**UNIVERSITY OF PITTSBURGH**

**Department of Health and Physical Activity**

**Fall 2019**

**Updated 11/7/2019**

**HPA 1031: Research in Sports Science**

**Instructor:** Bethany Barone Gibbs, PhD

**Office:** 32 Oak Hill Ct, #220

**Class Schedule:** Tues/Thur 10:30-11:50 or 12:30-1:50 PM

**Class Location:** Trees 129

**Office Phone:** 383-4002 (Oak Hill)

**Office Hours:** by appointment

**Email:** [bbarone@pitt.edu](mailto:bbarone@pitt.edu)

**Text:** Essentials of Research Methods in Health, Physical Education, Exercise Science, and Recreation. Third Edition. Berg and Latin, Published by Wolters Kluwer (**RECOMMENDED TEXT).**

**Software:** Excel or SPSS (available for free through software download from Pitt)

**Objectives:**

* Understand the process and ethics of research
* Learn how to find, read, and interpret a scientific research article
* Understand the design, strengths, and weaknesses of different study types
* Propose, test, and report a research study question

**GRADING:**

1. **Attendance Quizzes (20%)**

Each item is worth 1 point. The lowest score will be dropped.

1. **Exams (50%)**

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|  | Description | Material Covered |
| Midterm Exam I (25%) | Multiple choice and short answer exam | Classes 1-13 |
| Midterm Exam II (25%) | Multiple choice and short answer exam | Classes 15-25 |

NOTE: students may need a calculator to take exams. Calculators on cell phones will not be permitted.

1. **Group Mini-Manuscript (20%):**  Groups will submit a revised mini-manuscript for class
2. **Group Rapid Fire Final Presentation (10%):** Groups will present findings of group mini-manuscript for class in 5-minute rapid-fire format

**Grading Scale:**

Your grade will be determined by dividing your actual points by the total number of points attainable.

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| --- | --- | --- | --- | --- | --- | --- |
| **A+** | **=** | **98-100%** |  | **C+** | **=** | **78-79.9%** |
| **A** | **=** | **92-97.9%** |  | **C** | **=** | **72-77.9%** |
| **A-** |  | **90-91.9%** |  | **C-** | **=** | **70-71.9%** |
| **B+** | **=** | **88-89.9%** |  | **D+** | **=** | **68-69.9%** |
| **B** | **=** | **82-87.9%** |  | **D** | **=** | **62-67.9%** |
| **B-** | **=** | **80-81.9%** |  | **D-** | **=** | **60-61.9%** |
|  |  |  |  | **F** | **=** | **<59.9%** |

You are expected to adhere to the University of Pittsburgh’s Policy regarding academic integrity. Any student exhibiting any form of **academic dishonesty** such as plagiarism, etc. will receive an automatic “F” for the assignment. Additionally, the student will be reported to the appropriate university officials, and it will go on file in the student’s academic record.

Use of cell phones during class will not be permitted. Please turn off your phones during the class period.

If you have a disability for which you are or may be requesting an accommodation, you are encouraged to contact both your instructor and **Disability Resources and Services, 216 William Pitt Union, (412) 648-7890 / (412) 383-7355 (TTY),** as early as possible in the term.  DRS will verify your disability and determine reasonable accommodations for this course.

Absences will be excused only with a doctor’s note, newspaper evidence of obituary, etc. Please contact Dr. Gibbs directly by email to request an excuse.

**Schedule of Classes:**

**The following course schedule is tentative and may change at the discretion of the instructor.** You are responsible for any changes made to the schedule of classes, which you will be notified of in Courseweb. Materials will be available on Courseweb preceding the next class.

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| --- | --- | --- | --- |
| Date | Topics Covered | Assigned Reading | Assignments |
| Class 1  8/27/2019 | **Introduction to Research**  **Parts of a Research Paper**  Lab 1: Basic Research Concepts | Chapter 1  Chapters 4 & 5 | Class 2 Online Lecture |
| Class 2  8/29/2019 | Attendance Quiz #1  **Research Ethics**  Lab 2: Case Studies in Research Ethics | Chapter 2 | Class 3 Online Lecture |
| Class 3  9/3/2019 | Attendance Quiz #2  **Measurement in Research I**  Lab 3: Measuring Physical Activity | Chapter 13 | Class 4 Online Lecture |
| Class 4  9/5/2019 | Attendance Quiz #3  **Basic Statistical Concepts and Measurement in Research II (Statistics)**  Lab 4: Statistics used to test Validity and Reliability | Chapter 7, 8, 9 | Lab Assignment 5 (article and questions) |
| Class 5  9/10/2019 | Attendance Quiz #4  **Measurement in Research III**  Lab 5: Measurement Article Review  ‘Reliability and Accuracy of a Standardized Shallow Water Running Test to Determine Cardiorespiratory Fitness.’ Nagle, e.t. al., 2017 |  | Class 6 Online Lecture |
| Class 6  9/12/2019 | Attendance Quiz #5  **Surveys Research I**  Lab 6: Survey Research Statistics  Sampling and Population Statistics | Chapter 16, p. 229-239  Chapter 10, p. 133-135 | Lab Assignment 7 (article and questions) |
| Class 7  9/17/2019 | Attendance Quiz #6  **Survey Research II**  Lab 7: Survey Research Article  ‘Trends in Meeting Physical Activity Guidelines Among Urban and Rural Dwelling Adults’ Whitfield et. al., 2019 |  | Class 8 Online Lecture |
| Class 8  9/19/2019 | Attendance Quiz #7  **Finding Research Articles**  Lab 8: Literature Search |  | Find Survey Instrument for Class |
| Class 9  9/24/2019 | Attendance Quiz #8  (turn in hard copy of your survey)  **Survey Research III**  Lab 9: Group Survey Defense |  | Class 9 Online Lecture |
| Class 10  9/26/2019 | Attendance Quiz #9  **Epidemiological Research I**  Lab 10: Inferring Cause and Effect from Epidemiological Study Designs | Chapter 16, p. 239-243 | Class 10 Online Lecture |
| Class 11  10/1/2019 | Attendance Quiz #10  **Relationships and Predictions**  Lab 11: Correlations and Linear Regression | Chapter 10 | Lab assignment 12 (read article and questions) |
| Class 12  10/3/2019 | Attendance Quiz #11  **Epidemiological Research II**  Lab 12: Epidemiological Study Article  ‘Sedentary Time, Physical Activity, and Adiposity’ Barone Gibbs, et. al. 2017. |  |  |
| Class 13  10/8/2019 | **Midterm Review** |  |  |
| Class 14  10/10/2019 | Class 14  **Midterm I** |  | Class 15 Online Lecture |
| Class 15  10/15/2019 | Attendance Quiz #12  **Experimental Research I**  Lab 14: Internal/External Validity  Chapter 14, exercise 2 | Chapter 14 | Class 16 Online Lecture |
| Class 16  10/17/2019 | Attendance Quiz #13  **Group Comparisons**  Lab 15: Group Comparisons  Chapter 11, exercises 1, 2, and 7 | Chapter 11 | Class 17 Online Lecture |
| Class 17  10/22/2019 | Attendance Quiz #14  **Experimental Research II**  Lab 16: Strengths and Weaknesses of Experimental Designs  Chapter 15, exercise 2 | Chapter 15 | Lab assignment 17 (read article and questions) |
| Class 18  10/24/2019 | Attendance Quiz #15  **Experimental Research III**  Lab 17: Randomized Crossover Study Article  ‘Energy Expenditure in Vinyasa Yoga vs. Walking’ Sherman et. al., 2017. |  | Lab assignment 18 (read article and questions) |
| Class 19  10/29/2019 | Attendance Quiz #16  **Experimental Research IV**  Lab 18: Randomized, Controlled Trial Article  ‘The Effect of Exercise Training on Obstructive Sleep Apnea and Sleep Quality’ Kline 2011 |  |  |
| Class 20  10/31/2019 | Attendance (sign in)  **Designing a Research Study**  Lab 19: Writing your Mini Manuscript – Introduction and Methods | Chapter 18 and 19 |  |
| Class 21  11/5/2019 | Attendance (sign in)  **Performing and Reporting a Research Study**  Lab 20: Writing your Mini Manuscript – Results and Discussion | Chapters 18 and 19 | Class 22 Online Lecture |
| Class 22  11/7/2019 | Attendance Quiz #19  **Systematic Review & Meta-analysis**  Lab 21: Interpreting Quality and Results of a Meta-analysis |  | Lab assignment 23 (read article and questions) |
| Class 23  11/12/2019 | Attendance Quiz #20  **Systematic Review & Meta-analysis II**  Lab 22: Meta-analysis Article Review  ‘Impact of Resistance Training on Blood Pressure and Other Cardiovascular Risk Factors’ by Cornelissen, et. al. (2010). |  |  |
| Class 24  11/14/2019 | Group Time with Dr. Gibbs to complete Mini Manuscript |  |  |
| Class 25  11/19/2019 | **Midterm II Review** |  | Mini-manuscript due today in class |
| Class 26  11/21/2019 | **Midterm** |  |  |
| Thanksgiving Break | | | |
| Class 27  12/3/2019 | Group Meetings with Dr. Gibbs  Prep time for Presentations |  |  |
| Class 28  12/5/2019 | Group Rapid Fire Presentations |  |  |
| Final Report Due by 5PM  12/10/2019 | | | |