



**The University of Texas at El Paso**  
 College of Health Sciences  
 Department of Kinesiology  
**Course: KIN 5372; Advanced Exercise Physiology**  
**Fall 2019**



**INSTRUCTOR:** Sudip Bajpeyi, PhD  
**CLASS TIME:** Monday 3:30 PM – 6:20PM (HSSN 136)  
**OFFICE HOURS:** Email to make an appointment  
 Sudip Bajpeyi, PhD; (HSSN 445); 915-747-5461;  
[sbajpeyi@utep.edu](mailto:sbajpeyi@utep.edu)

**IMPORTANT DEADLINES:**

**Required**

- Research topic for presentation and paper (Blackboard): 8/30/19
- Literature Review Template (Google doc shared on Blackboard): 9/03/19
- Learning Objectives/Questions: 5 PM – Two (2) days before your scheduled presentation.
- Uploading Presentation on Blackboard: 10 AM – The day of your presentation
- Research Paper: 11/26/19
- Peer critique: 12/02/10 (11/25/19 if student meets the early submission deadline)

**Optional:**

- 9/27/17: Writing sample for research paper (a paragraph/page, on blackboard)
- 11/18/17: **Near final** draft of research paper

**COURSE OBJECTIVE:** The objective of the course will be to review the basics of muscle, cardiovascular and endocrine physiology and study the physiological adaptations to acute and chronic exercise training and diet. We will apply this knowledge to explore areas such as athletic performance, weight management, metabolic diseases, aging etc. throughout the semester.

**COURSE TEXT:** McArdle, WD, FI Katch, and VL Katch. Exercise Physiology: Energy, Nutrition, and Human Performance. Philadelphia: Lea & Febiger. Eighth Edition.

**EVALUATION OF STUDENTS**

**GRADING SCALE**

Quizzes	10%	A = 90-100%
Exam #1	15%	B = 80-89.9%
Exam #2	15%	C = 70-79.9%
Exam #3	15%	D = 60-69.9%
Research Assignment	45%	F = below 60%

- *Presentation* 15%
- *Literature Review (summary template)* 05%
- *Paper* 15%
- *Peer Critique* 10%

## EXAMS AND QUIZZES

You will be tested on the materials presented in the class in the form of lectures, journal articles, student presentations and discussions in class. Each student **MUST** complete quizzes and exams during the designated class period. Students will not be allowed to make-up a missed quiz or test without prior arrangement made in case of emergency. Quizzes will be given unannounced throughout the semester. If you come late/leave early – you will not be allowed to make up for the quiz.

## INSTRUCTIONS FOR RESEARCH PRESENTATION (150 points)

Each student will perform a presentation lasting a minimum of 30-minutes on the topic chosen. All students are expected to participate in discussion and give feedback after the presentation. Your presentation should include **at least 12 key original articles** relevant to your topic (you are expected to do a thorough literature search). The goal of your presentation is to discuss relevant original articles to make evidence based summary/conclusion. You are responsible for creating your presentation. Presentations should include the following:

1. **Introduction and Rationale:** General overview about the topic, relevant background information, and terminologies. Relevant body of scientific literature should lead to the research question (and sub questions you may synthesize). You will be evaluated for your ability to clearly communicate the abovementioned leading to formation of research questions in a logical/rational manner **(20 points)**
2. **Review of literature and ability to present in an organized sequence:** You will primarily discuss the data from original scientific articles to answer your research question(s). In addition to be able to clearly present the data from the article you have chosen, you will be evaluated for your critical thinking ability, ability to develop research questions (sub-questions) in a logical manner and answer them through a thorough literature review. Presentation of the data should be done in an organized meaningful sequence to clearly answer the research questions rather than presentation of each study in a discrete manner. Presenter(s) are welcome to discuss study design and methods briefly when relevant – but emphasis should be given to demonstration of your thorough understanding about the topic and critical thinking ability. Please make sure that your presentation is based on using scientific sources of evidence. Be able to clearly discuss data from tables/figures directly from the articles without any modifications **(60 points)**
3. **Summary/Conclusion:** Your summary/conclusion should be based on the scientific data you have presented. You will be evaluated for your ability to make rational conclusion (or lack of) that can be drawn directly from the data you have presented. Critique any methods/results to validate your position on this topic. You are also expected to communicate the practical implications from the conclusion you made. **(20 points)**
4. **Relevance** of the materials chosen: You are expected to choose your articles carefully to demonstrate your ability to do a thorough literature search and present the most relevant materials to the class. **(10 points)**
5. **Audiovisual materials/Slides:** Clarity and appropriate use of figures, tables, references etc. **(10 points)**
6. **Ability to answer questions:** Your ability to communicate with your audience throughout and after your presentation. A thorough understanding in your topic is

expected (10 points)

7. **Learning Objectives/Test Question quality and on time submission (*due 5pm two days before your scheduled presentation*)**: You will be required to prepare at least 10 questions from your chosen topic for the class. Your test questions should be in line with overall learning outcome of your topic/presentation. You will be graded for the quality of your test questions (and answer key), whether you submitted those questions before deadline and whether you were able to clearly indicate the answer of those questions during presentations. You are strongly advised to start preparing learning objective questions from the beginning of the semester to ensure the quality of each learning objectives/questions (you may also receive feedback from peers/instructor if you do so). Putting together this section a week before the presentation is discouraged (20 points)

*p.s. Student generated questions are subject to review by professor and does not guarantee to be used on the exam.*

### **LITERATURE SUMMARY TABLE (50 points)**

Your literature summary table should clearly communicate the main study finding from research article and provide as a guide to the students to easily understand the main point of each article. After you submit a basic summary table, you are welcome to edit it further as you see fit until the deadline (*due 5pm two days before your scheduled presentation*)

### **RESEARCH PAPER**

The research paper will test your ability to gather pertinent information about a topic of your choice (relevant to course description) and then express your interpretation on paper. All papers must be typed, single-spaced using either times new roman 12pt or Arial 11pt font. The paper should contain a title page, a brief statement of your position on the topic, a review of literature that supports your view, a review of literature that is against your view (depending on topic), conclusions, and bibliography. Recommended length for the paper is 8-10 pages of text (not including cover page, tables, figures, and references). You are encouraged to focus on concise scientific writing following the format of published review articles (will be further discussed when you bring your writing sample to class). The paper should be structured in a clear and logical format using headings and subheadings to separate subject matter. You are required to use a **minimum of 12 scientific original journal articles** (Primary Sources) directly related to your topic. ALL references must be properly cited in the text and in the references section. References should be formatted according to the style outlined by the American Psychological Association (APA) or relevant journals such as Diabetes, JCEM etc. **using endnote is acceptable and recommended.** Check course outline for deadlines on paper presentation and submission. This paper should be an original work and **MUST NOT** overlap or replicate any other papers or assignments from other courses. **RESEARCH PAPERS WILL NOT BE ACCEPTED AFTER THE DUE DATES.**

**Near final draft of research paper (optional)** is due *~2 weeks* before the final draft submission deadline. A “near final version” is encouraged from students in order to help with meaningful feedback from peer and instructor that should be incorporated in final version of your research paper.

## **Rubric For Research Paper (150 points)**

Research paper should follow the general structure of a review article. Few examples of the review articles will be shared as example.

- 1. Introduction** – Relevant background information leading to the purpose of the research question/topic. You should discuss the basic relevant concepts. You are required to cite relevant scientific literature (not the textbook theories) **(20 points)**
- 2. Review of Literature (70 points) and making rational, evidence-based conclusions (30 points)** – *(Please Note: Depending on the writing style you choose to follow you can incorporate both of these components together in your writing or keep these sections separated. For most papers, summary/conclusions of the sub topics are done immediately after discussing the literature pertinent to a sub-topic (see examples on blackboard))*

**Review of Literature:** You will be evaluated for your ability to review the literature relevant to your research question. Depending on the topic you have chosen and sub topics you have synthesized, you are required to discuss relevant data from original research articles in a logical manner leading to a better understanding of the research topic/question. You will be evaluated for your ability to thoroughly discuss the literature, critically analyze the literature to make clear evidence-based conclusions. You are strongly encouraged to organize your paper with relevant sub-headers to focus on answering specific questions and make logical conclusion(s) leading to answering the main research question. This section should not be written in a sequential discussion from each paper you have selected. **(70 points)**

**Ability to make rational evidence-based conclusions** – You will be evaluated for your ability to summarize the data you discussed to make a logical conclusion. You should discuss the reasons you take a position in certain direction. For example, if your literature search reveals contradictory results on a certain topic, you should discuss why you are supporting/opposing/cannot make a decision based on the literature you have reviewed. You will be evaluated for your critical thinking and ability to write in a logical manner to establish your argument in support of/against the scientific question you are addressing. You are strongly encouraged to follow the structure of the review papers shared as examples **(30 points)**.

- 3. Overall conclusion/practical implications:** Based on the literature and your critique on presented literature, make overall conclusion and briefly discuss the practical implication in clear, easy to understand language (big picture) **(15 points)**
- 4. Relevance of references** - Rather than the number of articles cited, grading will focus on relevance, accuracy, format and thoroughness of referencing **(15 points)**

## **Instructions For Peer Critique (100 points)**

Each student will critique a research paper, submitted by your fellow classmate. You are expected to grade the paper following the same rubric that will be used to grade the presentation by the instructor. *Critique is **due within a week of research paper submission** (you are expected to work on the first draft of the paper depending on whether the student consider this a “near final” version).* Your grade for critique will be

based on your thoroughness and constructive criticism/feedback relevant to the topic of the presentation.

#### **NOTE:**

- Each student **MUST** take all exams.
- Each exam **MUST** be taken at the designated time unless arrangements are made in advance.
- Each student will review the scientific literature and write a research paper focusing on relevant areas of Exercise Physiology. ***A topic must be selected by the student and approved by the instructor before the August 28, 2018 (see course outline).*** Additionally, each student will give an oral presentation of his or her paper.

#### **SCHOLASTIC HONESTY AND DISCIPLINE**

"Scholastic dishonesty--which includes the attempt of any student to present the work of another as his or her own, or any work which s(he) has not honestly performed, or attempting to pass any examination by improper means is a serious offense and will subject the student to disciplinary action. The aiding and abetting of a student in any dishonesty is held to be an equally serious offense. All alleged acts of scholastic dishonesty will be reported to the Dean of Students for disposition. It is the Dean of Students' responsibility to investigate each allegation, dismiss the allegation, or proceed with disciplinary action in a manner, which provides the accused student his or her rights of due process.

#### **PROFESSIONAL CONDUCT**

During this course you will be expected to deal with your subject area, your colleagues, and yourself as a professional. You are expected to approach learning with offensive strategies rather than with defense and evasion. Demonstrate pride in your chosen profession through both your actions and your attitude. This includes being on time for class, be respectful during the class and coming to class prepared. **Attendance is expected. Contact the instructor if you are going to miss a class.**

**NOTE:** The Kinesiology Program seeks to provide reasonable accommodations for all qualified individuals with disabilities with respect to equal educational opportunities. It is the student's responsibility to present proper documentation to the faculty member in a timely manner in order to arrange for appropriate accommodations.

#### **ADDITIONAL COURSE INFORMATION**

This course focuses on advanced concepts of exercise physiology. The level of presentation of this course necessitates a current understanding of the physiological concepts presented in other courses. You are **expected** to have a basic understanding of exercise physiology and to have reviewed outside material **before** lecture to enhance your comprehension of these concepts. For each hour spent in class, expect to spend **a minimum of three hours** reading and reviewing your course materials.

#### **HOW TO REFERENCE**

**Endnote/Reference manager - Contact library in advance if you need help.**

**KIN 5372 - TENTATIVE SCHEDULE** (Subject to change)

<b>Week</b>	<b>Topic</b>
<b>Week 1</b> <b>08/26</b>	Introduction, goals, and objectives; course requirements. <i>Scientific literature search; Research topic selection; Begin review of literature</i>
<b>08/30</b>	<i>Finalize research topic (make sure you have enough articles for your topic)</i>
<b>09/02</b>	<i>Labor Day – No Class</i>
<b>09/03</b>	<i>Last day to submit Literature Summary Template Table for feedback.</i>
<b>Week 2</b> <b>09/09</b>	Energy Metabolism – Bioenergetics I <i>4 relevant articles due with updated literature summary table, work on research paper and presentation</i>
<b>Week 3</b> <b>09/16</b>	Energy Metabolism – Bioenergetics II <i>4 more relevant articles due with updated literature Summary table work on research paper and presentation</i>
<b>Week 4</b> <b>09/23</b>	Skeletal Muscle <i>4 more relevant articles due with updated literature Summary table work on research paper and presentation</i>
<b>Week 5</b> <b>09/30</b>	<b>Exam #1</b> Lipid Metabolism, exercise prescription, <i>Continue submitting any more relevant articles (as needed) and update literature Summary table; You should have a clear outline of your paper by now</i>
<b>10/04</b>	<i>Writing sample due (blackboard). This will be distributed with your peers for critique</i>
<b>Week 6</b> <b>10/07</b>	Exercise Prescription, Cardiovascular Physiology <i>Peer Critique – Bring your laptop/notebook.</i>
<b>Week 7</b> <b>10/14</b>	Intramyocellular Lipid, Oxidative Capacity and Insulin Sensitivity <i>Use the feedback you have received in previous class significantly improve your paper. You should have a solid draft of your paper at this point.</i>
<b>Week 8</b> <b>10/21</b>	<b>Exam #2</b> Advanced Topics in Exercise Physiology
<b>Week 9</b> <b>10/28</b>	Advanced Topics in Exercise Physiology <i>Continue working on research paper; Student Presentations 1, 2, and 3</i>
<b>11/01</b>	<i>Course Drop Deadline</i>
<b>11/04</b>	<i>Near Final Draft of Research Paper Due (optional) – Submit via blackboard</i>
<b>Week 10</b> <b>11/04</b>	Advanced Topics in Exercise Physiology <i>Group Writing Assignment; practice session</i>
<b>Week 11</b> <b>11/11</b>	Advanced topic in Exercise Physiology <b>Research Paper Due (optional) – if submitted, it will be sent for peer critique)</b> <i>Student Presentations 4, 5, and 6</i>
<b>11/12</b>	<i>Peer feedback on the near final research paper draft due (if a near final draft was submitted) – Submit via email.</i>
<b>Week 12</b> <b>11/18</b>	Advanced topic in Exercise Physiology <i>Student Presentations 7, 8, and 9</i>
<b>Week 13</b> <b>11/25</b>	Advanced topic in Exercise Physiology <b>Research Paper Due; Student Presentations 10 and TBA</b>
<b>Week 14</b> <b>12/02</b>	<b>Exam #3</b> <b>Peer Critique Due; Student Presentations/TBA</b>
<b>Week 15</b> <b>12/09-13</b>	<b>TBA</b>