

GEORGE MASON UNIVERSITY  
School of Recreation, Health and Tourism

EFHP 620 – 001 Research Methods for Applied Kinesiology (3)  
Fall 2014

DAY/TIME:	Tuesdays & Thursdays 9:00 a.m. –10:15 a.m.	LOCATION:	Bull Run Hall 249
PROFESSOR:	Dr. Nelson Cortes	EMAIL ADDRESS:	<a href="mailto:ncortes@gmu.edu">ncortes@gmu.edu</a>
OFFICE LOCATION:	Bull Run Hall 208B	PHONE NUMBER:	703-993-9257
OFFICE HOURS:	T: 10:30 – 11:30 a.m.	FAX NUMBER:	703-993-8888
Dept. Website	<a href="http://rht.gmu.edu">rht.gmu.edu</a>	Class Website:	<a href="http://mymasonportal.gmu.edu">mymasonportal.gmu.edu</a>

PREREQUISITES: Graduate Status

**COURSE DESCRIPTION:**

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

**COURSE OBJECTIVES:**

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

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.

**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.

**PROFESSIONAL DISPOSITIONS**

Students are expected to exhibit professional behaviors and dispositions at all times.

**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), family death, 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](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 (10<sup>th</sup> 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**

I use a combination of approaches to assist your learning. 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 the class! Be prepared to be called on at random regarding the readings.

## **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. Additionally,

no laptop computers (e.g., netbooks, notebooks, tablets, etc) will be permitted for use during class time unless with permission from the instructor.

### **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:

Dear Dr. Cortes (*Beginning salutation*)

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

Regards, (*Ending Salutation*)

Dr. Cortes (*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.

### **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**

- Portney LG, Watkins MP. *Foundations of Clinical Research: Applications to Practice*. 3<sup>rd</sup> Ed. Pearson Prentice Hall; 2008 (Required)
- Iverson C, Christiansen S, Flanagin A, et al. *AMA Manual of Style: A Guide for Authors and Editors*. 10th ed. New York, NY: Oxford University Press; 2007
- Additional various readings/articles as assigned

### **NATURE OF COURSE DELIVERY**

This course is delivered through a hybrid model using classroom instruction (face to face) and online assignments.

### **ADDITIONAL REQUIREMENTS**

All students will have to use Zotero as their citation management software, and provide a digital copy of the library. Online tutorials, guides, and download of plugin is available at:

<http://infoguides.gmu.edu/content.php?pid=23687&sid=170423>

Zotero works primarily with Firefox browser, which is also free for download at:

<http://www.mozilla.org/en-US/firefox/new/> There is also an extension for the google browser (Chrome).

There is also a standalone version for windows and Mac that can be downloaded from <https://www.zotero.org/>.

## EVALUATION:

**Online Assignments:** Online assignments will occur primarily on Thursdays (see detailed schedule below). The assignments will be posted on “Discussion Board” area of BlackBoard. For each activity, you will have to create a new thread with your last name and activity name (e.g., Cortes – Reference List). Most of the assignments you will have to comment on other students’ posts, so do not forget to check the other threads and comment appropriately. Assignments will typically be made available at 8:30AM and will close at 10:30AM of that day. There will be a few exceptions that will be open earlier (e.g., HSRB/informed consent) as they require extensive work prior to the day of the online posting.

**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. **DUE DECEMBER 8, 2014**

**Proposal Presentation:** The intent of this assignment is to develop your presentation skills and communicate your proposed research to your colleagues and professors. **DECEMBER 8, 2014**

**Class Participation** – Attending, being professional, and active participation are important components of this course and are expected from all students.

### Grading Criteria

Assignments		Points	Due Dates
#1	Online Assignments	10	Sept 4, 18, 25 Oct 2, 9, 23 Nov 6, 13, 20
#2	Purpose Statement (Draft)	5	Oct 7
#3	Methods (Draft)	10	Nov 11
#4	References (Draft)	5	Oct 16
#5	Scientific Research Proposal	30	Dec 8
	• Introduction		
	• Methods		
	• References		
	Appendices:		
	• Hypothesis – if applicable		
	• Literature Review		
	• Ethics/CITI Training Certificate		
	• Project Timeline		
• Human Subjects Review Board			
• Informed Consent Form			
#6	Proposal Presentation	20	Dec 10
#7	Online Quizzes	10	Sept 18, Oct 23, Oct 30
#8	Class Participation / Attendance	10	
TOTAL		100	

Grade	Percentage	Quality Points	Grade	Percentage	Quality Points
A+	93%	4.00	B	83%	3.00
A	93%	4.00	B-	80%	2.67*
A-	90%	3.67	C	73%	2.00
B+	87%	3.33	F	<73%	0.00

Note: \* 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.

**OTHER USEFUL CAMPUS RESOURCES:**

WRITING CENTER: (703) 993-1200; <http://writingcenter.gmu.edu>

Fairfax campus – A114 Robinson Hall

Prince William campus – 204 Occoquan Bldg.

UNIVERSITY LIBRARIES: “Ask a Librarian” <http://library.gmu.edu/mudge/IM/IMRef.html>

## TENTATIVE COURSE SCHEDULE

Date	Topic	Chapter/Assignment Due Date
Aug 26 <sup>T</sup>	Overview of course requirement / types of research / evidence / what is the research process	Chapter 1 & 32
Aug 28 <sup>R</sup>	Types of research / evidence / what is the research process	Chapter 1 & 32
Sept 2 <sup>T</sup>	Searching the Literature: Mason library, interlibrary loan, databases, journals, creating alerts in journals, search keys, search history (pubmed), computing services	Chapter 31
Sept 4 <sup>R</sup>	<i>Online: Finding Articles</i>	<i>Provide a reference list of 10 articles that relate to your scientific research proposal topic. Write a brief sentence on why you chose each article to support your topic.</i>
Sept 9 <sup>T</sup>	Zotero: building your bibliography and managing citations, zotero website, standalone, zotero registration, personalize, notes	
Sept 11 <sup>R</sup>	Zotero: firefox, Google Chrome, plugins (word/pdf), using AMA and editing styles	
Sept 16 <sup>T</sup>	AMA Style: brief overview, citations, reference style, document format, tables & figures captions, and Zotero integration	<i>Iverson C, Christiansen S, Flanagin A, et al. book</i>
Sept 18 <sup>R</sup>	<i>Online: Quiz #1 &amp; AMA style</i>	<i>Online Quiz / AMA Style – present a brief paragraph about your study supported by citations using AMA style. Building bibliography</i>
Sept 23 <sup>T</sup>	Critical review of articles / identifying hypothesis / Theory to practice	Chapters 2 & 34
Sept 25 <sup>R</sup>	<i>Online: Article Review Assignment</i>	<i>Article Review Assignment. Share your table online, and provide comments to other students' tables. No articles need to be reviewed at this point.</i>
Sept 30 <sup>T</sup>	Formulating the Research Question / Writing Hypothesis	Chapter 7 Chapter 8 Chapter 6 & 9
Oct 2 <sup>R</sup>	<i>Online: Introduction &amp; Hypothesis</i>	<i>Present your purpose statement/research questions and hypothesis (if applicable) on blackboard. Provide a minimum of <b>one</b> comment on <b>two</b> other students' purpose statement. Be constructive and identify aspects that may be missing in their purpose statement.</i>
Oct 7 <sup>T</sup>	Sampling Measurements: Principles, reliability, validity	Chapter 8 Chapter 4, 5, 6 & 9 <b>Purpose/Research Question Draft Due</b>

Oct 9 <sup>R</sup>	<i>Online: Sampling</i>	<i>Using one of the articles you have found for your project, present your decision for: a) Subjects age, b) subjects sex, and c) inclusion and exclusion criteria. Explain your decisions in one paragraph. Further, comment on other students sampling options</i>
Oct 14 <sup>T</sup>	<b>No Class – Columbus Day Recess</b>	
Oct 16 <sup>R</sup>	Research Designs	<b>Chapter 10, 11, 13, 14 &amp; 16 References Draft Due</b>
Oct 21 <sup>T</sup>	Research Designs	Chapter 10, 11, 13, 14 & 16
Oct 23 <sup>R</sup>	<i>Online: Quiz #2 Online: Identifying Research Designs in Peer Reviewed Manuscripts</i>	<i>Choose one article that you have found for your research topic, and write one paragraph about the research design of that article. Also, present one alternative research design that could be used for the same hypothesis.</i>
Oct 28 <sup>T</sup>	Descriptive / Epidemiological Research (Dr. Shane Caswell)	Chapters 17 & 28
Oct 30 <sup>R</sup>	<i>Online: Quiz #3</i>	
Nov 4 <sup>T</sup>	Methods: bringing everything together	
Nov 6 <sup>R</sup>	<i>Online: Methods Section</i>	<i>Using one article from your literature review, identify areas that are missing (or can be improved) in the methods sections. Then, provide a paragraph on how you would re-write that section to overcome its weakness(es).</i>
Nov 11 <sup>T</sup>	Ethical Issues in Research	<b>Chapter 3 Methods Draft Due</b>
Nov 13 <sup>R</sup>	<i>Online: CITI Training</i>	<i>Conduct CITI Training and provide Certificate of Completion: Group 2 – Biomedical Sciences</i>
Nov 18 <sup>T</sup>	Human Subjects Review Board / Informed Consent	
Nov 20 <sup>R</sup>	<i>Online: Human Subjects Review Board/Informed Consent</i>	<i>Provide HSRB/Informed Consent (draft)</i>
Nov 25 <sup>T</sup>	Excel: Data management and organization	
Nov 27 <sup>R</sup>	<b>No Class – Thanksgiving Recess</b>	
Dec 2 <sup>T</sup>	SPSS: Import from excel, and match statistics with designs	
Dec 4 <sup>R</sup>	Work on Proposal and Proposal Presentation	
Dec 10 <sup>W</sup>	Presentations	<b>Presentations Due</b>
<b>Note: The instructor reserves the right to make changes to the course syllabus and/or schedule at any time. Changes will always posted on MyMason Portal/BlackBoard</b>		

### *Student Expectations*

- Students must adhere to the guidelines of the George Mason University Honor Code [See <http://oai.gmu.edu/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, at the beginning of the semester [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.

