

# APK4050 UNDERGRADUATE RESEARCH METHODS

Department of Applied Physiology and Kinesiology  
University of Florida

## Course Description

### Course Information

APK4050 (Section 10697)  
Spring 2018: T 5-6 (11:45 AM-1:40 PM); R 6 (12:50-1:40)  
Lecture Location: T-FLG 260; R-FLG210

### Instructor:

Matthew Terza Ph.D.  
Office: FLG 132-D  
Email: mjt023@ufl.edu  
Office Hours: T and R-7 1:55 PM -2:45 (after class) or by appointment  
Office Phone: 352-294-1716  
Credits:3  
Final Exam: 12/13/2018 5:30-7:30 PM

### General Purpose and Description

Provides an understanding of basic research methods and 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

Credits: 3; Prereq: APK major with 3, 4, 6 or 7 classification.

### Software:

**MICROSOFT OFFICE (Word and Excel):** The class will be taught using a Microsoft/Office 2010 or newer format

**ZOTERO:** All students will learn and download an online reference manager software program called Zotero (<http://chnm.gmu.edu/zotero/>) that can later integrate with ENDNOTE and other commercial packages that you might be using in your labs. To run Zotero, you will need to first download the latest version of Firefox web browser (31.0) from Mozilla: <https://www.mozilla.org/en-US/>

### **Course Goals**

1. Know and apply methods in idea generation and experimental design
2. Conduct a comprehensive review of literature
3. Critically evaluate experimental and non-experimental research through reason
4. Collect, analyze and present data using basic statistics
5. Verbally (written and orally) and visually communicate scientific ideas, methods, results, and conclusions
6. Consider ethical, professional, methodological, and philosophical issues surrounding scientific research in our field

### **Required Materials**

**Textbook:** Bordens and Abbott. *Research and Design Method: A Process Approach 10th Edition*. McGraw-Hill. 2015

## **Course Policies**

### **Academic Honesty**

Cheating will not be tolerated in this course. All students are required to abide by the Academic Honesty Guidelines and Honor Code, which have been accepted by the University. Cheating is defined as the improper taking or tendering of any information or material, which shall be used to determine academic credit. Violations of the Honor Code will be handled according to the guidelines set by Student Judicial Affairs. 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, you are obligated to report any condition that facilitates academic misconduct to appropriate personnel. If you have any questions or concerns, please consult with me.

Homework is intended to be individual work. Discussion regarding solution processes and understanding of the material is permitted but copying work is not. Additionally, file sharing is expressly prohibited. Turning in files that are not your original work is also prohibited. It is the student's responsibility to seek clarification on policies or application of policies for specific assignments if necessary.

### **Class Attendance and Participation Policy**

Students are expected to attend all classes (including those during Drop/Add week) and to be appropriately prepared for class. Students are responsible for all material covered during lectures either spoken or written. Failure to attend class does not absolve students of the responsibility of learning the material covered. University excused absences will be treated in accordance with University of Florida policy.

Requirements for class attendance and make-up exams, assignments, and other work in this course are consistent with university policies that can be found at:

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

**Students must accrue participation points throughout the semester through verbal participation in class discussions and answering in class questions.**

Class participation counts as a significant portion of your final grade. Class participation credit requires attendance and participation in class discussions/assignments. Below is the rubric for attendance and participation. Behavior that is less than preferred may result attendance and participation point reductions in accordance with this rubric. For full participation credit student should expect to speak up 80% or more of the periods.

<b>Preferred (1)</b>	<b>Acceptable (0.5 pts)</b>	<b>Won't ask you to leave (-0.5)</b>	<b>May ask you to leave (-1 pts)</b>	<b>Will ask you to leave (-2 pts)</b>
Arrives on time  Comments are relevant and reflect understanding and good preparation Clear enthusiasm	Arrives no more than 5 min late  Comments are mostly relevant, but understanding may be slightly lacking  Not overly enthusiastic, but positive	Arrives no more than 10 min late  Comments are minimal ("yeah", "uh huh") and/or demonstrate poor preparation when called upon.  Demeanor is sluggish	Arrives more than 10 min late  No comments are made even when called upon.  Sleeping, texting, disengaged	Absent  Disruptive or rude comments are made  Drawing others into disrespectful behaviors (showing texts, passing notes, etc.)

### **Personal Conduct Policy**

You are expected to treat your fellow classmates, TAs, and the instructor with respect and politeness. Things that will not be tolerated include (1) inappropriate use of technology during class or lab (e.g. texting), (2) disrespectful language or actions (e.g. cursing), (3) honor code violations, and (4) personal conversations unrelated to the classroom discussions. Academic honesty and integrity are fundamental values of the University community. Students should be sure that they understand the UF Student Honor Code at <https://www.dso.ufl.edu/sccr/process/student-conduct-honor-code/>. Cell phones are only to be used for Top Hat questions or other in-class assignment related activity. **Any use, access, or handling of technology (e.g., a cell phone) during an assessment will result in an honor code violation and the potential of a failing grade.**

### **Recording Lectures**

**No photos, pictures, audio recordings, or video recordings may be taken during lectures.**

The content of this course may not be used for any commercial purpose.

Students found in violation of these policies may be subject to discipline under the University's Conduct Code.

### **Exam/Quiz Make-Up Policy**

*Unexcused missed assessments will result in a zero on the assessment (this includes contacting the instructor **after** the assessment if you are ill). Make-up assessments will be given at the discretion of the instructor. To schedule a make-up assessment, please fill out the **make-up exam request form** posted in CANVAS and submit it to your course instructor as soon as possible. Documentation will be required. If*

*you have a serious emergency or life event, please contact the Dean of Students Office ([www.dso.ufl.edu](http://www.dso.ufl.edu)) and they will contact your instructor so that you do not have to provide documentation of the emergency/death in order to get a make-up assessment. Requirements for class attendance and make-up exams, assignments, and other work are consistent with the university policies that can be found at <https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>.*

### **Getting Help**

For issues with technical difficulties for CANVAS, please contact the UF Help Desk at:

- [helpdesk@ufl.edu](mailto:helpdesk@ufl.edu)
- (352) 392-HELP - select option 2
- <https://request.it.ufl.edu/>

Any requests for make-ups due to technical issues MUST be accompanied by the ticket number received from Helpdesk when the problem was reported to them. The ticket number will document the time and date of the problem. You MUST e-mail your instructor within 24 hours of the technical difficulty if you wish to request a make-up.

Other resources are also available for you:

- Library Help Desk <http://guides.uflib.ufl.edu/content.php?pid=86973&sid=686381>
- Counseling and Wellness  
<http://www.counseling.ufl.edu/cwc/Self-Help-Library.aspx>

### **Accommodations for students with disabilities**

Students with disabilities requesting accommodations should first register with the Disability Resource Center (352-392-8565, [www.dso.ufl.edu/drc/](http://www.dso.ufl.edu/drc/)) by providing appropriate documentation. Once registered, students will receive an accommodation letter which must be presented to the instructor when requesting accommodation. Students with disabilities should follow this procedure as early as possible in the semester.

### **Accommodation of Special Needs**

In accordance with university policy, I make every effort to accommodate unique and special needs of students with respect to speech, hearing, vision, seating, or other disabilities. Please notify the Office of Disability Services to register for services.

### **Online course evaluation process**

Students are expected to provide feedback on the quality of instruction in this course by completing online evaluations at <https://evaluations.ufl.edu>. Evaluations are typically open during the last two or three weeks of the semester, but students will be given specific times when they are open. Summary results of these assessments are available to students at <https://evaluations.ufl.edu/results/>. Counseling and Wellness Center: <http://www.counseling.ufl.edu/cwc/Default.aspx>, 392-1575; and the University Police Department: 392-1111 or 9-1-1 for emergencies

The University of Florida has enacted a policy of allowing NO food or drink of any kind in any campus classroom. This policy will be enforced during the meeting times of this course.

## Course Assessment Methods

### Quizzes

This course will have five in-class Quizzes throughout the semester none of which are explicitly comprehensive, but may contain information, skills, and concept learned in previous modules. A scientific calculator may be needed for quizzes. Make-up quizzes will only be given for University Excused Absences.

### Assignments

Assignment will include in class assignments and homework assignments. Some will involve using software (namely Excel, Word, and Zotero). Other assignments will be in class group work, check point assignments for your project, and providing peer review, and online assessments. Homework will be assigned through Canvas. These assignments will be due by the start of class on the due date listed. In class assignments may include group activity assignments, participation in class discussion, and quizzes.

### Project

Your class project will be to plan a research study and write up your research plan in the style of a research article.

### Presentation

Your presentation will be a 3-minute thesis style presentation on your class project.

### Participation

You will receive point for participating in class discussions (see above for details).

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Grading Breakdown	
Quizzes (5)	50%
Class Participation	13%
Assignments	17%
Project	15%
Presentation	5%

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### Grading (Grades will not be rounded)

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Grading Scale			
A	93.00	to	100.00
A-	90.00	to	92.99
B+	87.00	to	89.99
B	83.00	to	86.99
B-	80.00	to	82.99
C+	77.00	to	79.99
C	73.00	to	76.99
C-	70.00	to	72.99
D+	67.00	to	69.99
D	63.00	to	66.99
D-	60.00	to	62.99
E	<60.00		

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**Any requests for additional extra credit or special exceptions to these grading policies will be interpreted as an honor code violation (i.e., asking for preferential treatment) and will be handled accordingly.**

Please use this link for the University Grades and Grading Policies  
<https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>

**Please bring pencil, paper, scientific calculator and Laptop, Phone, or Tablet to class.**

Homework and Reading Assignments will be due before class starts on the day they are due. There will be no make up assignments for absences and class participation.

**Delivery of Course Content**

Course content will be given via in-class (including software demonstrations) and online video lectures (including TED talks) and reading assignments (textbook and provides articles).

**Tentative Weekly Topical Class Schedule**

Module	Week	Date	Lecture Topics	Assessments/Project Due Dates
Philosophy in Research	1	23-Aug	Syllabus; Preparing and Connecting; Introduction to Research Methods (Thursday Only)	
	2	28-Aug	Reason; Theories and Hypotheses Choosing A Research Topic	
Evaluating and Synthesizing Research	3	4-Sep	How to Read a Research Paper Introduction Statistics; Preforming a Literature Search	Quiz 1 (Tuesday)
	4	11-Sep	Cite While You Write Finding Your Question	Turn In Research Topic
	5	18-Sep	Providing Feedback Writing an Introduction	Turn in Research Question for Peer Review
Experimental Design	6	25-Sep	Types of Studies; Inclusion/Exclusion Criteria Ecological Validity	Quiz 2 (Tuesday)
	7	2-Oct	Avoiding Bias and Controlling Variability Writing Methods	Turn in Your Question
	8	9-Oct	Ethical Issues in Research Plagiarism and Proprietary Issues	Draft of Introduction (5 Refs) for Peer Review

	9	16-Oct	Selecting an Outcome Measure(s)	Quiz 3 (Tuesday)
Data Analysis	10	23-Oct	Inferential Statistics Multivariate Designs	
	11	30-Oct	Meta-Analysis Identifying Limitations	Draft of Methods for Peer Review
	12	6-Nov	Graphs and Tables Grammar	Quiz 4 (Tuesday)
Communication in Research	13	13-Nov	Writing Results, Discussion and Conclusions	
	14	20-Nov	Student Presentations (No Class Thursday)	Class Presentations
	15	27-Nov	Student Presentations	Class Presentations
Class Presentations	16	4-Dec	Student Presentations (No Class Thursday)	Class Presentations; Project Due
FINAL		12-Dec	FINAL	Quiz 5

**\*Please note that the instructor reserves the right to alter the syllabus/schedule if it is determined that such a change will benefit the course and the students.**

This syllabus is intended to give the student guidance in what may be covered during the semester and will be followed as closely as possible. However the professor reserves the right to modify, supplement and make changes as the course needs arise. This includes exam dates and lecture topics that may change depending on class progress.

## **Other Information**

### Study Tips for Class Success in Research Methods

- Read assigned articles and book chapter sections BEFORE attending lecture.
- Seek peer feedback especially on writing assignments
- Ask questions and participate in class discussions
- Check CANVAS announcements/emails daily...just pretend it is Facebook for school. Your course instructor will post important and helpful information (such as friendly reminders of due dates) as announcements.
- Utilize office hours. I ask that you make effort to attend my scheduled time slot but do not let a schedule conflict be the reason you fail to seek help in office hours. Schedule an appointment with me.
- Have a positive attitude!