

GEORGE MASON UNIVERSITY  
 School of Recreation, Health, and Tourism  
 KINE 370— Measurement and Evaluation of Physical Fitness (3 CH)  
 Section C03, #43714  
 Summer 2016

DAY/TIME: MTWR 10:30AM – 12:35PM      LOCATION: AFC 112  
 PROFESSOR: Dr. Jason White      EMAIL ADDRESS: jwhite35@gmu.edu  
 OFFICE LOCATION: SciTech Bull Run Hall 210      PHONE NUMBER: 703-993-5879  
 OFFICE HOURS: by appointment

**PREREQUISITES/COREQUISITES**

BIOL 124 and 125, ATEP 300, KINE 310

**COURSE DESCRIPTION**

This course provides students with an opportunity to develop understanding of the assessment and evaluation process used in exercise science. This is a designated writing intensive course.

**COURSE OBJECTIVES**

At the completion of this course students should be able to:

1. Apply basic statistical analysis of data collected in the assessment process.
2. Develop health-related fitness assessment plans for clients in recreational and rehabilitation settings.
3. Develop sport/motor fitness assessments for work performance programs or clinical setting.
4. Identify fitness related testing protocols.
5. Interpret and apply assessment information by identifying formative and summative fitness, skill, cognitive, and affective measurement and evaluative techniques

**COURSE OVERVIEW**

Lecture focus will include understanding, practicing and applying information related to exercise testing in healthy populations. Topics covered will include benefits of exercise, risk stratification, exercise responses, metabolic calculations, data collection and analysis, and performing screenings, assessments and measurements related to exercise testing (flexibility, body composition, cardiovascular, etc.).

**ACCREDITATION STANDARDS**

This course meets the Commission on Accreditation of Allied Health Education Programs (CAAHEP) requirements and covers the following American College of Sports Medicine’s Knowledge-Skills-Abilities (KSA's):

<b>KSA</b>	<b>Description</b>	<b>Lecture, Lab, or both</b>
	<b>GENERAL POPULATION/CORE: PATHOPHYSIOLOGY AND RISK FACTORS</b>	
1.2.2	Knowledge of cardiovascular, pulmonary, metabolic, and musculoskeletal risk factors that may require further evaluation by medical or allied health professionals before participation in physical activity.	Lecture
	<b>GENERAL POPULATION/CORE: HEALTH APPRAISAL, FITNESS AND CLINICAL EXERCISE TESTING</b>	
1.3.2	Knowledge of the value of the health/medical history.	Lecture
1.3.3	Knowledge of the value of a medical clearance prior to exercise	Lecture

	participation.	
1.3.4	Knowledge of and the ability to perform risk stratification and its implications towards medical clearance prior to administration of an exercise test or participation in an exercise program.	Lecture
1.3.5	Knowledge of relative and absolute contraindications to exercise testing or participation.	Lecture
1.3.6	Knowledge of the limitations of informed consent and medical clearance prior to exercise testing.	Lecture
1.3.7	Knowledge of the advantages/disadvantages and limitations of the various body composition techniques including but not limited to: air displacement plethysmography (BOD POD <sup>®</sup> , dual energy X-ray absorptiometry (DEXA), hydrostatic weighing, skinfolds and bioelectrical impedance.	Lecture/Lab
1.3.8	Skill in accurately measuring heart rate, blood pressure, and obtaining rating of perceived exertion (RPE) at rest and during exercise according to established guidelines.	Lab
1.3.9	Skill in measuring skinfold sites, skeletal diameters, and girth measurements used for estimating body composition.	Lab
1.3.11	Ability to locate the brachial artery and correctly place the cuff and stethoscope in position for blood pressure measurement.	Lecture/Lab
1.3.12	Ability to locate common sites for measurement of skinfold thicknesses and circumferences (for determination of body composition and waist-hip ratio).	Lecture/Lab
1.3.13	Ability to obtain a health history and risk appraisal that includes past and current medical history, family history of cardiac disease, orthopedic limitations, prescribed medications, activity patterns, nutritional habits, stress and anxiety levels, and smoking and alcohol use.	Lecture
1.3.14	Ability to obtain informed consent.	Lecture
1.3.15	Ability to explain the purpose and procedures and perform the monitoring (HR, RPE and BP) of clients prior to, during, and after cardiorespiratory fitness testing.	Lecture
1.3.16	Ability to instruct participants in the use of equipment and test procedures.	Lecture/Lab
1.3.17	Ability to explain purpose of testing, determine an appropriate submaximal or maximal protocol, and perform an assessment of cardiovascular fitness on the treadmill or the cycle ergometer.	Lecture
1.3.18	Ability to describe the purpose of testing, determine appropriate protocols, and perform assessments of muscular strength, muscular endurance, and flexibility.	Lecture
1.3.19	Ability to perform various techniques of assessing body composition.	Lecture/Lab
1.3.21	Ability to identify appropriate criteria for terminating a fitness evaluation and demonstrate proper procedures to be followed after discontinuing such a test.	Lecture
1.3.23	Ability to identify individuals for whom physician supervision is recommended during maximal and submaximal exercise testing.	Lecture/Lab
	<b>GENERAL POPULATION/CORE: PROGRAM ADMINISTRATION, QUALITY ASSURANCE, AND OUTCOME ASSESSMENT</b>	
1.11.13	Knowledge of the importance of tracking and evaluating health promotion program results.	Lecture

	<b>CARDIOVASCULAR: PATHOPHYSIOLOGY AND RISK FACTORS</b>	
2.2.1	Knowledge of cardiovascular risk factors or conditions that may require consultation with medical personnel before testing or training, including inappropriate changes of resting or exercise heart rate and blood pressure, new onset discomfort in chest, neck, shoulder, or arm, changes in the pattern of discomfort during rest or exercise, fainting or dizzy spells, and claudication.	Lecture
	<b>PULMONARY: PATHOPHYSIOLOGY AND RISK FACTORS</b>	
3.2.1	Knowledge of pulmonary risk factors or conditions that may require consultation with medical personnel before testing or training, including asthma, exercise-induced asthma/bronchospasm, extreme breathlessness at rest or during exercise, bronchitis, and emphysema.	Lecture
	<b>METABOLIC: PATHOPHYSIOLOGY AND RISK FACTORS</b>	
4.2.1	Knowledge of metabolic risk factors or conditions that may require consultation with medical personnel before testing or training, including obesity, metabolic syndrome, thyroid disease, kidney disease, diabetes or glucose intolerance, and hypoglycemia.	Lecture

### **Attendance and Participation**

Attendance is required for this class. Arriving to class late or leaving early will be counted as an absence. Students are expected to show up prepared to class and participate during class activities. Students who know they will need to miss a class for a legitimate reason should contact the instructor before the class. Students who unexpectedly miss a class for an excused reason should contact the instructor within 24 hours of missing the class. Make-up tests, quizzes, assignments, or other grades will be granted for excused absences only. Excused absences include: serious illness, official university excused absences and extenuating circumstances. It is the student's responsibility to contact the instructor in order to obtain the make-up work.

### **Academic Load**

In addition to attending the lectures there will be regular assignments that may require up to 15 hours of work per week. Additionally, regular readings will be assigned to students. Students are expected to complete all outside work on time. Extensions will not be granted on assignments unless an extenuating circumstance arises. The purpose of the assignments is to aid students in learning the material.

### **Honor Code**

Students are held to the standards of the George Mason University Honor Code (see <http://honorcode.gmu.edu> for details). Violations, including cheating and plagiarism, will be reported to the Honor Committee. Student assignments may be put through plagiarism detecting software.

### **Assignments**

All assignments must be typed unless specifically told not to. A loss of points will occur for improper grammar and spelling. It is recommended students save all assignments on their personal computers and/or a back-up device.

### **Class Delivery**

The course is a mix of a lecture and discussion course. However, other approaches may be used to facilitate learning. These include: videos, demonstrations and in-class activities. Overall this will be a highly interactive class and students will be encouraged to participate.

## Technology Use during Class

As per GMU policy, all sound emitting technology is required to be turned off during the class meeting time. No sound emitting technology (e.g., cell phones, smart phones, iPads, Tablets, pagers, etc.) is allowed at any time during the class period. Students who are observed using any form of technology inappropriately (e.g., sending text messages from cell phones, visiting social networking sites from laptops, etc.) will be dismissed from class for the day, counted as an absence, and not permitted to make up missed assignments.

## Correspondence

The preferred method of communication outside of class is email. Emails should originate from a George Mason email account and be in a professional format. If email does not originate from a George Mason University account, the instructor will not reply to the email. Emails should be written concisely and rechecked for clarity.

## Academic Integrity

GMU is an Honor Code University; please see the University Catalog for a full description of the code and the honor committee process. The principle of academic integrity is taken very seriously and violations are treated gravely. What does academic integrity mean in this course? First, it means that when you are responsible for a task, you will be the one to perform that task. When you rely on someone else's work in an aspect of the performance of that task, you will give full credit in the proper, accepted form. Another aspect of academic integrity is the free play of ideas. Vigorous discussion and debate are encouraged in this course, the firm expectation that all aspects of the class will be conducted with civility and respect for differing ideas, perspectives and traditions. When in doubt, please ask for guidance and clarification.

## Required Readings

American College of Sports Medicine (ACSM), *ACSM's Guidelines for Exercise Testing and Prescription*, 9<sup>th</sup> Ed., Lippincott Williams & Wilkins, 2013.  
ISBN-13: 978-1609139551

## Recommended Readings

American College of Sports Medicine (ACSM), *ACSM's Resource Manual for Guidelines for Exercise Testing and Prescription*, 7<sup>th</sup> Ed., Lippincott Williams & Wilkins, 2013.  
ISBN-13: 978-1609139568

Additional readings/articles may be assigned. These will be posted on Blackboard.

## EVALUATION

Midterm Examination – 25%

Final Examination – 25%

Practical Examination – 25%

Quizzes (unannounced, usually weekly) – 10%

Assignments and Labs – 15%

### Grading Scale

A	= 94 -100	B+	= 88 – 89	C+	= 78 – 79	D	= 60 – 69
A-	= 90 – 93	B	= 84 – 87	C	= 74 – 77	F	= 0 – 59
		B-	= 80 – 83	C-	= 70 – 73		

## TENTATIVE COURSE SCHEDULE

WEEK OF			TOPIC	READINGS/ASSIGNMENT DUE
	June	27	Review syllabus, Benefits and risks of exercise; health pre-assessment	Chapter 1 ACSM
	June	27	Health Screening, Risk Stratification Selection	Chapter 2 ACSM/ 11 RM
	July	4	Data Collection/ Measures of Central Tendency/Variability/Validity Test	
	July	4	Cardiovascular Response to Exercise	Chapter 4 ACSM
	July	4	Physical Fitness Testing and Interpretation (CRF)	Chapter 4 ACSM/20,21,23 RM
	July	11	Testing Aerobic Capacity: Submaximal	Chapter 4 ACSM/21 RM
	July	11	Testing Aerobic Capacity: Maximal	Chapter 4 ACSM/21 RM
	July	11	Clinical Exercise Testing/ Cardiovascular	Chapter 5 & 6 ACSM/12 RM
	July	18	<b>Midterm Exam</b>	
	July	18	Physical Fitness Testing and Interpretation (FLEX)	Chapter 4 ACSM
	July	18	Physical Fitness Testing and Interpretation (Body Comp)	Chapter 4 ACSM
	July	18	Physical Fitness Testing and Interpretation (MSK)	Chapter 4 ACSM/22 RM
	July	25	Physical Fitness Testing and Interpretation (MSK)	Chapter 4 ACSM/22 RM
	July	25	Injury Prevention and Safety	Chapter 10 & 19 RM
	July	25	Practical Exams	
	July	28	<b>Final Exam</b>	

*Note: Faculty reserves the right to alter the schedule as necessary.*

### *Student Expectations*

- Students must adhere to the guidelines of the George Mason University Honor Code [See <http://oai.gmu.edu/the-mason-honor-code/>].
- Students with disabilities who seek accommodations in a course must be registered with the George Mason University Office of Disability Services (ODS) and inform their instructor, in

writing, as soon as possible. Approved accommodations will begin at the time the written letter from Disability Services is received by the instructor [See <http://ods.gmu.edu/>].

- Students must follow the university policy for Responsible Use of Computing [See <http://universitypolicy.gmu.edu/policies/responsible-use-of-computing/>].
- Students are responsible for the content of university communications sent to their George Mason University email account and are required to activate their account and check it regularly. All communication from the university, college, school, and program will be sent to students solely through their Mason email account.
- Students must follow the university policy stating that all sound emitting devices shall be turned off during class unless otherwise authorized by the instructor.

### *Campus Resources*

- The George Mason University Counseling and Psychological Services (CAPS) staff consists of professional counseling and clinical psychologists, social workers, and counselors who offer a wide range of services (e.g., individual and group counseling, workshops and outreach programs) to enhance students' personal experience and academic performance [See <http://caps.gmu.edu/>].
- The George Mason University Writing Center staff provides a variety of resources and services (e.g., tutoring, workshops, writing guides, handbooks) intended to support students as they work to construct and share knowledge through writing [See <http://writingcenter.gmu.edu/>].
- For additional information on the College of Education and Human Development, School of Recreation, Health, and Tourism, please visit our website [See <http://rht.gmu.edu/>].

**PROFESSIONAL BEHAVIOR:** Students are expected to exhibit professional behaviors and dispositions at all times.

**CORE VALUES COMMITMENT:** The College of Education and Human Development is committed to collaboration, ethical leadership, innovation, research-based practice, and social justice. Students are expected to adhere to these principles.

