Course Syllabus
2nd semester 2012/2013

Course Title: **Exercise Physiology**

Course Number: **MBS 343**

Credit Hours: **3 Theory hours**

Course Instructor: **Mrs.: Asma A. Alderaa**

Course Description: This course will review the physiological principles of exercise including bioenergetics, energy expenditure, functions of the cardiovascular, pulmonary, neuromuscular and neuroendocrine systems, renal system, and the impact of training, environmental factors, ergogenic aids, nutrition, and body composition on exercise.
Prerequisites: BIO 211

Course Objectives:
After completing this course students will:
Be able to identify and explain the physiological principles of exercise including bioenergetics, energy expenditure, functions of the cardiovascular, pulmonary, neuromuscular and neuroendocrine systems, muscle, renal function, the impact of training on these systems and the influence of environmental influences, ergogenic aids, nutrition, weight control, and body composition.

Teaching Philosophy: 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.

Teaching Methods:
1. Theoretical lectures
2. Textbook and research literature readings
3. Class and group discussions
4. Literature Review Paper

Course Outline

Week 1 (January 28)
Section (1): introduction to exercise physiology

Week 2 (February 4)
Section (2): Nutrition and energy transfer

Week 3 (February 11)
Section (2): Nutrition and energy transfer (cont.)

Week 4 (February 18)
Section (3): the physiological support system
- The pulmonary system and exercise

Week 5 (February 25)
Section (3): the physiological support system (cont.):
The cardiovascular system and exercise

Week 6 (March 4) **(1st Midterm exam)**

Week 7 (March 11)
Section (3): the physiological support system (cont.):
- The neuromuscular system and exercise

Week 8 (March 18)
Section (3): the physiological support system (cont.):
- Hormonal, exercise and training

Week 9 (March 25) **(midterm Holiday)**

Week 10 (April 1)
Section (4): exercise training and adaptations in functional capacity

Week 11 (April 8)
Section (5): factors affecting physiological function, energy transfer, and exercise performance
- Environmental and exercise

Week 12 (April 15) **(2nd Midterm exam)**

Week 13 (April 22)
Section (5): factors affecting physiological function, energy transfer, and exercise performance (cont.):

- Ergogenic aids

Week 14 (April 29)
Section (6): optimizing body composition, aging, and health-related exercise benefits

Week 15 (May 6)
Revision

Week 16 (May 13)
Revision

Methods of evaluation:

2 Midterm exams	2 X 20% = 40%
2 assignments	10%
Attends and continues evaluation	10%
1 Final exam	40%

References:

The following are suggested references.

1- Essential for exercise physiology, W. D. McArdle, F. I. Katch and V. L. Katch, (Last edition)
2- Physiology of Sport and Exercise, Wilmore, Costill, and Kenney, 4th Edition 2008
3- Exercise Physiology Integrating Theory and Application, W. J. Kraemer, S. J. Fleck, M. R. Deschenes, 1st Edition 2012.