

**George Mason University**  
**College of Education and Human Development**  
**Kinesiology**

KINE 370.001 —Exercise Testing and Evaluation  
3 Credits, Fall 2023  
M\* 10:30 – 11:45 AM, Katherine Johnson Hall 248

**Faculty**

Name: Dr. Oladipo Eddo  
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**Prerequisites/Corequisites**

BIOL 124, BIOL 125, ATEP 300, KINE 310

**University Catalog Course Description**

This course provides students with an opportunity to develop an understanding of the assessment and evaluation process in the determination of physical fitness.

**Course Overview**

This course provides students with an opportunity to develop a solid understanding of the assessment and evaluation process used in physical education and exercise science.

**Course Delivery Method**

This course will be delivered using lecture and lab format.

**Learner Outcomes or Objectives**

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

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

## Professional Standards

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

Upon completion of this course, students will have met the following professional standards:

<b>KSA</b>	<b>Description</b>
	<b>GENERAL POPULATION/CORE: PATOPHYSIOLOGY 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.
	<b>GENERAL POPULATION/CORE: HEALTH APPRAISAL, FITNESS AND CLINICAL EXERCISE TESTING</b>
1.3.2	Knowledge of the value of the health/medical history.
1.3.3	Knowledge of the value of a medical clearance prior to exercise 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.
1.3.5	Knowledge of relative and absolute contraindications to exercise testing or participation.
1.3.6	Knowledge of the limitations of informed consent and medical clearance prior to exercise testing.
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®, dual energy X-ray absorptiometry (DEXA), hydrostatic weighing, skinfolds and bioelectrical impedance.
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.
1.3.9	Skill in measuring skinfold sites, skeletal diameters, and girth measurements used for estimating body composition.

1.3.11	Ability to locate the brachial artery and correctly place the cuff and stethoscope in position for blood pressure measurement.
1.3.12	Ability to locate common sites for measurement of skinfold thicknesses and circumferences (for determination of body composition and waist-hip ratio).
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.
1.3.14	Ability to obtain informed consent.
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.
1.3.16	Ability to instruct participants in the use of equipment and test procedures.
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.
1.3.18	Ability to describe the purpose of testing, determine appropriate protocols, and perform assessments of muscular strength, muscular endurance, and flexibility.
1.3.19	Ability to perform various techniques of assessing body composition.
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.
1.3.22	Ability to identify individuals for whom physician supervision is recommended during maximal and submaximal exercise testing.
	<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.
	<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.
	<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.
	<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.

### Required Texts

ACSM's Guidelines for Exercise Testing and Prescription. 11<sup>th</sup> ed. Philadelphia, PA: Lippincott Williams & Wilkins (2022). ISBN-13: 9781496339065

ACSM's Resources for the Exercise Physiologist. American College of Sports Medicine (2018) ISBN-13: 9781496322869

### Course Performance Evaluation

Students are expected to submit all assignments on time in the manner outlined by the instructor (e.g., Blackboard, VIA, hard copy).

- **Assignments and/or Examinations**

**Labs and Laboratory Quizzes** - There will be 8 labs due during the semester. These are intended to give students hands-on, practical experience with concepts that are covered in class. Refer to syllabus for your lab section for additional information.

**Assignments** - There will be two assignments due during the semester and will pertain to subject matter being covered. Assignments will assess students understanding of exercise test selection, implementation of test results, and program design decisions.

**Syllabus and Reading Comprehension Quizzes** - These quizzes will assess your comprehension of the assigned readings. The format of quizzes may be true/false, multiple choice, short answer and/or problem solving.

**Exams** - Each student will be required to complete two exams and a final exam. The final exam will be cumulative. The format for all exams will be multiple choice, true/false, short essays, and problem-solving questions. **Exams will be completed using Respondus Lockdown Browser and webcam.**

### Professionalism

Students are expected to behave in a professional manner. Depending on the setting professionalism may look slightly different but generally consists of similar components. For undergraduate Kinesiology students in a classroom setting professionalism generally consists of the following components:

**Attendance and Participation (25% of Professionalism Grade)** – Show up on time to in-person and online class meetings, pay attention, and engage yourself in the lessons, discussions, class activities, etc. Demonstrate that you have an interest in the subject matter. Follow George Mason University policies for any missed classes. **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.

**Discussion Board (50% of Professionalism Grade)** – Students are required to author a minimum of **5** original discussion board post during the semester. In addition, students are expected to respond/comment on a minimum of **3** unique posts (different topics) by colleagues during the semester. Additional instruction can be found on blackboard.

**Communication (25% of Professionalism Grade)** – When communicating with the instructor and classmates, either face-to-face or via email, students should address the other person appropriately, use appropriate language and maintain a pleasant demeanor.

*Example email with instructor:*

Dr. Last Name,  
I have a question regarding....  
Regards,  
Student's Name

*Example online interaction with instructor:*

Student: Professor (*instructor's last name*) I have a question regarding....  
Professor: (Student's name) I would be happy to help you. What is your question?

Student: My question is.....  
Professor: The answer to that question is...

Student: Professor (*instructor's last name*) thank you for your time and availability to answer my questions.

**Responsibility/Accountability/ Honesty/Integrity**– Professionals take responsibility for their actions and are accountable. This can occur at multiple levels but generally consists of completing assignments on time, submitting work that is of the appropriate quality, honoring commitments and owning up to mistakes. Students are expected to be honest with the instructor, classmates and themselves. Professionals keep their word when committing to something and

act in an ethical manner. See George Mason University policy for further guidance.

**Self-Improvement/Self-awareness**– One should be aware of their strengths/weaknesses and constantly seek to improve. Professionals regularly seek out opportunities to increase their knowledge and improve their current skill set. Specific to this class an example of how a student may demonstrate self-improvement/self-awareness is by attending office hours following a poor grade on an exam or assignment.

**Professionalism evaluation** – *Any professionalism violation will be documented by the instructor. Violations will result in a 1-point deduction from the final average. In extreme cases the student may be dismissed from the class at the discretion of the instructor.*

- **Other Requirements**
  - **Email Correspondence**
    - Only messages that originate from a George Mason University email address will be accepted. ***Emails with no subject or no text in the body will not be acknowledged.*** All email will be responded to in the order in which it is received. Students should allow 48 hours for a response.
- **Course Performance Evaluation Weighting**

This course will be graded using the percentage system.

<b>Evaluation</b>	<b>Frequency</b>	<b>% of Grade</b>
Laboratory Grade	8	35%
Assignment	2	10%
Professionalism	NA	10%
Exams	2	20%
Final Exam (Cumulative)	1	15%
Syllabus & Reading Comprehension Quizzes (RCQ)	8	10%
<b>Total</b>		<b>100%</b>

### **Grading Scale**

A+ = 95 – 100	B+ = 87 – 89	C+ = 77 – 79	D = 60 – 69
A = 94 – 100	B = 84 – 86	C = 74 – 76	F = 0 – 59
A- = 90 – 93	B- = 80 – 83	C- = 70 – 73	

### **Final Grades:**

Once your FINAL GRADE, at the end of the semester is posted on mymasonportal/blackboard, you will have 24 hours to inquire about it. After that period, your grade will be posted as final on Patriot Web.

Notes:

1) Although a B- is a satisfactory grade for a course, students must maintain a 3.00 average in their degree program and present a 3.00 GPA on the courses listed on the graduation application.

2) Any student asking for their grade to be rounded up, increased a letter grade, extra credit only for themselves at the end of the semester, etc. may have their final average reduced by up to 2 points at the discretion of the instructor.

## **Professional Dispositions**

See <https://cehd.gmu.edu/students/policies-procedures/>

Students are held to the standards of the George Mason University Honor Code. You are expected to attend all class sections, actively participate in class discussions, complete in-class exercises and fulfill all assignments. 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.

No late work will be accepted in this course without a submitted extension request. The extension request must be submitted in place of the assignment, to the course instructor, by the assignment deadline. Extension requests must be submitted with an explanation as to why the student is unable to complete the assignment on time. No extension requests will be granted if submitted after the assignment deadline. Students are allowed one 24-hour extension per course. Extensions approved beyond 24 hours are at the discretion of the instructor. Extensions cannot be requested for exams or presentations.

In dire or extenuating circumstances, students may be allotted additional extensions or make up opportunities at the instructor's discretion.

## Class Schedule

		Date	Topic	Assigned readings	Assignments & Due Dates
Module 1	Week 1	8/21	Course Introduction	AHA/ACSM Joint Position Statement  <i>Recommendations for Cardiovascular Screening, Staffing, and Emergency Policies at Health/Fitness Facilities</i>	Syllabus Quiz Due <b>8/26 by 11:59PM on BB.</b>
	Week 2	8/28	Benefits and Risk Associated with Physical Activity	ACSM Guidelines Chapter 1 ACSM Resources Chapter 1	<b>Weekly discussion board post</b>  RCQ Due <b>9/2 by 11:59PM on BB.</b>
Module 2	Week 3	9/4	<b>Labor Day - No Class Meeting</b>	<b>Par Q+ &amp; Informed Consent</b>	
	Week 4	9/11	Exercise Preparticipation Health Screening	ACSM Guidelines Chapter 2 (pp 27-45) ACSM Resources Chapter 2	<b>Weekly discussion board post</b>  RCQ Due <b>9/16 by 11:59PM on BB.</b>
	Week 5	9/18	Preexercise Evaluation	ACSM Guidelines Chapter 2 (pp 45-55)	<b>Weekly discussion board post</b>  RCQ Due <b>9/23 by 11:59PM on BB.</b>
Module 3	Week 6	9/25	Data Collection/Measures of Central Tendency/Variability	ACSM Guidelines Chapter 3 (pp 58-61)	<b>Weekly discussion board post</b>
	Week 7	10/2	<b>Exam 1 review</b>		Assignment 1 Due <b>10/7 by 11:59PM on BB.</b>
	Week 8	10/10 <b>Tuesday</b>	<b>Exam #1</b>		
Module 4	Week 9	10/16	Body Composition	ACSM Guidelines Chapter 3 (pp 61-72) ACSM Resources Chapter 6	<b>Weekly discussion board post</b>  RCQ Due <b>10/21 by 11:59PM on BB.</b>



	Week 10	10/23	Cardiorespiratory Fitness	ACSM Guidelines Chapter 3 (pp 73-90) ACSM Resources Chapter 3	<b>Weekly discussion board post</b>  RCQ Due <b>10/28 by 11:59PM on BB.</b>
	Week 11	10/30	Muscular Fitness	ACSM Guidelines Chapter 3 (pp 90-100) ACSM Resources Chapter 4	<b>Weekly discussion board post</b>  RCQ Due <b>11/4 by 11:59PM on BB.</b>
Module 5	Week 12	11/6	Flexibility and Balance	ACSM Guidelines Chapter 3 (pp 100-105) ACSM Resources Chapter 5	<b>Weekly discussion board post</b>
	Week 13	11/13	Clinical Exercise Testing and Interpretation	ACSM Guidelines Chapter 4 ACSM Resources Chapter 7	<b>Weekly discussion board post</b>  RCQ Due <b>11/18 by 11:59PM on BB.</b>
	Week 14	11/20	<b>Exam 2 review</b>		Assignment 2 Due <b>11/25 by 11:59PM on BB.</b>
	Week 15	11/27	<b>Exam #2</b>		
	Week 16	<i>Exam Period</i>	<b>Final Exam</b>		<b>Final Exam 12/11 @ 10:30AM</b>

Note: Faculty reserves the right to alter the schedule as necessary, with notification to students.

### 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: <http://cehd.gmu.edu/values/>.

### GMU Policies and Resources for Students

## *Policies*

- Students must adhere to the guidelines of the Mason Honor Code (see <https://catalog.gmu.edu/policies/honor-code-system/> ).
- Students must follow the university policy for Responsible Use of Computing (see <https://universitypolicy.gmu.edu/policies/responsible-use-of-computing/>).
- Students are responsible for the content of university communications sent to their Mason 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 with disabilities who seek accommodations in a course must be registered with George Mason University Disability Services. Approved accommodations will begin at the time the written letter from Disability Services is received by the instructor (see <https://ds.gmu.edu/>).
- Students must silence all sound emitting devices during class unless otherwise authorized by the instructor.

## *Campus Resources*

- Support for submission of assignments to VIA should be directed to [viahelp@gmu.edu](mailto:viahelp@gmu.edu) or <https://cehd.gmu.edu/aero/assessments>. Questions or concerns regarding use of Blackboard should be directed to <https://its.gmu.edu/knowledge-base/blackboard-instructional-technology-support-for-students/>.
- For information on student support resources on campus, see <https://ctfe.gmu.edu/teaching/student-support-resources-on-campus>

### **Notice of mandatory reporting of sexual assault, interpersonal violence, and stalking:**

As a faculty member, I am designated as a “Responsible Employee,” and must report all disclosures of sexual assault, interpersonal violence, and stalking to Mason’s Title IX Coordinator per University Policy 1202. If you wish to speak with someone confidentially, please contact one of Mason’s confidential resources, such as Student Support and Advocacy Center (SSAC) at 703-380-1434 or Counseling and Psychological Services (CAPS) at 703-993-2380. You may also seek assistance from Mason’s Title IX Coordinator by calling 703-993-8730, or emailing [titleix@gmu.edu](mailto:titleix@gmu.edu).

**For additional information on the College of Education and Human Development, please visit our website <https://cehd.gmu.edu/students/> .**