I. Course Description:

A review of various disciplines that underlie and constitute the basis of exercise science. Additionally, the application of these areas of study will be applied to and discussed in relation to actual physical education and athletic experiences. Prerequisites: N/A.

The goal of this course will be to link the theory of sports performance to the actual application by bridging the gap between research findings to best practices in the field.

KINE 5352 “Scientific Basis of Sport” (3 credits) meets one time each week in 150-minute segments for 15 weeks. Students have significant weekly reading assignments, take regular reading quizzes, compile a comprehensive review of literature and prepare a comprehensive in class presentation.

II. Intended Learning Outcomes/Goals/Objectives (Program/Student Learning Outcomes):

This course links with COE goal #1: Provide programs/course based on sound clinical practice/research.
This course links with COE goal #2: Prepare leaders and industry professionals.
This course links with COE goal #4: Provide a variety of teaching venues incorporating the latest technologies to a range of diverse student interests, backgrounds, and aspirations.
This course links with COE goal #8: Conduct research to advance knowledge and to contribute to the common good.

Program Learning Outcomes:

1. The student will be able to demonstrate the ability to read and make critical analysis of original research.
2. The student will demonstrate advanced knowledge of anatomical, physiological, psychological and developmental aspects of physical activity as it relates to human well-being and issues of exercise and sport performance.
3. The student will be able to demonstrate an understanding of a variety of research methods employed in the subdisciplines in Kinesiology.
4. The student will demonstrate the ability to apply their Kinesiology-related knowledge and skills to think critically and ethically in examining issues and solving problems associated with their chosen subdiscipline.

Student Learning Outcomes:

Upon successful completion of this course the student will be able to:
1. Develop a knowledge and understanding of sports performance (PLO#1.4)
2. Locate and evaluate relevant, current peer-reviewed research in sport performance (PLO#1-3)
3. Explore research questions, interventions and methodologies in sport performance (PLO#1.3-4)
4. Present findings and application of sport performance concepts and interventions (PLO#1-4)

III. Course Assignments, Activities, Instructional Strategies, use of Technology:

Students will select from a list of approved sports performance topics. Students may choose a topic from outside the pre-approved list with prior permission from the instructor. Students will be responsible for putting together a thorough literature review on the topic and deliver an oral presentation. There will be quizzes over assigned readings. There will be two exams during the semester over content covered in the course.

IV. Evaluation and Assessments (Grading):

<table>
<thead>
<tr>
<th>Evaluation Criteria</th>
<th>Points</th>
<th>Grading Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quizzes</td>
<td>100 points</td>
<td>A ≥ 90%</td>
</tr>
<tr>
<td>Presentation</td>
<td>100 points</td>
<td>B = 80-89%</td>
</tr>
<tr>
<td>Participation</td>
<td>100 points</td>
<td>C = 70-79%</td>
</tr>
<tr>
<td>Exams</td>
<td>100 points</td>
<td>D = 60-69%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>400 points</strong></td>
<td></td>
</tr>
</tbody>
</table>
Potential Sports Performance Topics

1. Neuromuscular Adaptations
2. Muscle Protein Synthesis
3. Endocrine Responses to Exercise
4. Lactic Acid Controversy/Lactate Threshold
5. Performance Determinants: Endurance Exercise
6. Performance Determinants: Power/Speed Athlete
7. Immune System and Exercise
8. Principles of Training
9. Warm-Up
10. Flexibility/Mobility/Stability
11. Recovery
12. Performance Testing: Power/Speed Athlete
13. Performance Testing: Endurance Athlete
14. Resistance Training
15. Speed/Agility Training
16. Power Training
17. Endurance Training
18. Anaerobic Conditioning
19. Concurrent Training
20. Periodization
21. Peaking
22. Hydration
23. Heat
24. Cold
25. Altitude
26. Overtraining
27. Sudden Death
28. Cheating in Sport
29. Gender in Sport
30. Supplementation

V. Tentative Course Outline/Calendar: (subject to change, all changes will be announced on D2L)

<table>
<thead>
<tr>
<th>Week</th>
<th>Date</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>01/23</td>
<td>Course Introduction</td>
</tr>
<tr>
<td>2</td>
<td>01/30</td>
<td>The Sports Gene: Chapters 1-3, Class Discussion, Supplemental Reading, Reading Quiz 1</td>
</tr>
<tr>
<td>3</td>
<td>02/06</td>
<td>The Sports Gene: Chapters 4-6, Class Discussion, Supplemental Reading, Reading Quiz 2</td>
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<tr>
<td>4</td>
<td>02/13</td>
<td>The Sports Gene: Chapters 7-10, Class Discussion, Supplemental Reading, Reading Quiz 3, and 4</td>
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<tr>
<td>5</td>
<td>02/20</td>
<td>The Sports Gene: Chapters 11-13, Class Discussion, Supplemental Reading, Reading Quiz 5</td>
</tr>
<tr>
<td>6</td>
<td>02/27</td>
<td>The Sports Gene: Chapters 14-Epi, Class Discussion, Supplemental Reading, Reading Quiz 6</td>
</tr>
<tr>
<td>7</td>
<td>03/05</td>
<td>Exam 1 open ended comprehensive exam style questions</td>
</tr>
</tbody>
</table>

Spring Break – 03/11-03/15

8    | 03/19   | Endure: Chapters 1-4, Class Discussion, Supplemental Reading, Reading Quiz 7 |
9    | 03/26   | Endure: Chapters 5-7, Class Discussion, Supplemental Reading, Reading Quiz 8 |
10   | 04/02   | Endure: Chapters 8-10, Class Discussion, Supplemental Reading, Reading Quiz 9 |
11   | 04/09   | Endure: Chapters 11-13, Class Discussion, Supplemental Reading, Reading Quiz 10 |
12   | 04/16   | Oral Presentations                                                    |
13   | 04/23   | Oral presentations                                                   |
14   | 04/30   | Oral presentations                                                   |
15   | 05/07   | Exam 2 open ended comprehensive exam style questions                  |

VI. Readings (Required and recommended—including texts, websites, articles, etc.):

2. Endure: Mind, Body, and the Curiously Elastic Limits of Human Performance by Alex Hutchinson.
3. Readings, including peer-reviewed research, will be assigned during the semester.
VII. Course Evaluations: Near the conclusion of each semester, students in the College of Education electronically evaluate courses (the teaching itself and the content/assignments) taken within the COE. Evaluation data is used for a variety of important purposes including:

1. Course and program improvement, planning, and accreditation.
2. Instruction evaluation purposes.
3. Making decisions on faculty (full-time and part-time) annual evaluation processes, tenure, promotion, pay, and retention.

As you evaluate this course, please be thoughtful, thorough, and accurate in completing the evaluation. Please know that the PCOE faculty is committed to excellence in teaching and continued improvement.

In the Perkins College of Education, the course evaluation process has been simplified and is completed electronically through MySFA. Although the instructor will be able to view the names of students who complete the survey, all ratings and comments are confidential and anonymous, and summarized data will not be available to the instructor until after final grades are posted.

VIII. Student Ethics and Other Policy Information:

https://www.sfasu.edu/acadaffairs/curriculum/student-syllabus-resources

IX: Resources

On-campus Resources:

- The Dean of Students Office (Rusk Building, 3rd floor lobby), www.sfasu.edu/deanofstudents, 936.468.7249, dos@sfasu.edu
- SFASU Counseling Services, www.sfasu.edu/counselingservices, Health and Wellness Hub, 936-468-2401
- SFASU Human Services Counseling Clinic, www.sfasu.edu/humanservices/139.asp, Human Services Room 202 • 936-468-1041
- The Health and Wellness Hub (corner of E. College and Raguet St.), www.sfasu.edu/thehub, 936.468.4008

Crisis Resources:

- Burke 24-hour crisis line 1(800) 392-8343
- National Suicide Crisis Prevention: 9-8-8
- Suicide Prevention Lifeline 1(800) 273-TALK (8255)
- Crisis Text Line: Text HELLO to 741-741