



Rehabilitation Science Department
قسم علوم التأهيل الصحي

<http://Rehab.ksu.edu.sa>

جامعة
الملك سعود
عمادة شؤون الطلاب
King Saud University
Deanship of Student Affairs



King Saud University
College of Applied Medical Sciences
Department of Rehabilitation Health Sciences
Physical Therapy Program

**Course
Syllabus**



King Saud University
Applied Medical Sciences College
Quality and Development Unit



Course Syllabus

Course title and code:	Physical therapy procedures III “Exercise Physiology” RHS 323.
Department :	Rehabilitation Health Sciences-
Program in which the course is offered:	Physical Therapy Program
Credit hours:	Theory- 1, Practice -2
Total contact hours per semester:	60 hours
Level at which this course is offered: :	level 5
Course prerequisites:	RHS 322 – RHS 346
Time:	Sunday 8-9 Theory, Sunday 9-1pm practium Female campus
Location:	
College member responsible for the course	Dr. Rehab Farrag Gwada
Contact information:	
Office Number:	162
Phone :	52468
Email:	rgwada@ksu.edu.sa
Office hours:	9-10,12-1 Monday, Tuesday 8-10

Course Description

This course will review the physiological principles of exercise including bioenergetics, energy expenditure, functions of the cardiovascular, pulmonary, neuromuscular

and neuroendocrine systems, and the impact of training, environmental factors, ergogenic aids, nutrition, and body composition on exercise

Course Objectives

- 1- Identify the physiological principles of exercise including bioenergetics, energy systems, and functions of the cardiovascular, pulmonary, neuromuscular and endocrine systems.
- 2- Explain the impact of training on cardiovascular, pulmonary, neuromuscular and endocrine systems & the energy requirements of diverse physical activity.
- 3- Compare between the adaptations to Anaerobic and Aerobic Training.
- 4- Discuss the impact of environmental factors, ergogenic aids, nutrition, and body composition on exercise.
- 5- Apply practical basic knowledge of exercise physiology to various health scenarios using research topics and/or clinical inspirations and test them through practice.

Teaching strategies

I will teach you fundamental exercise physiology; i.e., how the body response in function and structure to acute exercise stresses and chronic physical activity. I encourage my students to become self-directed learners in exercise physiology so that they can continue to expand their understanding of the human body throughout their professional careers. Differentiated teaching strategies should be selected to align with the curriculum taught, the needs of students, and the intended learning outcomes. Teaching methods include: lecture, debate, small group work, whole group and small group discussion, research activities, lab demonstrations, projects, debates, role playing, case studies, guest speakers, memorization, humor, individual

Learning Resources

Required Text (s)

• Essential References

McArdle WD, Katch FI., Katch VL,; Essential of exercise physiology. 5th ed., Wolters Kluwer, 2016 .

- Physiology of Sport and Exercise, Wilmore, Costill, and Kenney, 4th Edition 2008
- Exercise Physiology Integrating Theory and Application, W. J. Kraemer, S. J. Fleck, M. R. Deschenes, 1st Edition 2012.

- **Recommended Journals**

- Journal Periodic articles.

- **Electronic Materials and Web Sites**

To be attached upon need

Topics to be covered

List of Topics	Week due	Contact Hours
Overview of the course specification Discussion of the class ground rules Assignment of head student Collection of students contact information – Orientation of clinical practice sessions	1st weeks	5
- Vocation – National Day	2nd weeks	5
- Section (1): introduction to exercise physiology	3rd week	1
- Section (2): Nutrition and energy transfer	4 th week	1
- Section (3): the physiological support system : - The cardiovascular system and exercise	5 th week	1
- 1st Midterm exam	6th week	
- Section (3): the physiological support system: - The pulmonary system and exercise	7th week	1
- Section (3): the physiological support system: - The neuromuscular system and exercise	8th weeks	1
- Section (3): the physiological support system (cont.): - Hormonal, exercise and training	9 th week	1
Section (4): exercise training and adaptations	10 th & 12 th week	2

- 2nd Midterm exam - <i>Present the literature of selected topic.</i>	11th	1
- Section (5): factors affecting physiological function, energy transfer, and exercise performance .Environmental and Ergogenic aids - Section (6): optimizing body composition, aging, and health-related exercise benefits - Student assignment(home work)	13&14th week	2
List of Practical Topics		
Introduction to assessment in exercise physiology:- Part I: - Assessment of minoring vital signs (BP, HR...)	2	4
- Part II:- Cardiovascular fitness: Predicted HR max, Vo2max	2	4
- Part III:- Pulmonary function test (Spirometry)	2	2
- Part VI:- Muscular fitness (muscle endurance & strength)	2	4
- Part V :- Body composition analysis	2	4

Schedule of Assessment Tasks for Students During the Semester

Assessment task	Week due	Proportion of Final Assessment
Theoretical 1 st midterm Exam	6 th	15%
Theoretical 2nd midterm Exam	11 th	15%
Practical midterm (10%)	12 th	10%
Course work- -Active participation during class & practice setting (5%). (Professional attitude and behavior 1%, active participation & homework 4%)	Continuous evaluation	5%
Practice Final Term Exam (written report & presentation)15%	15 th	15%
Final theoretical Exam	18 th	40%

Required Assignments:

Week	Assignments	Evaluation	Week due
	Assignments (selected case/Independent learning through literature and library use). Students will be grouped and prepare a report on related exercise physiology theories (from previous topics explained in the syllabus) and prepare an ORAL PRESENTATION and WRITTEN REPORT	Written report (10%) Presentation & discussion (5%)	15 th

Criteria for evaluation :

- Approximate time for presentation per group will not be more than 15 minutes; written report will not exceed 15

pages.)

Written report format: 12pts times new roman format, double space, excluding the cover and references pages.

- There will be a 10% reduction per day for all late assignments or homework. Any assignment more than 3 days late will receive no credit. Student names & number are required on all assignments. (Due date is Sunday of 14th week)
- Due date for homework activity is Sunday of 13th week)

Course rules :

- **Class Leader:**

Name:

The Class Leader will serve as the direct liaison between the course instructors and the students.

- Ensure that all students' duties are assigned and completed as required.

- Notify course instructor immediately when any student fails to complete a required component of the class.

- **Duties of the Class leader:**

- Serve as role model for the students and members in both manner and dress.

- Ensure that all students are aware and informed of their duties

- Ensure that both lab and classroom environment are always left in a neat and orderly fashion.

More comments for instructor :

Students are expected to attend each session and be on time. Five percent of the overall course grade depends on

Class Participation. Therefore, regular attendance is critical for doing well in this course. If you are absent in the class, make arrangements to obtain the notes from another students. Additionally, each student will be responsible for signing her name **ONLY**. If a student signs in for another, neither student will receive credit for that day

Any disruptive activity (e.g. use of cell phones, side conversations) in the classroom is prohibited. If the instructor required disruptive students to leave the classroom, the student remains responsible for all the information and will be marked absent for the class session. The dean will impose sanctions for unprofessional behavior.

There will be **no bounce** at the end of course.