult to follow at times.	Has irrelevant and/or unorganized statements; gives listener no focus or outline of the presentation
Content	Content, substance, and source material are considered exemplary throughout presentation.	Demonstrates substance and depth; is comprehensive; shows mastery of material	Covers topic; uses appropriate sources; is objective	Does not give adequate coverage of topic; lacks sources	No content of substance is presented within this project.
Grammar/ Mechanics	Presentation is presented with no grammatical, sentence structure, spelling, or punctuation errors.	Sentence form and word choices are appropriate. Pun ctuation grammar, spelling, and mechanics are appropriate	Some mistakes in sentence form and word choices. Makes a few grammar, spelling, and mechanical errors.	Numerous grammatical and sentence structure errors noted throughout presentation.	Sentence form and word choices are unacceptable; Punctuation grammar, spelling, and mechanics are unacceptable
Assignment Specific Criteria	Project completely captures the appropriate research. All aspects of the assignment are superbly responded to.	Responds to all aspects of the assignment; Documents research appropriately; considers appropriate audience	Responds to some aspects of the assignment; has some mistakes in research documentation	Lacking substance within research and is minimally associated with projected audience.	Does not give adequate coverage of assignment; does not document research appropriately; does not consider appropriate audience
Components	Demonstrates superior quality in the form of providing all of the required elements of the project as well as APA styling and required references.	Demonstrates good quality in the form of providing all of the required elements of the project as well as APA styling and required references.	Demonstrates average quality in the form of providing all of the required elements of the project as well as APA styling and required references. Missing some components.	Demonstrates poor quality in the form of providing all of the required elements of the project as well as APA styling and required references. Missing numerous components.	Completely lacking the required elements of the project as well as APA styling and required references.
PEER Submission Evaluation	Correctly submitted project to the dropbox and provided superior feedback to two classmate's projects.	Correctly submitted project to the dropbox and provided quality feedback to two classmate's projects.	Correctly submitted project to the dropbox but did not provide feedback to two classmate's projects.	Did not submit project to the dropbox, yet provided feedback to two classmate's projects.	Did not submit project to the dropbox and did not provide feedback to two classmate's projects.

Overall Score	Level 5 24 or more	Level 4 19 or more	Level 3 14 or more	Level 2 9 or more	Level 1 0 or more