HHPK 451
Topics in Health and Exercise Science
TBA
Spring 2013

Instructor: Stacy H. Bishop, PhD, CSCS
Office: Field House, Room 006
Phone: (903) 886-5556
Email: Stacy.Bishop@tamuc.edu
Office Hours: Mon-Thurs – 2:00-5:00 by appointment
Friday by appointment only

Course Description:
The purpose of this course is to introduce students to advanced topics in exercise science. These topics may include biomechanics, exercise physiology, and motor learning/motor development. Students may also be asked to compare and contrast the human performance programs (undergraduate and graduate) at Texas A&M University-Commerce to that of another University System school.

Course Objectives: The student will…….

1. Develop knowledge and understanding of various research and writing in the areas or exercise science.
2. Be able to critically evaluate scientific literature.
3. Be able to communicate research design, results and ideas to a general public.
4. Develop the ability to write a critical review of researched topics.
5. Develop an understanding and awareness of the impact that exercise and health may have on the body.
6. Gain the opportunity to engage in meaningful dialogue concerning exercise and health-related issues and the impact that this body of research may have on the individual and society.
7. Develop knowledge and understanding concerned with the assessment of undergraduate and graduate programs within the Texas A&M System of schools

Class Procedures:
The class will be taught as an independent study course, in that much of the work will be done outside of the classroom. Students are required to work independently and to adhere to the posted schedule for turning in assignments. Students will be required to meet with the instructor once a month to discuss topics which have been researched and to determine progress.
**Class Attendance and Participation:**
The course is taught as an independent study class, in that some of the content will be discovered outside of the classroom. However, class will meet in the classroom for the majority of meetings. Attendance to these classroom sessions and individual meetings is MANDATORY. Excused absences must be accompanied with proper documentation and approved by the instructor, and The information gathered during outside research will be shared during class time, where the instructor will help guide and answer questions for future and continued research. Students will be required to meet with the instructor several times during the semester to discuss and present topics relevant to the course. A 15-20 minute presentation of the summation of their work will be made at the end of the semester. Dress for the presentation will be business casual.

**Assignments:**
- **Reading:** The student will read and critique approximately 12-20 articles which will cover topics in exercise science. The purpose of this is to create a literature review on a topic of interest for the student. *(A list of potential topics is attached.)*
- **A summation presentation will be made at the end of the semester. Dress is business casual (15-20 minutes)*
- **There will also be chapter reviews written and discussed during class of the supplemental reading material.**
- **The written critique of selected topics should not be no less than one and one-half pages. A hard copy of each of the assignments should be handed in personally, with the corresponding article e-mailed to the instructor by the due date listed on the course syllabus (double-spaced with a font size of 12 in either "Times New Roman" or "Calibri"). Each assignment should be properly cited, at the top of the page as seen in the example presented in class. The total point value for each assignment shall be 100 points. Papers may lose points due to grammatical errors and sentence/paragraph structure.**
- **The student will meet with the instructor on the days specified in the course syllabus (please see the course schedule). Meetings with the instructor shall last no more than 30 minutes.**

**Exams:**
There are no exams scheduled for this course. **The student will be required to turn in an e-mail version as well as a bound copy of their literature review, typed and in the proper format, with all materials gathered over the course of the semester (i.e. a copy of the articles and the critical review which corresponding to each article).**

**Academic Honesty**
At all times students are expected to complete work independently. Ideas and writings from others should be properly referenced. If you are not sure how to do this, it is your responsibility to learn how by consulting **APA guidelines** or the instructor. Instances of plagiarism that are discovered will result in a failing grade on the given assignment. More severe cases will be referred to the Head of the Department or the Dean of the College of Education and Human Services and may result in a failing grade for the course.
**General Information:**

*Students requesting accommodations for disabilities are encouraged to contact the Office of Student Disability Resources and Services.* The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. **For more information, please contact the Coordinator of Student Disability Resources and Services, Gee Library, Room 132, (903) 886-5150 or (903) 886-5835.**

“All students enrolled at the University shall follow the tenets of common decency and acceptable behavior conducive to a positive learning environment.” (See Student’s Guide Handbook, Policies and Procedures, Conduct)

**Tentative Course Calendar Spring 2014:** *(subject to modification)*

<table>
<thead>
<tr>
<th>ASSIGNMENT</th>
<th>READINGS</th>
<th>DUE DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction, Course Syllabus</td>
<td></td>
<td>Week 1</td>
</tr>
<tr>
<td>Assignment #1</td>
<td>Picking your topics; how to analyze peer-reviewed literature/write</td>
<td>Week 2</td>
</tr>
<tr>
<td>Assignment #2</td>
<td>Topics selected; first article review due</td>
<td>Week 2</td>
</tr>
<tr>
<td>Assignment #3</td>
<td>Article review, Special Topic 1</td>
<td>Week 3</td>
</tr>
<tr>
<td>Assignment #4</td>
<td>Article review, Special Topic 2</td>
<td>Week 3</td>
</tr>
<tr>
<td><strong>Finalize Topics! How to write a literature review. Individual meetings (as necessary)</strong></td>
<td></td>
<td>Week 4</td>
</tr>
<tr>
<td>Assignment #5</td>
<td>Article review, Special Topic 3</td>
<td>Week 5</td>
</tr>
<tr>
<td>Assignment #6</td>
<td>Article review, Special Topic 3</td>
<td>Week 5</td>
</tr>
<tr>
<td>Assignment #7</td>
<td>Article review, Special Topic 4</td>
<td>Week 6</td>
</tr>
<tr>
<td>Assignment #8</td>
<td>Article review, Special Topic 4</td>
<td>Week 6</td>
</tr>
<tr>
<td><strong>Individual meetings as necessary, 7 week review of progress.</strong></td>
<td></td>
<td>Week 7</td>
</tr>
<tr>
<td>Assignment #9</td>
<td>Article review, Part I Becoming Batman</td>
<td>Week 8</td>
</tr>
<tr>
<td>Assignment #10</td>
<td>Article review Part II Becoming Batman</td>
<td>Week 8</td>
</tr>
<tr>
<td>Assignment #11</td>
<td>Article review Part II Becoming Batman</td>
<td>Week 9</td>
</tr>
<tr>
<td>Assignment #12</td>
<td>Article review Part III Becoming Batman</td>
<td>Week 9</td>
</tr>
<tr>
<td><strong>Article Review; Lit review update, Part III of Becoming Batman</strong></td>
<td></td>
<td>Week 10</td>
</tr>
<tr>
<td>Assignment #13</td>
<td>Article review, Part IV of Becoming Batman</td>
<td>Week 11</td>
</tr>
<tr>
<td>Assignment #14</td>
<td>Article review, Part IV of Becoming Batman</td>
<td>Week 11</td>
</tr>
<tr>
<td>Assignment #15</td>
<td>Article review, Part V of Becoming Batman</td>
<td>Week 12</td>
</tr>
</tbody>
</table>
Assignment #16 Article review, Part V of Becoming Batman | Week 12
---|---
**Final update with instructor on Literature Review** | **Week 13**
Assignment #17 Article review, Presentations | Week 14
Assignment #18 Presentations | Week 14
Assignment #19 Presentations | Week 15
Assignment #20 Presentations | Week 15
**Finalize Literature Review. Meet with Instructor during this week** | **Week 16**

**ALL WRITTEN ASSIGNMENTS ARE EXPECTED TO BE SUBMITTED BY 5:00PM ON THE DUE-DATE LISTED ABOVE. STUDENTS MAY TURN IN ASSIGNMENTS EARLY; BUT LATE WORK WILL NOT BE ACCEPTED.**

**Grading:**
Written review of articles = 50%  
Presentation = 15%  
Chapter write-up and discussion = 25%  
Discussions with Instructor = 10%  
Total = 100%

*If you drop the class, and you are not passing the course, the grade assigned will be Dropped Failing.*

**Required Textbook:**

We will also reference Exercise Physiology textbooks used during HHPK 450 throughout the course. The majority of the information used will come from peer-reviewed literature selected from exercise-related journals.
SPECIAL TOPICS

You are not limited to these topics, but outside topics of interest must be cleared by the instructor first.

1. * Compare and contrast the undergraduate program in human performance at Texas A&M University-Commerce to two other schools within the Texas A&M University System  (Assignment #1)
2. * Compare and contrast the graduate program in human performance at Texas A&M University-Commerce to at least two other schools within the Texas A&M University System  (Assignment #2)
3. Weight-loss methods among high school students and the effect on health and fitness
4. The relationships between physical activity and other health-related behaviors
5. Induced metabolic acidosis: The biochemistry of exercise
6. Physical activity assessments for health-related research
7. Dose-response issues concerning physical activity and health
8. Women and Exercise: What are the effects? (positive/negative)
9. Cancer survivors and exercise
10. The male reproductive system and endurance exercise
11. The use of exercise and the primary prevention against chronic diseases
12. Hormonal alterations in men and women due to exercise
13. The effects of exercise and body composition and functional capacity of the elderly
14. Fitness effects on the cognitive function of older adults
15. Aerobic exercise training and AIDS research
16. The use of the Wii-Fit Program to aid the physical and cognitive function among senior citizens
17. The effect of exercise on Autistic children
18. The use of physical activity as a tool to treat Attention Deficit Disorder
19. The Effects of Moderate Exercise on Metabolic Responses and the Respiratory Exchange Ratio (RER)
20. An examination of effective, physiologically appropriate, sports activities for childhood development.
21. The advantages and disadvantages of exercising while pregnant
22. The effects of exercise on bone density
23. The effects of exercise on the brain
24. Muscle strengthening exercises and multiple sclerosis
25. The effects of physical activity on reducing the risk of heart disease
26. The effects of interval training versus steady training
27. The effects of Viagra on the performance and physiology of muscles in a weight-lifting program
28. Exercise and the negative effects of smoking, alcohol and performance enhancing steroids
29. Physiological effects and risk-benefit ratio of growth hormones and exercise on the muscles, bones, fat and testosterone in elderly males
30. The Physiological & psychological effects of caffeine on athletic performance
31. The physiological aspects of the relationship between stress and obesity
32. The effects of a deficiency in protein intake requirements among male and female athletes
33. The impact of Creatine use on heat-related deaths in sports
34. The effects of age and exercise on short term maximal performance
35. Gender Differences in Endurance Performance and Training
36. Understanding the Lactate Threshold
37. Myocardial Adaptations to Training
38. Understanding Maximal Oxygen Consumption (VO₂max)
39. Does skeletal muscle fiber-type change with training?
40. The Effects of High Intensity Interval Training on Heart Rate Variability in Individuals with Type 2 Diabetes
41. Motivation and Barriers to Exercise Among College Students
42. Aerobic Dance: Health and Fitness Effects in Middle-Aged Premenopausal Women
43. Comparison of a commercial weight loss program to a fitness center
44. The physiological importance of preferred stride frequency during running at different speeds
45. Variations of preseason conditioning on volleyball performance
46. Effects of High-Intensity Interval Training on Heart Rate Variability During Exercise
47. Assessment of Anaerobic Power in Female Division I Collegiate Basketball Players
48. Effect of Exercise on Blood Volume
49. Ultrastructural Modification of Human Skeletal Muscle Tissue with 6-Month Moderate-Intensity Exercise Training
50. Genetically Modified Athletes: Biomedical Ethics, Gene Doping, and sport
51. A Closed-Loop Theory of Motor Learning

**Written review of the articles: (Use your own words) …..** *Double-spaced*

- Discuss the significance of article ….. *(20 pts.)*
- Discuss methods…… *(20 pts.)*
- List the results ….. *(20 pts.)*
- What is your personal reaction to the paper ….. *(20 pts.)*

1.5 (minimum) – 2 pages (can be more, but not necessary)