

RESEARCH METHODS

APK4050, PM Section 14D6 ~ 3 CREDITS ~ FALL 2021

INSTRUCTOR: **Demetra Christou, PH.D., FAHA**
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Office Phone: 352-294-1715
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Preferred method of contact: face to face in class or email

OFFICE HOURS: W 2:30-3:30 pm or by appointment

MEETING TIME/LOCATION: MWF period 9 (4:05-4:55pm)/285 FLG

COURSE DESCRIPTION: The course is designed to provide an understanding of basic research methods and statistical analysis techniques used in applied physiology and kinesiology. Students will demonstrate their knowledge of the course materials by analyzing, interpreting and summarizing research writing in professional journals and by planning a research study.

PREREQUISITE KNOWLEDGE AND SKILLS: APK major with 3, 4, 6 or 7 classification

REQUIRED MATERIALS: Research Methods in Kinesiology and the Health Sciences by Susan Hall and Nancy Getchell. ISBN-13:978-0-7817-9774-0

Class materials will also include PowerPoint slides, research articles, and other online resources. These materials will be made available on CANVAS. Students are responsible for reading all assigned materials.

COURSE FORMAT: The course will entail in-person instruction on the scheduled days/times. There will be no recordings of the lectures posted. Attendance of all scheduled meetings in person is required. Usually on Mondays and Wednesdays there will be a lecture while on Fridays there will be application of the material, group discussion and quiz. In the last part of the semester there will be group presentations and discussion of research articles. Please see the tentative schedule for more detailed information.

COURSE LEARNING OBJECTIVES:

By the end of this course, students should be able to:

1. Identify the steps involved in scientific method
2. Identify issues related with methodology and discuss guidelines to enhance scientific rigor and reproducibility
3. Discuss issues related to research ethics and responsible conduct of human and animal research
4. Outline the processes related to manuscript writing/submission/review/publication, authorship and journal impact factors
5. Conduct a literature search and manage references
6. Critique and present primary research articles
7. Formulate a research question/hypothesis and design a research study to address the question
8. Choose appropriate statistical tools to analyze data
9. Visually and verbally present data and describe experimental design and results

COURSE AND UNIVERSITY POLICIES:

Requirements for class attendance and make-up work in this course are consistent with university policies that can be found in the online catalog at: <https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>.

ATTENDANCE POLICY: Students are expected to attend all scheduled meetings and actively participate in all class activities and group discussions to receive full participation points. Please note: The University has specific reasons that are acceptable for missing class which apply to both undergrad and grad students: <https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>

PERSONAL CONDUCT POLICY: Students are expected to exhibit behaviors that reflect highly upon themselves and our University. UF students are bound by The Honor Pledge which states, “We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code. On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: “On my honor, I have neither given nor received unauthorized aid in doing this assignment.” The Honor Code (<http://www.dso.ufl.edu/sccr/process/student-conduct-honor-code/>) specifies a number of behaviors that are in violation of this code and the possible sanctions. Furthermore, students are obliged to report any condition that facilitates academic misconduct to appropriate personnel. If there are any questions or concerns, students should consult the instructor.

QUIZ MAKE-UP POLICY: **Not taking a quiz during the scheduled class time will result in zero on the quiz.** The University has specific reasons that are acceptable for missing class: <https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>. If you are ill or have an emergency that prevents you from taking the quiz at the scheduled time, it is your responsibility to contact the instructor as soon as possible to try and schedule a make-up quiz. Documentation of the illness or emergency will be required. Any make-up quiz will be at the discretion of the instructor. Scheduling make-up quizzes is the responsibility of the student and should be done—if at all possible—before the scheduled quiz.

COMMUNICATION: Students are responsible for reading emails sent by the instructor and course announcements on CANVAS. The best way to communicate with the instructor is by email. Students should expect to receive a response usually within 24 to 48 hours. All course grades will be posted on CANVAS. Any discrepancies should be pointed out to the instructor *as soon as possible*, and *before* the last day of class.

TECHNOLOGY CONSIDERATIONS: Instruction will be delivered in person during the scheduled days/times. Students are required to bring their laptop/tablet to class especially on Fridays. Surfing the web, checking your email, making Facebook posts, or anything of that nature is unacceptable and strictly prohibited. Please keep your cell phone on silent. Recording of student presentations, in class assessments, private conversations between students in the class or between a student and the faculty during a class session is strictly prohibited. The content of this course may not be used for any commercial purpose or published without the written consent of the instructor. To “publish” means to share, transmit, circulate, distribute, or provide access to material, regardless of format or medium, to another person, including but not limited to another student within the same class section. Students found in violation of these policies will be subject to discipline under UF’s Conduct Code.

ACCOMMODATING STUDENTS WITH DISABILITIES: Students with disabilities who experience learning barriers and would like to request academic accommodations should connect with the Disability Resource Center by visiting their Get Started page at <https://disability.ufl.edu/students/get-started/>. It is important for students to share their accommodation letter with their instructor and discuss their access needs, as early as possible in the semester. For optimal consideration, students must see the instructor within the first week of class. Accommodations are not retroactive, therefore, students should contact the office as soon as possible in the term for which they are seeking accommodations.

COURSE EVALUATIONS: Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals. Guidance on how to give feedback in a professional and respectful manner is available at <https://gatorevals.aa.ufl.edu/students/>. Students will be notified when the evaluation period opens, and can complete evaluations through the email they receive from GatorEvals, in their Canvas course menu under GatorEvals, or via <https://ufl.bluera.com/ufl/>. Summaries of course evaluation results are available to students at <https://gatorevals.aa.ufl.edu/public-results/>.

GETTING HELP:

Health and Wellness

- U Matter, We Care: If you or a friend is in distress, please contact umatter@ufl.edu or 352 392-1575
- Counseling and Wellness Center: <https://counseling.ufl.edu/>, 352-392-1575
- Sexual Assault Recovery Services (SARS) - Student Health Care Center, 352-392-1161
- University Police Department, 352-392-1111 (or 9-1-1 for emergencies) <http://www.police.ufl.edu/>

Academic Resources

- E-learning technical support, 352-392-4357 (select option 2) or e-mail to Learning-support@ufl.edu. <https://lss.at.ufl.edu/help.shtml>
- Career Connections Center, Reitz Union, 352-392-1601. Career assistance and counseling. <https://career.ufl.edu/>
- Library Support, <http://cms.uflib.ufl.edu/ask>. Various ways to receive assistance with respect to using the libraries or finding resources.
- Teaching Center, Broward Hall, 352-392-2010 or 352-392-6420. General study skills and tutoring. <http://teachingcenter.ufl.edu/>
- Writing Studio, 302 Tigert Hall, 352-846-1138. Help brainstorming, formatting, and writing papers. <http://writing.ufl.edu/writing-studio/>
- Student Complaints On-Campus: <https://sccr.dso.ufl.edu/policies/student-honor-code-student-conduct-code/> On-Line Students Complaints: <http://distance.ufl.edu/student-complaint-process/>

INCLUSION, DIVERSITY, EQUITY, AND ACCESSIBILITY RESOURCES

I am committed to providing a learning environment that supports inclusion, diversity, equity and accessibility (IDEA) and promotes respect for individuals of all identities. For suggestions or concerns related to IDEA, please reach out to me or any of the following:

- Dr. Linda Nguyen, APK IDEA Liaison, linda.nguyen@hwp.ufl.edu
- Dr. Rachael Seidler, APK Graduate Coordinator, rachaelseidler@ufl.edu
- Dr. Joslyn Ahlgren, APK Undergraduate Coordinator, jahlgren@ufl.edu

GRADING:

Evaluation Components	% of Total Grade
Quizzes	55%
Attendance and participation	15%
Research article group presentation	10%
Research article critiques	10%
Group research proposal	5%
Assignments	5%

Quizzes – There will be 9 quizzes in this course. Quizzes will focus on the material presented during lectures and the reading assignments. Some quizzes will be administered during normal class time while others will be take-home. Detailed information will be provided in advance on CANVAS.

Attendance and participation – Students are expected to attend all scheduled meetings and contribute to group assignments and discussions to receive full participation points. More information on participation points will be provided. Please note that the University has specific reasons that are acceptable for missing class which apply to both undergrad and grad students:

<https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>

Research article group presentation – Group membership and article assignment will be posted on CANVAS. Each group will be assigned an article to present. There will be a total of 10 presentations. Detailed instructions will be provided in advance. Students are expected to attend the presentations and participate in the discussion to receive full participation points.

Research article critiques – Students are expected to read all assigned research articles and submit a written critique by the due date. No late critiques will be accepted. There will be a total of 10 critiques.

Group research proposal – Each group will design a research study based on the article assigned to the group. Detailed instructions will be provided on CANVAS at a later date.

Assignments – Students will be given assignments throughout the semester and must be completed on time. No late assignments will be accepted.

GRADING SCALE: The following grading scale will be used in this course.

Letter Grade	Percent of Total Points	GPA Impact of Each Letter Grade
A	94-100%	4.0
A-	90-93%	3.67
B+	87-89%	3.33
B	84-86%	3.0
B-	80-83	2.67
C+	77-79%	2.33
C	74-76%	2.0
C-	70-73%	1.67
D+	67-69%	1.33
D	64-66%	1.0
D-	60-63%	0.67
E	0-59%	0

For detailed information on current UF grading policies, please visit: <https://catalog.ufl.edu/UGRD/academic-regulations/grades-grading-policies/>

TENTATIVE COURSE SCHEDULE*:

Wk	Date	Topic	Assignment
1	M – Aug 23	Course overview	Syllabus
	W – Aug 25	Lecture #1: Introduction to Research in Kinesiology	Ch 1 and PPT
	F – Aug 27	Quiz 1 Application #1: How to read a research article	Lecture #1 and Ch 1
2	M – Aug 30	Lecture #2: Journal quality, search engines and reference management	Ch 3 and PPT
	W – Sept 1	Lecture #3: Research writing style Application #2: Literature search and impact factors	Ch 2 and PPT
	F – Sept 3	Quiz 2	Lecture #2 and Ch 3
3	M – Sept 6	Labor Day	NO CLASS
	W – Sept 8	Lecture #4: Reviewing and critiquing the literature Application #3: Reading/critiquing research articles	Ch3 and PPT
	F – Sept 10	Quiz 3 Information on group critiques and presentations	Lecture # 2-4 and Ch 2-3 Mandatory participation
4	M – Sept 13	Lecture #5: Understanding research ethics	Ch 5 and PPT
	W – Sept 15	Lecture #6: Types of research	Ch 6 and PPT
	F – Sept 17	Quiz 4 Application #4: Study variables and threads to validity Group discussion	Lecture # 5-6 and Ch 5-6
5	M – Sept 20	Complete online training <i>To receive credit you must provide proof of score \geq 80% and certificate of completion</i>	NO MEETING
	W – Sept 22	Complete online training <i>To receive credit you must provide proof of score \geq 80% and certificate of completion</i>	NO MEETING
	F – Sept 24	Complete online training <i>To receive credit you must provide proof of score \geq 80% and certificate of completion</i>	NO MEETING

6	M – Sep 27	Lecture #7 and #8: Types of research	Ch 7, Ch 9 and PPT
	W – Sep 29	Lecture #9: Research measurements, scientific rigor and reproducibility	Ch 14 and PPT
	F – Oct 1	Quiz 5 Application #5: Study design	Lecture# 7, 8, 9 and Ch 7, 9 & 14
7	M – Oct 4	Lecture #10: Basic statistical concepts	Ch 10 and PPT
	W – Oct 6	Lecture #10: Basic statistical concepts	Ch 10 and PPT
	F – Oct 8	HOMECOMING	NO CLASS
8	M – Oct 11	Lecture #11: Finding relationships among variables	Ch 11 and PPT
	W – Oct 13	Lecture #11: Finding relationships among variables Application #6: Correlations	Ch 11 and PPT
	F – Oct 15	Quiz 6	Lecture #10 and Ch 10
9	M – Oct 18	Lecture #12a: Finding differences among groups/t-tests	
	W – Oct 20	Lecture #12a: Finding differences among groups/t-tests Application #7: t-tests	
	F – Oct 22	Quiz 7	Lecture #11 and Ch 11
10	M – Oct 25	Lecture #12b: Finding differences among groups/ANOVA	Ch 12 and PPT
	W – Oct 27	Lecture #13: Selecting appropriate statistical tests	Ch 15 and PPT
	F – Oct 29	Application #8: Selecting appropriate statistical tests Quiz 8	Lecture # 12a and Ch 12
11	M – Nov 1	Lecture #14: Creating effective oral presentations	Ch 17 and PPT
	W – Nov 3	Discuss group assignments	Mandatory participation
	F – Nov 5	Quiz 9	

12	M – Nov 8	Work on group assignments	
	W – Nov 10	Work on group assignments	
	F – Nov 12	Work on group assignments	
13	M – Nov 15	Group presentations and discussion	Mandatory participation
	W – Nov 17	Group presentations and discussion	Mandatory participation
	F – Nov 19	Group presentations and discussion	Mandatory participation
14	M – Nov 22	Work on group assignments	
	W – Nov 24	HOLIDAY	NO CLASS
	F – Nov 26	HOLIDAY	NO CLASS
15	M – Nov 29	Group presentations and discussion	Mandatory participation
	W – Dec 1	Group presentations and discussion	Mandatory participation
	F – Dec 3	Work on study proposal	Mandatory participation
16	M – Dec 6	Finalize and submit study proposal	
	W – Dec 8	TBA	

* Topics and quiz dates are subject to change.