University of Florida
College of Public Health & Health Professions
Department of Physical Therapy

PHT 6381C Cardiopulmonary Disorders (3 credit hours)
Fall Semester: 2019

Primary Instructor:

Dr. Shakeel Ahmed, PT, PhD
Clinical Assistant Professor
Office # 1153
Office hours: Tuesday 12:30 – 1:30 PM and by appt.
Office phone: 352-273-6105
Email: shakeel81@phhp.ufl.edu

Co-Instructor: ***Dr. Barbara K. Smith, PT, PhD***
Research Assistant Professor
CTRB 2222
Office hours: By appt.
Office phone: (352) 294-5315
Email: bksmith@phhp.ufl.edu

Room Number: *Mondays, 1:30 – 4:30 PM, HPNP Room 1104*

Preferred Course Communications: Email is the official communication at the University of Florida.

PURPOSE AND OUTCOME

Course overview and description:
This is primarily a lecture course designed to give students the knowledge and background to allow them to evaluate and treat patients with cardiopulmonary diseases as the primary diagnoses and patients being seen for other physical therapy diagnosis who have cardiopulmonary diseases. The course will cover elementary ECG interpretation, exercise testing, principles of cardiac rehabilitation, peripheral vascular disease and related cardiovascular diagnoses. The students will also be presented information on the processes for evaluating patients with pulmonary diseases, understanding how pulmonary disease affects exercise tolerance and designing effective rehabilitation programs for patients with primary pulmonary diagnoses. Other topics to be covered include critical illness induced myopathy/weakness, mobilizing ventilator dependent patients, use of supplemental oxygen at rest and during exercise, ventilator induced diaphragm dysfunction and treatment. Laboratory experiences covering auscultation and measurement of respiratory muscle strength will be scheduled.

Relation to Program Outcomes

The goal of PHT6381C is to help develop clinical decision making skills for the management of persons with primary and secondary cardiovascular and pulmonary pathology. We will review the underlying pathophysiology and clinical manifestations of cardiopulmonary disorders most commonly encountered by physical therapists across various clinical settings and discuss their relevance to physical therapy evaluation and intervention. This course directly addresses the following standard required by the Commission on Accreditation in Physical Therapy Education (CAPTE).

> *Standard 7C: The physical therapist professional curriculum includes content and learning experiences about the cardiovascular, endocrine and metabolic, gastrointestinal, genital and reproductive, hematologic, hepatic and biliary, immune, integumentary, lymphatic, musculoskeletal, nervous, respiratory, and renal and urologic systems; system interactions; differential diagnosis; and the medical and surgical conditions across the lifespan commonly seen in physical therapy practice.*

Course Objectives:
Upon successful completion of this course, students should be able to:
1. Describe and understand the general pathophysiological basis for exercise limitations by patients with cardiopulmonary disease.
2. To understand the principles used to evaluate patients with cardiopulmonary disease and design effective and safe exercise rehabilitation programs.
3. Communicate effectively with patients and colleagues on appropriate exercise prescription for patients with cardiopulmonary diseases.

Instructional Methods

We will use lecture, journal article readings, class discussion, laboratory practice, e-learning videos, and cases. Master clinicians may participate as guest lecturers and/or lab instructors. In lab sessions, cases will be presented and applied to the homework and lecture. Clinical problem-solving strategies will be applied and practiced. Role-playing will be used to further develop clinical decision-making skills as well as to promote advanced communication skills.

DESCRIPTION OF COURSE CONTENT

Topical Outline/Course Schedule

Date	Quiz	Topic(s)	Assignments
8/26		Introduction, Peripheral Vascular Disease (lecture + lab)	
8/30		*e-learning: **Arterial blood gases (lab)**	
9/2		**Labor day Holiday**	
9/9	Quiz 1	*e-learning, ECG 1 (lecture + lab)	
9/16	Quiz 2	*e-learning, ECG 2, Exercise testing in patients with cardiovascular disease (lecture + lab)	Assignment 1
9/23	Quiz 3	*e-learning, cardiac auscultation; heart failure & exercise (lecture + lab)	
9/30		Cardiac Rehabilitation (lecture + lab)	Assignment 2
10/7	Quiz 4	*e-learning, PFT general principles; Physical Therapy in obstructive lung diseases (lecture + lab)	
10/14		EXAM 1, (guest instructor – Jessica Cornman, DPT, PCS Pediatric asthma / Cystic Fibrosis)	
10/21		*e-learning, gen. principles of restrictive lung disease disease; IPF) pulmonary artery hypertension and cor pulmonale, oxygen therapy	Assignment 3
10/28		*e-learning, mechanical ventilation, Inspiratory muscle training, VIDD (lecture + lab)	
11/4		e-learning: intro to airway clearance; Airway clearance and Chest Physiotherapy	
11/11		**Veterans' Day Holiday – week of 11/12 – simulation labs (in conjunction with Principles of Disease class)**	
11/18		EXAM 2**,** Critical illness neuromyopathy: mechanisms and treatment	
11/25		Dyspnea; Exercise prescription for pulmonary patients	Assignment 4
12/2		e-learning: ECMO; Special considerations: neuromuscular disease, Sickle Cell anemia (50'); ECMO (50') (Guest instructor – Darren Austria, PT - ECMO)	
Finals		Date and time TBA	

Course Materials and Technology

Recommended Texts:

Course Textbook: Hillegass and Sandowsky. Essentials of cardiopulmonary physical therapy, Saunders. The textbook is an excellent resource, but is optional. Lecture notes and additional required reading materials will be available on Canvas.

Required Technology:

Several classes require access to online materials and examinations during class and/or laboratory. A laptop computer or tablet in good working order is essential for students in the DPT program. The clinical learning center is wired with AC power outlets near each seat, allowing students to take notes and exams on their devices without reliance on battery power. Quizzes and or exams will be administered in-class via electronic learning, and devices must be in good working order. If a laptop crashes during an exam, the student will be expected to continue the exam by handwriting.

Please check the ***Canvas*** e-learning system prior to attending class on Mondays for lecture notes, homework and laboratory assignments, readings, announcements, grades, etc. Reading content required for in class quizzes will be made available by Wednesday of the week prior to the day of the scheduled quiz. The Canvas e-learning system can be accessed at the following link: https://lss.at.ufl.edu

For technical support for this class, please contact the UF Help Desk at:

- Learning-support@ufl.edu
- (352) 392-HELP - select option 2
- https://lss.at.ufl.edu/help.shtml

ACADEMIC REQUIREMENTS AND GRADING

Exams:

There will be three multiple choice examinations, spaced approximately 5 weeks apart. The exams are not cumulative in that material covered in the first test will not be specifically included in the second test, however students will need to use information covered earlier in the course to answer questions on tests 2 and 3. Tests will normally be returned during the first class meeting following the test and will be discussed. In order to receive a grade for a test, students must return their answer "bubble" sheet and the written test questions. **Failure to return either of these items to the instructor will result in a grade of 0 for the test.** Teaching assistants will proctor the tests and no questions regarding the test will be entertained by the graduate student during tests. You will have one week following the return of each exam to appeal your grade. All grades must be appealed in writing via email.

Notes: On test dates, the first two hours of class will be devoted to the test and the final hour will be a lecture on new material.

Quizzes and Homework:

There will be 4 in class quizzes and 4 e-learning homework assignments to prepare for the upcoming lecture and lab material. Since it will be more difficult to incorporate new information without completing the homework, it is strongly recommended that students complete homework prior to class.

Simulation Lab Assignment:

The cardiovascular and pulmonary systems are essential for achieving independent mobility and often impacted by systemic diseases. Medical-surgical simulation labs are scheduled for evenings on the week of November 12 and will be jointly coordinated by the course instructors for PHT 6302 (Principles of Disease) and PHT 6381 (Cardiovascular and Pulmonary).

Prior to lab:

Please evaluate the patient's cardiovascular and pulmonary involvement, as interpreted by your chart review. Include: patient history (PMH/Co-morbidities/new problems, medications – what does each medication do, lab values and ABG, radiography, use of oxygen/ventilator)

During lab:

How did you evaluate the cardiovascular and pulmonary system during the PT intervention? Which modes of evaluation did you use?

Does the patient have any cardiovascular and/or pulmonary problems? If so, what are they? Use the Guide 2.0 (hyperlink) to categorize the problem.

After lab:

Does the patient require aerobic, muscle strengthening exercise, or both? How was the exercise prescription determined, in light of the patient's cardiovascular and/or pulmonary status? What is your recommended exercise prescription? How should PT monitor for safety and progress the prescription?

Grading

Requirement	Due date	Points or % of final grade
Exam #1	Monday, October 14, 1:30-3:30 PM	27%
Exam #2	Monday, November 18, 1:30-3:30 PM	27%
Exam #3 (Final)	TBD	27%
Quizzes (1% each) and Assignments (2% each)	Multiple	12%
Lab assignment	November 22	7%

Points earned	93-100	90-92	87-89	83-86	80-82	70-79	60-69	Below 60
Letter Grade	A	A-	B+	B	B-	C	D	E

Letter Grade	A	A-	B+	B	B-	C	D	E	WF	I	NG	S-U
Grade Points	4.0	3.67	3.33	3.0	2.67	2.0	1.0	0.0	0.0	0.0	0.0	0.0

For greater detail on the meaning of letter grades and related University policies, see the Registrar's Grade Policy regulations at: http://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx

Policy Related to Make up Exams or Other Work:
Student physical therapists who miss a class because of an emergency or excused absence should speak with the instructors to complete missed exams or assignments and with fellow SPT's to obtain class notes/hand-outs or to gain information about lab activities. Due to the limited availability of the nursing simulation space, there is no opportunity to make up the simulation lab, and students will receive a 0 for the lab assignment.

Policy Related to Required Class Attendance

PHYSICAL THERAPY PROGRAM POLICIES FOR ALL COURSES

The DPT program is provided in a professional environment to foster the development of the professional-in-training. Every class and laboratory is important to facilitate development, and therefore attendance is expected for the scheduled didactic and clinical education experiences. The faculty recognizes that emergencies and appointments may arise, when the student cannot attend class.
In the event of an absence for any reason, the student will be held responsible for any content, clinical experiences, other learning experiences, quizzes, exams, competencies and/or practical exams. It is expected that the student will contact the specific instructor to determine if the opportunity exists to reschedule these obligations. Each instructor will address specifics for their course material and expectations for completion of course requirements in their course syllabus.

Policy Related to Class Attendance
In this course, we recognize that SPT's are adult learners free to choose how to spend their time in accordance with academic and personal obligations. While attendance in this course is not expressly mandatory, it is strongly encouraged that students attend and actively participate in every session. No make-up classes or labs will be offered. *Any lectures or labs that include a guest instructor will be mandatory, and tardiness or absenteeism for guest instructors may result in a professionalism warning.* Students should inform the instructor of planned absences for guest instructors at least two days in advance. Per department policy, students must notify the department by phone (273-6085) in the event of an emergency or other unexpected absence.

Policy Related to Guests Attending Class:
Only registered students are permitted to attend class. However, we recognize that students who are caretakers mayface occasional unexpected challenges creating attendance barriers. Therefore, by exception, a department chair or his or her designee (e.g., instructors) may grant a student permission to bring a guest(s) for a total of two class sessions per semester. This is two sessions total across all courses. No further extensions will be granted. Please note that guests are **not** permitted to attend either cadaver or wet labs. Students are responsible for course material regardless of attendance. For additional information, please review the Classroom Guests of Students policy in its entirety. Link to full policy: http://facstaff.phhp.ufl.edu/services/resourceguide/getstarted.htm

Punctuality is important in both the clinic and classroom. SPTs are expected to arrive to class on time (i.e. prior to the instructor initiating class) and to return from breaks on time. The clock in the classroom will be considered the "official" clock. You are encouraged to notify your instructor(s) when appointments/ unavoidable commitments will cause arrival after the starting time or require you to leave early. It is also the responsibility of the instructor to begin and end class at agreed upon times, and to notify you when changes of schedule will occur.

Academic Integrity
Students are expected to act in accordance with the University of Florida policy on academic integrity. As a student at the University of Florida, you have committed yourself to uphold the Honor Code, which includes the following pledge:

> "**We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity**."

You are expected to exhibit behavior consistent with this commitment to the UF academic community, and on all work submitted for credit at the University of Florida, the following pledge is either required or implied:

"On my honor, I have neither given nor received unauthorized aid in doing this assignment."

It is your individual responsibility to know and comply with all university policies and procedures regarding academic integrity and the Student Honor Code. Violations of the Honor Code at the University of Florida will not be tolerated. Violations will be reported to the Dean of Students Office for consideration of disciplinary action. For additional information regarding Academic Integrity, please see Student Conduct and Honor Code or the Graduate Student Website for additional details:
https://www.dso.ufl.edu/sccr/process/student-conduct-honor-code/
http://gradschool.ufl.edu/students/introduction.html

Unless specified otherwise in writing, all assignments, quizzes, and exams are to be completed independently. This means that collaboration with or assistance from any other person on assignments, quizzes or exams will be considered an Honor Code violation and referred to the Dean of Students office. The UF Honor Code specifies that is it the responsibility of the student to obtain clarification, if they have any questions about the nature of any assignment. Please do not hesitate to ask your instructors for guidance.
In this professional program we are particularly sensitive to students submitting independent work and to using complete and accurate referencing in complying with the University of Florida Rules – 6CI-4.017 Student Affairs: Academic Honesty Guidelines. Academic misconduct refers to dishonesty, knowingly furnishing false information to the University, plagiarism (e.g., presenting the ideas of someone else or the writing of someone else as one's own work), or cheating of any kind. All exams, quizzes, and written assignments are to be completed independently by each student.
*Further details regarding UF's honesty policy are available in the DPT Handbook, and on the Dean of Students' website: https://www.dso.ufl.edu/sccr/process/student-conduct-honor-code/

Online Faculty Course Evaluation Process
Students are expected to provide feedback on the quality of instruction in this course by completing online evaluations at https://evaluations.ufl.edu. Evaluations are typically open during the last two or three weeks of the semester, but students will be given specific times when they are open. Evaluations of PHT6302C are used to make improvements for future years. Summary results of these assessments are available to students at https://evaluations.ufl.edu/results/.

SUPPORT SERVICES
Accommodations for Students with Disabilities
If you require classroom accommodation because of a disability, it is strongly recommended that you register with the Dean of Students Office http://www.dso.ufl.edu within the first week of class or as soon as you believe you might be eligible for accommodations. The Dean of Students Office will provide documentation of accommodations to you, which you must then give to the course instructor to receive accommodations. Please make sure you provide this letter to me by the end of the second week of the course. The College is committed to providing reasonable accommodations to assist students in their coursework.

Counseling and Student Health
Students sometimes experience stress from academic expectations and/or personal and interpersonal issues that may interfere with their academic performance. If you find yourself facing issues that have the potential to or are already negatively affecting your coursework, you are encouraged to talk with an instructor and/or seek help through University resources available to you.

- The Counseling and Wellness Center 352-392-1575 offers a variety of support services such as psychological assessment and intervention and assistance for math and test anxiety. Visit their web site for more information: http://www.counseling.ufl.edu. On line and in person assistance is available.
- You Matter We Care website: http://www.umatter.ufl.edu/. If you are feeling overwhelmed or stressed, you can reach out for help through the You Matter We Care website, which is staffed by Dean of Students and Counseling Center personnel.
- The Student Health Care Center at Shands is a satellite clinic of the main Student Health Care Center located on Fletcher Drive on campus. Student Health at Shands offers a variety of clinical services. The clinic is located on the second floor of the Dental Tower in the Health Science Center. For more information, contact the clinic at 392-0627 or check out the web site at: https://shcc.ufl.edu/
- Crisis intervention is always available 24/7 from the Alachua County Crisis Center at (352) 264-6789 or http://www.alachuacounty.us/DEPTS/CSS/CRISISCENTER/Pages/CrisisCenter.aspx

Do not wait until you reach a crisis to come in and talk with us. We have helped many students through stressful situations impacting their academic performance. You are not alone so do not be afraid to ask for assistance.