

George Mason University
College of Education and Human Development
Exercise, Fitness, and Health Promotion

EFHP 620.001 – Research Methods for Applied Kinesiology
3 Credits, Spring 2021
Tuesday 8:30 – 10:00 AM, ONLINE

Faculty

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Prerequisites/Corequisites

Graduate Status

University Catalog Course Description

Introduction to the techniques of research generally employed in the fields of exercise science and health.

Course Overview

An introduction to the basic principles of research methods in Applied Kinesiology. A study of research designs, measurement theory, data collection methods, and scientific writing principles specific to health and human performance.

Course Delivery Method

This course will be delivered online (76% or more) using [select either a synchronous or an asynchronous] format via Blackboard Learning Management system (LMS) housed in the MyMason portal. You will log in to the Blackboard (Bb) course site using your Mason email name (everything before @masonlive.gmu.edu) and email password. The course site will be available on [Day and/or Time].

Under no circumstances, may candidates/students participate in online class sessions (either by phone or Internet) while operating motor vehicles. Further, as expected in a face-to-face

class meeting, such online participation requires undivided attention to course content and communication.

Technical Requirements

To participate in this course, students will need to satisfy the following technical requirements:

- High-speed Internet access with standard up-to-date browsers. To get a list of Blackboard's supported browsers see:
https://help.blackboard.com/Learn/Student/Getting_Started/Browser_Support#supported-browsers

To get a list of supported operation systems on different devices see:

https://help.blackboard.com/Learn/Student/Getting_Started/Browser_Support#tested-devices-and-operating-systems

- Students must maintain consistent and reliable access to their GMU email and Blackboard, as these are the official methods of communication for this course.
- Students will need a headset microphone for use with the Blackboard Collaborate web conferencing tool. [Delete this sentence if not applicable.]
- Students may be asked to create logins and passwords on supplemental websites and/or to download trial software to their computer or tablet as part of course requirements.
- The following software plug-ins for PCs and Macs, respectively, are available for free download: [Add or delete options, as desire.]
 - Adobe Acrobat Reader: <https://get.adobe.com/reader/>
 - Windows Media Player:
<https://support.microsoft.com/en-us/help/14209/get-windows-media-player>
 - Apple Quick Time Player: www.apple.com/quicktime/download/

Expectations

- Course Week: [Include only the sentence below that is appropriate for the course. Delete the sentence that is not applicable.]
Because asynchronous courses do not have a “fixed” meeting day, our week will start on [Day], and finish on [Day].
Our course week will begin on the day that our synchronous meetings take place as indicated on the Schedule of Classes.
- Log-in Frequency:
Students must actively check the course Blackboard site and their GMU email for communications from the instructor, class discussions, and/or access to course materials at least [#] times per week. In addition, students must log-in for all scheduled online synchronous meetings. [Include this sentence only if the course is synchronous. Delete the sentence if the course is asynchronous.]
- Participation:

Students are expected to actively engage in all course activities throughout the semester, which includes viewing all course materials, completing course activities and assignments, and participating in course discussions and group interactions.

- Technical Competence:
Students are expected to demonstrate competence in the use of all course technology. Students who are struggling with technical components of the course are expected to seek assistance from the instructor and/or College or University technical services.
- Technical Issues:
Students should anticipate some technical difficulties during the semester and should, therefore, budget their time accordingly. Late work will not be accepted based on individual technical issues.
- Workload:
Please be aware that this course is **not** self-paced. Students are expected to meet *specific deadlines* and *due dates* listed in the **Class Schedule** section of this syllabus. It is the student's responsibility to keep track of the weekly course schedule of topics, readings, activities and assignments due.
- Instructor Support:
Students may schedule a one-on-one meeting to discuss course requirements, content or other course-related issues. Those unable to come to a Mason campus can meet with the instructor via telephone or web conference. Students should email the instructor to schedule a one-on-one session, including their preferred meeting method and suggested dates/times.
- Netiquette:
The course environment is a collaborative space. Experience shows that even an innocent remark typed in the online environment can be misconstrued. Students must always re-read their responses carefully before posting them, so as others do not consider them as personal offenses. *Be positive in your approach with others and diplomatic in selecting your words.* Remember that you are not competing with classmates, but sharing information and learning from others. All faculty are similarly expected to be respectful in all communications.
- Accommodations:
Online learners who require effective accommodations to insure accessibility must be registered with George Mason University Disability Services.

Learner Outcomes or Objectives

This course is designed to enable students to do the following:

1. Explain the importance of research as a means to solve problems in applied kinesiology.
2. Explain the application of different research approaches in applied kinesiology to solve problems in their professional field.
3. Identify threats to validity and reliability of a study and be able to design applied kinesiology studies to minimize such threats.
4. Explain various aspects of research designs.
5. Develop research practitioners that critically utilize the scientific literature in applied kinesiology.
6. Conduct a systematic analysis of the literature using hand and computer search techniques.

7. Write a research proposal in accordance with standards in applied kinesiology.
8. Design an experiment in accordance with the appropriate research methodology.
9. Appreciate and understand ethical issues associated with research in applied kinesiology.

Required Texts

Arnold, BL, Schilling B (2017). Evidence-Based Practice in Sport and Exercise: A practitioner's guide to using research. FA Davis. ISBN-13: 9780803640283

Course Performance Evaluation

Students are expected to submit all assignments on time in the manner outlined by the instructor (e.g., Blackboard, Tk20, hard copy).

- **Assignments and/or Examinations**

Online Assignments & Quizzes: This class will utilize assignments and quizzes to reinforce content covered in lectures. These will help students develop skills related to creating a research proposal and implementing an evidence-based practice. Unless otherwise noted these will be due 24 hours prior to class meetings as they are intended to help reinforce readings.

Introduction and Methods Peer Review: You will be assigned drafts of the introduction and methods assignments from your peers to review and provide feedback on. Further details will be provided by the instructor.

Article Presentation: Each student will present 1 research article during the semester. The article must be a research study similar in methods to what you anticipate conducting with your research project. Further details will be provided by the instructor.

Scientific Research Proposal: This assignment is the culminating project for the course and will require both a paper and a professional presentation. The assignment is designed to assist you with identifying, clarifying, and the thoughtfully developing a research topic and theoretical framework for your graduate research project. You will be required to write and present a scientific research proposal describing a project of interest to you and a faculty member within the EFHP program. The development of a research proposal illustrates familiarity with problem formation and hypothesis development, review and critical analysis of the scholarly literature, justification and application of appropriate methodology, and consideration of the implications of research findings. **IMPORTANT - This is a Performance Based Assessment. DUE May 5, 2021.**

Proposal Presentation: The intent of this assignment is to develop your presentation skills and communicate your proposed research to your colleagues and professors. **Due May 4, 2020.**

- **Other Requirements**

Attendance

Students are expected to be on time, attend all class meetings and be prepared for in class assignments and projects. Excused absences include the following: illness (must bring a receipt or note from a doctor), loss of a family member, athletic/academic event, and others at the discretion of the instructor. For known upcoming absences, students must contact the instructor at least one week in advance to the missed class to make up work. In the case of illness or some other unforeseen absence, the student must contact the instructor via e-mail or telephone. At the next attended class meeting the student will discuss material that is to be completed. It is the student's obligation to pursue any make-up work.

Participation

Students are expected to read assigned material (e.g., chapters, articles) prior to class. Class will be based on discussion lead by the students and moderated by the instructor.

Academic Load

Although many students must work to meet living expenses, employment and personal responsibilities are not a consideration for missed classes, late or incomplete assignments, the course content, or the course schedule (see <http://catalog.gmu.edu>). Student employment does not take priority over academic obligations. I recognize that many students need to work in order to meet living expenses, however, there are distinct guidelines for students in terms of the number of credit hours which should be attempted based on how many hours per week a student has outside employment. For additional information on this subject, please see the GMU Academic Catalog (http://catalog.gmu.edu/content.php?catoid=5&navoid=104#Registration_attendance) for further information. Students who fail to observe these guidelines may expect no special consideration for academic problems arising from the pressures of employment.

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.

Written Assignments

All assignments must be typed in Microsoft Word, and formatted as follows (*unless otherwise specified*): double spaced, 12 point Times New Roman font, 1 inch margins, your name and title in the running header at top left hand corner, continuous line numbers on left margin, and page

numbers centered in footer. Failure to comply with any or all parts of this format will result in an unacceptable assignment, which corresponds to zero (0) points. If you do not submit your document in a Microsoft Word document (doc, docx) will be an unacceptable assignment, which corresponds to zero (0) points.

Pay close attention to spelling and grammar as these will count towards your grade on written assignments. American Medical Association Manual (AMA) of Style (11th edition) format must be used for all written work in this class (e.g., in referencing, creation of tables, and formatting headers for paper sections).

Assignments must be turned in on Blackboard/MyMason Portal by the beginning of class on the specified date due (*unless otherwise specified*). No late assignments will be accepted. It is recommended that students keep copies of all submitted work.

Class Material

A combination of approaches to assist your learning will be used. These include reading assignments and discussion of the reading, learning activities that provide practical experience in research methods, analyzing research examples, online activities, and homework preparing various elements of a research proposal. You are encouraged to ask questions about the assigned reading, followed by discussion and learning activities. This means you must read the material before class meetings! Be prepared to be called on at random regarding the readings.

E-mail Correspondence

Only messages that originate from a George Mason University address will be accepted. Please address the subject line for all email pertaining to this course as: *EFHP 620: Last Name – purpose of email*. The following is an appropriate professional format:

Dr. Eddo (*Beginning Salutation*)

I have a question regarding one of the assignments. (*Text body*)

Regards, (*Ending Salutation*)

(*Your name*)

Note: 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**

	<i>Assignments</i>	<i>Points</i>	<i>Due Dates</i>
#1	Online Assignments & Quizzes	25	See Syllabus
#2	Research Article Presentation	10	TBD
#3	Introduction & Methods Draft Peer Review	10	See Syllabus
#4	Scientific Research Proposal	40	May 5
	<ul style="list-style-type: none"> • Introduction 		

	<ul style="list-style-type: none"> • Purpose Statement: Aims & Hypothes(es) 		
	<ul style="list-style-type: none"> • Methods 		
	<ul style="list-style-type: none"> • References 		
	Appendices:		
	<ul style="list-style-type: none"> • Project Timeline 		
	<ul style="list-style-type: none"> • IRB Application w/ Informed Consent 		
#5	Research Proposal Presentation	10	May 4
#6	Class Participation & Professionalism	5	
TOTAL		100	

- **Grading**

Course Grading Scale

The student's final letter grade will be earned based on the following scale:

Grade	Percentage
A	94 – 100%
A-	90 – 93%
B+	88 – 89%
B	84 – 87%
B-	80 – 83%
C	70 – 79%
F	0 – 69%

Note: Although a B- is a satisfactory grade for a course, students must maintain a 3.00 average in their degree program.

Professional Dispositions

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

Class Schedule

Date		Suggested Activity for the Day	Assignments Due
Module 1	Week 1 Jan 25-31	Synchronous Meeting – Tuesday @ 8:30AM	
		Overview of Course & Research Methods Scientific Writing	Chapter 1 Online Quiz Due
	Week 2 Feb 1-7	Synchronous Meeting – Tuesday @ 8:30AM	
		Research Questions & Aims: Developing a Clinically Relevant Question – Research of Consequence!	Chapter 2 Online Quiz Due
Module 2	Week 3 Feb 8-14	Synchronous Meeting – Tuesday @ 8:30AM	
		Synthesizing and Evaluating Research – Systematic Reviews, Meta-analyses and more! <i>Writing Day: Introduction</i>	Chapter 9 Online Quiz Due
	Week 4 Feb 15-21	Synchronous Meeting – Tuesday @ 8:30AM <i>Article Presentation(s)</i>	
		Evaluating Research Quality The Peer Review Process	Introduction Draft Due 2/21 @ Midnight Chapter 10 Online Quiz Due
Module 3	Week 5 Feb 22-28	Synchronous Meeting – Tuesday @ 8:30AM <i>Article Presentation(s)</i>	
		Designing a Study – Types of Experimental Designs Importance of Reliability & Validity	Chapter 5 & 6 Online Quiz Due
	Week 6 Mar 1-7	Synchronous Meeting – Tuesday @ 8:30AM <i>Article Presentation(s)</i>	

Module 4			Sampling <i>Present purpose, research questions and specific aims paragraph to class</i>	Purpose Statement Online Assignment Due 3/7 @ Midnight
	Week 7	Mar 8-14	Synchronous Meeting – Tuesday @ 8:30AM <i>Article Presentation(s)</i>	Sampling Online Assignment Due 3/10 @ Midnight
			<i>Visually present study designs</i>	Peer Introduction Feedback Due 3/14 @ Midnight
	Week 8	Mar 15-21	Synchronous Meeting – Tuesday @ 8:30AM	
			Data Analysis: Matching research questions to your analyses	Chapter 3 & 4 Online Quiz Due
	Week 9	Mar 22-28	Synchronous Meeting – Tuesday @ 8:30AM	
			Diagnostic Statistics <i>Writing Day – Methods</i>	Chapter 7 Online Quiz Due
	Week 10	Mar 29- Apr 4	Synchronous Meeting – Tuesday @ 8:30AM	
			Data Presentation: Graphs, Tables, Figures	Methods Draft Due 4/4 @ Midnight
	Week 11	Apr 5-11	Synchronous Meeting – Tuesday @ 8:30AM	
			Epidemiological Research	Chapter 8 Online Quiz Due Data Presentation Online Assignment Due 4/11 @ Midnight

Module 5	Week 12	Apr 12-18	Synchronous Meeting – Tuesday @ 8:30AM	
			Ethical Research IRB – CITI Training	CITI Training Online Assignment Due 4/18 @ Midnight
	Week 13	Apr 19-25	Synchronous Meeting – Tuesday @ 8:30AM	
			IRB – Application & Consent Form	Peer Methods Feedback Due 4/25 @ Midnight
	Week 14	Apr 26-30 <i>Last week of classes</i>	Project Timelines Research Proposals: Putting all the pieces together Writing & Feedback day	
		May 1-2	Study for Final Exam	
	Week 15	May 3-9 <i>Exam Period</i>	Presentations – 10:30 am to 1:10 pm	1) Presentations due May 4 @ 10:30 AM 2) Final Proposal Due May 5 @ Midnight

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 Tk20 should be directed to tk20help@gmu.edu or <https://cehd.gmu.edu/aero/tk20>. 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.

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

[Additional Program or Division content, supplemental materials, instructions, and graphics may be placed here, as appropriate.]

Assessment Rubric(s)

Research Proposal Assignment

Grading Rubric

Standard	Exceeds Expectations (10)	Meets Expectations (8)	Below Expectations (5)	Unacceptable (0)
<p>Problem Definition</p> <p>- Hypothesis: Stated the research problem clearly, provided motivation for undertaking the research</p>	<p>Stated the research problem clearly, provided motivation for undertaking the research</p>	<p>Minor changes are needed to state the research problem clearly, provided motivation for undertaking the research</p>	<p>Major changes are needed to state the research problem clearly, provided motivation for undertaking the research</p>	<p>Did not state the research problem clearly, provided motivation for undertaking the research</p>
<p>Significance - Impact of Proposed Research: (a) Demonstrated the potential value of solution or contribution to the research problem in advancing knowledge (a) within and (b) outside the area/field of study.</p>	<p>Demonstrated the potential value of solution or contribution to the research problem in advancing knowledge (a) within and (b) outside the area/field of study.</p>	<p>Minor changes are needed to demonstrate the potential value of solution or contribution to the research problem in advancing knowledge (a) within and (b) outside the area/field of study.</p>	<p>Major changes are needed to demonstrate the potential value of solution or contribution to the research problem in advancing knowledge (a) within and (b) outside the area/field of study.</p>	<p>Did not Demonstrate the potential value of solution or contribution to the research problem in advancing knowledge (a) within and (b) outside the area/field of study.</p>
<p>Research and Design Methods - Solution Approach: Applied sound state-of-the-field research methods/tools to solve the defined</p>	<p>Applied sound state-of-the-field research methods/tools to solve the defined problem and has described the</p>	<p>Minor changes are needed to apply sound state-of-the-field research methods/tools to solve the defined problem</p>	<p>Major changes are needed to apply sound state-of-the-field research methods/tools to solve the defined problem</p>	<p>Did not apply sound state-of-the-field research methods/tools to solve the defined problem and has</p>

problem and has described the methods/tools effectively	methods/tools effectively	and has described the methods/tools effectively	and has described the methods/tools effectively	described the methods/tools effectively
Critical Thinking: Demonstrated capability for conducting research in the area of study, significant expertise in the area, and ability to make original contributions to the field	Demonstrated capability for conducting research in the area of study, significant expertise in the area, and ability to make original contributions to the field	Minor changes are needed to demonstrate capability for conducting research in the area of study, significant expertise in the area, and ability to make original contributions to the field	Major changes are needed to demonstrate capability for conducting research in the area of study, significant expertise in the area, and ability to make original contributions to the field	Did not demonstrate capability for conducting research in the area of study, significant expertise in the area, and ability to make original contributions to the field

Total Score: / 40

Comments: