

## **APK4050 UNDERGRADUATE RESEARCH METHODS**

Department of Applied Physiology and Kinesiology  
University of Florida

### **Course Description**

#### **Course Information**

APK4050 (Section 21707) Credits: 3  
Spring 2019: MWF 9 (4:05 PM – 4:55 PM)  
Lecture Location: FLG 245

#### **Instructor:**

Matthew Terza Ph.D.  
Office: FLG 132-D  
Email: mjt023@ufl.edu  
Office Hours: T and R 3-3:50 PM  
Office Phone: 352-294-1716

#### **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 Objectives**

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:** Thomas, *Research Methods in Physical Activity*. Ed. 7<sup>th</sup> Human Kinetics. (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 <https://sccr.dso.ufl.edu/process/student-conduct-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.

Assignments unless otherwise stated by the course instructor are intended to be individual work. Discussion regarding solution processes and understanding of the material is permitted but copying work is not. Additionally, file sharing for any assignment that is not explicitly group work is expressly prohibited. Sharing files between groups is also 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. Attendance will not count directly towards your grade, but it will behoove you to be present for all sessions. **Student must be present to get credit for in class assignments.** Being unprepared, disruptive, late, or disrespectful in class can be counted against you according to the rubric below.

Here is the link for UF attendance policies:

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

| Preferred (0)   | Acceptable (-0.5 pts)   | Won't ask you to leave (-1 pts)  | May ask you to leave (-2 pts)   | Will ask you to leave (-3 pts)   |
|---|---|--|---|--|
| Arrives on time<br><br>Comments are relevant and reflect understanding and good preparation<br>Clear enthusiasm | Arrives no more than 5 min late<br><br>Comments are mostly relevant, but understanding may be slightly lacking<br><br>Not overly enthusiastic, but positive | Arrives no more than 10 min late<br><br>Comments are minimal (“yeah”, “uh huh”) and demonstrate poor preparation<br><br>Demeanor is sluggish | Arrives more than 20 min late<br><br>No comments are made even when called upon.<br><br>Sleeping, texting, disengaged, internet surfing | Disruptive or rude comments are made<br><br>Drawing others into disrespectful behaviors (showing texts, passing notes, etc.)<br><br>Not participating in group activity. |

### **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.**

### **Exam 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: <https://counseling.ufl.edu/>

### **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/>.

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 6 in-class quizzes. A scientific calculator may be needed for quizzes. Make-up quizzes will only be given for University Excused Absences. The lowest quiz score will be dropped. These quizzes will be 25 minute multiple choice and true false quizzes.

### **Assignments**

Assignment will include in class assignments, project drafts, and homework assignments. Some will involve using software (namely Excel, Word, and Zotero). Assignments may be in class group or individual 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 11:59 PM on the due date.

### **Project**

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

## Exams

There will be two semester exams covering the lecture content of the class and concepts from in class discussions/activities. These will be a combination of True/False, Multiple Choice, and Short Answer. There is no cumulative final.

---

| Grading Breakdown               |                 |
|---------------------------------|-----------------|
| Quizzes (5)                     | 300 pts         |
| Exams 1                         | 100 pts         |
| Exam 2                          | 100 pts         |
| Course Project and Presentation | 250 pts         |
| Assignments                     | 250 pts         |
| <b>Total</b>                    | <b>1000 pts</b> |

---

## Grading (Grades will not be rounded)

---

| 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 |    |        |

---

**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/UGRD/academic-regulations/grades-grading-policies/>

**Please bring pencil, paper, scientific calculator (for quizzes) and Laptop (for in class activities)**

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 provided articles).

**Tentative Weekly Topical Class Schedule**

| Module                            | Wk                                   | Date     | Session   |   |
|-----------------------------------|--------------------------------------|----------|---|---|
| Philosophy and Reason In Research | 1                                    | Jan - 7  | Syllabus; <b>Student Profile</b>                |   |
|                                   | 2                                    | 1        | Introduction to Research Methods                |   |
|                                   | 3                                    |          | Hypotheses and Theories                         |   |
|                                   | 1                                    | Jan - 14 | Strong Inference and Reason                     |   |
|                                   | 2                                    | 2        | Forming a Question and Hypothesis               |   |
|                                   | 3                                    |          | <b>Quiz 1</b>                                   |   |
|                                   | Evaluating and Synthesizing Research | 1        | Jan - 21  | Performing Literature Review              |
|                                   |                                      | 2        | 3   | <b>Group Work - Zotero and Lit Review</b> |
|                                   |                                      | 3        |   | Reading Literature                        |
| 1                                 |                                      | Jan - 28 | Class Paper Review                              |   |
| 2                                 |                                      | 4        | <b>Critical Review of Paper</b>                 |   |
| 3                                 |                                      |          | <b>Quiz 2</b>                                   |   |
| 1                                 |                                      | Feb - 4  | Writing and Introduction/Feedback               |   |
| 2                                 |                                      | 5        | Types of Research                               |   |
| 3                                 |                                      |          | Types of Research                               |   |
| Experimental Design               | 1                                    | Feb - 11 | Design  |   |
|                                   | 2                                    | 6        | Design  |   |
|                                   | 3                                    |          | <b>Quiz 3</b>                                   |   |
|                                   | 1                                    | Feb - 18 | Ethics  |   |
|                                   | 2                                    | 7        | Ethics  |   |
|                                   | 3                                    |          | <b>Exam 1</b>                                   |   |
|                                   | 1                                    | Feb - 25 | Validity and Control                            |   |
|                                   | 2                                    | 8        | Writing Methods                                 |   |
|                                   | 3                                    |          | <b>Group Work - Peer Review of Introduction</b> |   |
|                                   |                                      | Mar - 4  | Spring Break No Class                           |   |
|                                   |                                      |          |   |   |
|                                   |                                      |          |   |   |
| Data Analysis and Interpretation  | 1                                    | Mar - 11 | Outcomes Measures                               |   |
|                                   | 2                                    | 9        | Inferential Statistics                          |   |
|                                   | 3                                    |          | <b>Quiz 4</b>                                   |   |
|                                   | 1                                    | Mar - 18 | Inferential Statistics                          |   |

|                        |   |    |            |  |
|------------------------|---|----|------------|--|
|                        | 2 | 10 |            | <b>Excel T-test</b>                        |
|                        | 3 |    |            | Inferential Statistics                     |
|                        | 1 |    | Mar - 25   | Regression                                 |
|                        | 2 | 11 |            | Presenting Results                         |
|                        | 3 |    |            | <b>Quiz 5</b>                              |
|                        | 1 |    | April - 1  | Interpreting Results                       |
|                        | 2 | 12 |            | <b>Excel Graphing Results</b>              |
|                        | 3 |    |            | <b>Group Work - Statistics and Results</b> |
| Communicating Research | 1 |    | April - 8  | Writing Results and Addressing Limitations |
|                        | 2 | 13 |            | Review                                     |
|                        | 3 |    |            | <b>Quiz 6</b>                              |
|                        | 1 |    | April - 15 | <b>Group Presentations</b>                 |
|                        | 2 | 14 |            | <b>Group Presentations</b>                 |
|                        | 3 |    |            | <b>Group Presentations</b>                 |
|                        | 1 | 15 | April - 22 | <b>Group Presentations</b>                 |
|                        | 2 |    |            | <b>Exam 2/Project Due</b>                  |

**BOLDED items indicates an assignment or assessment**

**\*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.**