KINE-5500-001 F 2013

Jump to Today

Fall 2013

Credit Hours: 4 hours; Lec 2, Lab 4

Prerequisites/Co-requisites: KINE 3680 – Physiology of Exercise

Instructor: Dr. Jim McDonald Email: jrm0013@auburn.edu

Office: Room 169, Kinesiology Building, 301 Wire Road

Office Hours: Tues & Thurs Office Phone: 844-1922

1:00 – 3:00 pm

5500/6500 TEXTBOOKS

ACSM's Resources for the Health Fitness Specialist, Lippincott, Williams & Wilkins, 2013, ISBN 978-1-4511-1480-5

Supplemental Textbooks:

ACSM's Guidelines for Exercise Testing and Prescription, Lippincott, Williams & Wilkins, 9th Edition, 2009, ISBN 0-7817-6903-7

ACSM's Health-Related Physical Fitness Assessment Manual, Lippincott, Williams & Wilkins, 4rd Edition, 2007, ISBN 0-7817-7549-6

Exercise Physiology**,** Scott Powers & Edward Holley, McGraw Hill, 8th Edition, 2012, ISBN 978-0-07-802253-1

COURSE DESCRIPTION

This course will provide you with the knowledge skills and abilities to conduct health and fitness assessments for the normal and special populations and give you the tools to prescribe exercise programs to improve an individuals health and fitness.

The course will focus on the underlying physiology that is involved in common physical assessments, testing used in clinical and fitness settings, the selection of appropriate assessments, results interpretation and the application of assessment results for exercise prescription and chronic disease risk reduction. Laboratory experiences are designed to develop competencies in physical assessments. Laboratory experiences will include body composition, musculoskeletal

fitness, pulmonary function, cardiovascular function, and exercise tests for functional capacity and cardiovascular fitness with electrocardiogram.

Student Learning Outcomes:

After successfully completing this course, you will be able to: Explain and discuss the underlying physiology and principles of health and fitness assessment in accordance with American College of Sports Medicine (ACSM) guidelines. This prepares the student to take either the **ACSM Personal Training** or **Health/Fitness Specialist (HFS) certification.** The course will also provide information and hands on experience that may also assist in preparation for certifications from the **National Strength and Conditioning Association** or the **American Council on Exercise.**

Specific outcomes:

1. Understand basic human physiology to include; control of the internal environment, the impact of exercise on homeostasis and the immune system, basic cell signaling and hormonal response to exercise or lack of exercise, the respiratory system, the cardiac cycle, basic electrocardiogram, responses to exercise, basic nutrition and weight control and exercise prescription for normal and special populations.
2. Understand the basic pathophysiology related being sedentary and obese including cardiovascular disease, pulmonary disease, dyslipidemia, hypertension, diabetes, and metabolic syndrome. Identify general drug groups associated with medical intervention in these diseases.
3. Using pre-test screening to determine the appropriateness of exercise, exercise testing, and cardiovascular disease risk stratification based on blood pressure, cholesterol levels, physical activity or other factors.
4. Understand basic safety considerations for an exercise facility and for exercise testing. Understand basic treatment for common injuries seen in a exercise facility
5. Use direct and indirect techniques to assess muscular strength, flexibility, and endurance
6. Understand the underlying principles of body composition testing and become familiar with techniques to estimate body composition using the skin-fold methods, bioelectrical impedance, DEXA and anthropometrical techniques.
7. Understand the physiologic basis of blood pressure. Measure systolic and diastolic blood pressures at rest and during exposure to various environmental stressors using a stethoscope and sphygmomanometer
8. Understand the cardiorespiratory changes that occur with exercise and how it can be measured. Conduct sub-maximal graded exercise tests for the purpose of examining cardiovascular responses to exercise and determining exercise capacity
9. Demonstrate proficiency using metabolic calculations to determine body composition, estimates of cardiovascular capacity, exercise energy expenditure and exercise workloads.
10. Demonstrate the ability to prepare a subject for a 12-lead electrocardiogram. And be familiar with a normal ECG reading at rest and during a graded exercise test.
11. Know the ASCM guidelines for exercise prescription for normal populations and how these are modified for young, old, pregnant and diseased populations.

Grading Scale

There are a maximum of 400 total points available in this course.

Grades "A" = 400 - 364; "B" = 363 - 328; "C" = 327 - 292; "D" = 291 - 256; "F" = 255 and below

Labs (150 Points)

There are 10 laboratory sessions scheduled. There will be a 12 lab based quizzes/homework assignments each worth 10 points and a laboratory practical exam worth 30 points. Attendance at the laboratory is mandatory. If you do not attend a lab session you will receive not get credit for the lab quiz for that day. Other consequences of missing a lab are addressed in the attendance policy.

Exams (250 Points)

There will be a total of 4 exams each worth 50 points and a comprehensive final worth 100 points. Exams are designed to test your knowledge in areas covered in assigned readings, lectures and laboratory experiences. Make-up exams will only be given for students with documented excused absences. Students with excused absences must be prepared to take the exam on the day they return to class. The comprehensive final exam, will be administered at the scheduled exam time at the end of the semester.

Class Policies

Attendance: Attendance at the laboratory sessions is mandatory. An unexcused absence will result in an one grade drop in the overall course grade. If there are three unexcused absences the course grade will be "FA" . Students are expected to attend all classes, and will be held responsible for any content covered in the event of an absence.. Excused absences are defined in the Student Policy eHandbook, www.auburn.edu/studentpolicies.

Make up policy: Arrangements to make up a missed examination due to a properly authorized absence must be initiated by the student within one week of the end of the period of the excused absence. In unusual circumstances such as an extended absence to illness, the make-up exam will occur within two weeks of the absence.

Accommodations:Students who need accommodations are asked to electronically submit their approved accommodations through AU Access and to arrange a meeting during office hours the first week of classes, or as soon as possible if accommodations are needed immediately. If you have a conflict with my office hours, an alternate time can be arranged. To set up this meeting, please contact me by e-mail. If you have not established accommodations through the Office of Accessibility, but need accommodations, make an appointment with the Office of Accessibility, 1228 Haley Center, 844-2096 (V/TT).

Honesty Code: Students are expected to do their own work and cheating will not be tolerated. Please see University policies at https://sites.auburn.edu/admin/universitypolicies/default.aspx

Date	Day	Details
Sep 13	**Fri**	Home work #1 due by 10am
Sep 16	**Mon**	Lab1/Quiz #1 due by 10am
Sep 17	**Tue**	Exam 1 due by 8am
Sep 23	**Mon**	Lab 2/Quiz #2 due by 10am
Sep 30	**Mon**	Lab 3/Quiz #3 due by 10am
Oct 7	**Mon**	Lab 4/Quiz 4 due by 9:15am
Oct 14	**Mon**	Lab/Quiz #5 due by 10am
Oct 15	**Tue**	Exam 2 due by 8am
Oct 18	**Fri**	Homework #2 due by 10am
Oct 21	**Mon**	Lab 6/Quiz 6 due by 11:59am
Oct 28	**Mon**	Lab Quiz #7 due by 10am
Nov 4	**Mon**	Lab Quiz #8 due by 10am
Nov 11	**Mon**	Lab Quiz #9 due by 10am
Nov 12	**Tue**	Exam 3 due by 8am
Nov 18	**Mon**	Homework #3 due by 10am
Nov 20	**Wed**	Lab Practical due by 9:15am