



Jerash University
Faculty of Applied Medical Sciences
Physical Therapy Department
2021-2022

Course Syllabus

Course title:	Exercises physiology	Course No:	1201217
Course level:	Second year	Course prerequisite (s) and/or co-requisite (s):	Human Physiology 1201208
Lecture time: Online	Tuesday: 18:30-19:30 Wednesday: 18:30-19:30	Credit hours:	2 Hours

Academic Staff Specifics

<u>Name</u>	<u>Rank</u>	<u>Office Number and location</u>	<u>Office hours</u>	<u>E.mail address</u>
Bashir M. Jarrar	Full Prof.	Physical Therapy	Sunday: 12:00-13:00 Monday: 11:00- 14:00	bashirjarrar@yahoo.com

Course Description

- This course will help students to recognize different physiotherapy exercises in different circumstances and environment.
- Students will gain good orientation about neuromuscular disorders related to exercise.
- Students will gain knowledge about the effect of extreme temperature and dehydration on the body during exercise.
- Student will have good orientation about the effect of exercise on cardiovascular endurance, nutrition and delay the onset of fatigue.
- Students will gain Knowledge on the effect of exercise on respiration and endocrine system
- Students will be aware how to evaluate current exercise problems and find their proper solution

Course Objectives

- The current course aims help students to recognize different physiotherapy exercises in different cases and environment.
- This course aims to provide students with good orientation about neuromuscular disorders related to exercise.
- Students will gain knowledge about the effect of extreme temperature and dehydration on the body during exercise.
- Student will have good orientation about the effect of exercise on cardiovascular endurance, nutrition and delay the onset of fatigue.
- Students will gain Knowledge on the effect of exercise on respiration and endocrine system
- Students will be aware how to evaluate current exercise problems and find their proper solution

Learning Outcome

Knowledge and understanding, by the end of this course, students should be able to:

- 1) Discuss how factors related to the individual, the task of the environment affect the movement control.
- 2) Explain why it is essential for physical therapist to be familiar with the signs of perceptual dysfunction.

- 3) Recognize the cardiopulmonary conditions that would affect physical therapy interventions.
- 4) Understand the medical and surgical management of patients/clients with cardiovascular and pulmonary conditions commonly seen by physical therapists.
- 5) Discuss the normal and abnormal ECG waves and its changes during exercise.
- 6) Solve problems in accordance with the analyzed and evaluated information in the field of exercise physiology.
- 7) Outline different knowledge to solve professional problems.
- 8) Plan structure for developing professional practice in the field cardio-pulmonary exercise testing.
- 9) Explain the effect of different type of exercises on body health.
- 10) Predict risks of professional practices in the field of exercise testing and prescription.
- 11) Solve some specialized problems in the absence of evidence base.

Cognitive skills (thinking and analysis):

Interactive learning by participating the student into the lectures content.

Communication skills (personal and academic):

Review concept at office hours

Practical and subject specific skills (Transferable Skills):

Doing homework and simple reports.

Course Outline and Time schedule

Week		Course Outline
First week	Part I	Introduction to exercise physiology
2 nd week	Part II	Skeletal muscles: Structure and function
3 rd week	Part III	- Neural control of muscle movement
4 th week	Part IV	Energy for muscular activity
5 th week	Part V	Regulation of body temperature

6 th week	Part VI	Regulation of body water
7 th week	Part VII	Dietary considerations and its effect on exercise
8 th week	Part VII	Human energy transfer and exercise
9 th week	Part IX	The pulmonary system and exercise
10 th week	Part X	The cardiovascular system and exercise
11 th week	Part XI	Sport cardiac physiology
12 th week	Part XII	-ECG interpretation - Abnormal ECG and its effect on exercise
13 th week	Part XIII	Hormones and physical activities

Presentation methods and techniques

Methods of teaching varied according to the type of text, student and situation.

The following techniques are usually used:

- ❖ Lectures
- ❖ Cooperative learning.
- ❖ Discussion.
- ❖ Learning by activities.
- ❖ Connecting students with different sources of information

Sources of information and Instructional Aids

- ❖ Computer ... power point ...etc.
- ❖ Transparencies
- ❖ Distance learning
- ❖ Library sources

Assessment Strategy and its tools

The assigned syllabus is assessed and evaluated through: feedback and the skills that are acquired by the students

The tools:

- 1- Diagnostic tests to identify the students level and areas of weakness
- 2- Formal (stage) evaluation
 - a) Mid-term exam
 - b) Class Participation
 - c) Activity file
 - d) Final exam

Tool & Evaluation

The following table clarifies the organization of the assessment schedule:

Test	Grade
Mid-term Exam	25
Activities & Participation	25
Final Exam	50
Total	100

Activities and Instructional Assignment

Practical assignments to achieve the syllabus objectives.

Regulations to maintain the teaching-Learning Process in the Lecture:

- 1- Regular attendance online live lectures.
- 2- Respect of commencement and ending of the lecture time.
- 3- Positive relationship between student and teacher.
- 4- Commitment to present assignments on time.
- 5- High commitment during the lecture to avoid any kind of disturbance and distortion.
- 6- High sense of trust and sincerity when referring to any piece of information and to mention the source.
- 7- The student who absents himself should submit an accepted excuse.
- 8- University relevant regulations should be applied in case the student's behavior is not accepted.
- 9- Allowed Absence percentages is (not exceed 15 %).

Additional information	
Academic integrity	Academic honesty is expected of students enrolled in this course. Cheating on examinations, unauthorized collaboration, practical results falsification, constitute academic dishonesty and may be grounds for disciplinary actions accredited by the university.
Attendance Policy	Students are strongly suggested to attend class on a regular basis each week. This class is scheduled for 2 days/wk and missing class will put you behind. I also suggest you arrive to class on time. Once your absence from lectures accounts 15% of the total number of lectures, you will be deprived of the course according to the regulations of the university.
Classroom Protocol	While informal laboratory participation is always welcomed, comments that are off the subject or that impede the progress of the laboratory work are not so. - Please avoid talking, whispering, or other negative behaviors that might distract the instructor or colleagues. - No cell-phone calls or beeper in during the practical work.

References

- ❖ Katch V, McArdle W and Katch F. (2019). Essential of Exercise Physiology. 5th edition, Wolter kluwer, London
- ❖ Kenney W, Wilmore J and Costill. (2018). Physiology of Sport and Exercise. Seventh ed., Human Kinetics, Leeds