I. Course Description:
This course examines the theoretical and practical understanding of physiological instrumentation and measurement, including practical laboratory experiences, as preparation for graduate research or other research opportunities. Course fees for laboratory equipment consist of $30.00/semester. KIN 555 “Orientation and Analysis of Laboratory Techniques” (3 credits) meets one time each week in 150-minute segments for 15 weeks, and also meets for a 2-hour final examination. Students have significant weekly reading assignments that consist of performing thorough literature reviews in 3 different areas within our discipline. Data collection within these topical areas is also performed and disseminated through the writing of 3 research papers that are structured as scientific journal publications. These activities average at a minimum 6 hours of work each week to adequately prepare outside of classroom hours. James I. Perkins College of Education Diversity Statement is found at the following link: [http://coe.sfasu.edu/about-us/](http://coe.sfasu.edu/about-us/)

II. Intended Learning Outcomes/Goals/Objectives (Program/Student Learning Outcomes):
- This course links with SFA Initiative #4: Develop a learner-centered environment.
- This course links with SFA’s COE Goal and Initiative #2: Prepare educators and industry professionals.
- This course links with SFA Initiative #5: Create new learning opportunities through additional interdisciplinary, international, service learning, and civic engagement experiences.
- This course links with SFA’s COE Goal and Initiative #2: Prepare educators and industry professionals.

Program Learning Outcomes:
- The student will be able to demonstrate the ability to read and make critical analysis of original research.
- 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.
- The student will be able to demonstrate an understanding of a variety of research methods employed in the subdisciplines in Kinesiology.
- 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:
- Students will be able to utilize laboratory equipment and understand how it works (PLO 1,3,4)
- Students will be able to work with human subjects and collect quality data (PLO 2,3,4)
- Students will be able to demonstrate the ability to write scientifically and prepare a paper in journal format for submission to a peer-reviewed journal (PLO 1,3,4)
- Students will be able to analyze research articles, synthesize and formulate ideas (PLO 1,3,4)

Professional Preparation Standards:
- Standard 1 – The student demonstrates knowledge and abilities in exercise physiology and related exercise science.
- Standard 2 – The student demonstrates knowledge and abilities associated with physiological risk factors.
- Standard 3 – The student demonstrates knowledge and abilities in fitness and clinical exercise testing.
- Standard 4 – The student demonstrates knowledge and abilities associated with exercise prescription and programming.
III. Course Assignments and Exams:
Course grades will be determined through evaluation of 3 assignments that will be submitted throughout the semester. Extra credit opportunities are NOT typically offered.

Articles 1, 2, 3 (Three separate assignments): These assignments will comprise the bulk of the course grade. In each case research groups will collect data in attempt to answer a well-defined research question (SLO 1, 2). This will involve construction of a data sheet; consent form for participants, collection of data (involves competence with equipment), and preparation of a manuscript formatted as to departmental journal guidelines (SLO 3, 4) (i.e. in journal format). HPL journal guidelines will be available and SHOULD BE FOLLOWED EXACTLY. All three articles will be formatted according to these guidelines. All components must be submitted (title page, abstract, key words, introduction, methods, results, discussion, practical applications, references, tables, figure captions, figures). – again just as if the articles were to be submitted to a professional journal.

Evaluation of these 3 assignments;
Were journal guidelines followed?
What was the quality of the write-up?
– content, dissemination/explanation of results
– data presentation, tables/figures
– relevant references

Anticipate the evaluation of the 3 articles to get progressively more stringent. As you do more of these, the expectation is that you are improving.

Because evaluation of articles is largely subjective, the following descriptions should be considered when determining your success/status in the course.

“A”: exceptional paper, could be published (except for low n), well written, well presented, analysis correct, grammatically sound, followed guidelines exactly

“B”: less than exceptional but still of high quality, better than average, but still in need of revision prior to submission, one or more components/sections not entirely ready to submit, data analysis adequate but not water tight, minimal grammatical issues

“C”: average paper, all components are included but not convincingly written, data analysis not concrete, presentation of results may need clarification, discussion unfocused or not written scientifically (i.e. sounds like a reader’s digest article – NOT the idea), grammatical errors

“D”: less than average paper, one or more components missing or weakly written, lack of focus in constructing the paper, guidelines not followed well, overall paper difficult to follow, analysis questionable, quality of data questionable, numerous grammatical errors

Plus (+) and minus (-) may also be added to each letter grade on a subjective basis.

LATE SUBMISSIONS WILL AUTOMATICALLY BE REDUCED BY 2 LETTER GRADES, THEN EVALUATED.

3 Ring Binder Assignment: I suggest keeping an electronic folder for this course or purchasing a 2-3 inch binder. ALL relevant work for this course will be placed in sequential order. Items should include, but are not limited to a) the lab manual, b) all 3 articles c) syllabus, d) data sheets, consent forms, data analysis printouts, notes, e) journal guidelines, f) critique/suggestions for the course, g) photocopies of articles used when reviewing the literature on the research projects, h) any handouts or other items related to the course you wish to include (i.e. your own personal list of potential research ideas, notes on equipment calibration/usage, etc). The reason for constructing this binder is so that you will have it as a reference when you conduct future research projects such as your thesis or projects in your first professional position. If done correctly, the electronic folder/binder will be an extremely valuable tool.

Make Up Assignments/Exams – Due to the makeup of this course and the time consuming nature of data collection, assimilation, and dissemination, make up assignments will not be given.
IV. Evaluation and Assessment

Grading/Evaluation Procedures

<table>
<thead>
<tr>
<th>Article I</th>
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<tbody>
<tr>
<td>Article II</td>
<td>30%</td>
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<tr>
<td>Article III</td>
<td>40%</td>
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<tr>
<td>3 Ring Binder</td>
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V. Tentative Course Outline/Calendar:

<table>
<thead>
<tr>
<th>Monday</th>
<th>Jan 20  MLK Holiday</th>
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<tbody>
<tr>
<td>Jan 27</td>
<td>Introduction, Syllabi,</td>
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<tr>
<td>Jan 03</td>
<td>Ethics, objectivity, bias</td>
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<tr>
<td>Feb 10</td>
<td>Research Process</td>
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<td>Feb 17</td>
<td>Data Collection</td>
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<tr>
<td>Feb 24</td>
<td>Data Analysis/presentation</td>
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<tr>
<td>Feb 31</td>
<td><strong>Article 1 Due</strong></td>
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<tr>
<td>Mar 9</td>
<td>Dealing with IRB</td>
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<td>Mar 16</td>
<td>Spring Break</td>
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<tr>
<td>Mar 23</td>
<td>Data Collection</td>
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<td>Mar 30</td>
<td>Data Collection</td>
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<tr>
<td>April 6</td>
<td><strong>Article 2 Due</strong></td>
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<tr>
<td>April 13</td>
<td>Data Collection</td>
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<tr>
<td>April 20</td>
<td>Data Collection</td>
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<tr>
<td>April 27</td>
<td><strong>Article 3 Due</strong></td>
</tr>
<tr>
<td>Final Exam: May 4th 4:00-6:30</td>
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<tr>
<td>Final Electronic 3 ring binder due</td>
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*Schedule is an approximation and could change*

VI. Readings

No specific text will be utilized for this course. A lab manual and other documentation will be made available through D2L.

VII. Course Evaluations:

“Near the conclusion of each semester, students in the College of Education electronically evaluate courses 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; and 3. Making decisions on faculty tenure, promotion, pay, and retention. As you evaluate this course, please be thoughtful, thorough, and accurate in completing the evaluation. Please know that the COE faculty is committed to excellence in teaching and continued improvement. Therefore, your response is critical!

In the 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 will not be available to the instructor until after final grades are posted.**

VIII. Student Ethics and Other Policy Information:

**Attendance:** (Policy 6.7)
Attendance and participation are required at all times. 1 absence will be given to each student for the entire semester, use it wisely! University travel and Legal obligations will be the only excused absences allowed (written documentation required). Each absence beyond this will result in a loss of one letter grade. Arriving late to class and early departure is unacceptable. 3 such occurrences will result in an absence and the attendance grade will be reduced accordingly. No exceptions will be made for any of the above policies.

Students with Disabilities (Policy 6.1 and 6.6)
To obtain disability related accommodations, alternate formats and/or auxiliary aids, students with disabilities must contact the Office of Disability Services (ODS), Human Services Building, and Room 325, 468-3004/468-1004 (TDD) as early as possible in the semester. Once verified, ODS will notify the course instructor and outline the accommodation and/or auxiliary aids to be provided. Failure to request services in a timely manner may delay your accommodations. For additional information, go to http://www.sfasu.edu/disabilityservices/. Location: Human Services Building, room 325. Phone: (936) 468-3004.

Academic Integrity (Policy 4.1)
Academic integrity is a responsibility of all university faculty and students. Faculty members promote academic integrity in multiple ways including instruction on the components of academic honesty, as well as abiding by university policy on penalties for cheating and plagiarism.

Definition of Academic Dishonesty
Academic dishonesty includes both cheating and plagiarism. Cheating includes, but is not limited to:
- using or attempting to use unauthorized materials on any class assignment or exam;
- falsifying or inventing of any information, including citations, on an assignment; and/or;
- helping or attempting to help another in an act of cheating or plagiarism.

Plagiarism is presenting the words or ideas of another person as if they were one’s own. Examples of plagiarism include, but are not limited to:
- submitting an assignment as one's own work when it is at least partly the work of another person;
- submitting a work that has been purchased or otherwise obtained from the Internet or another source; and/or,
- incorporating the words or ideas of an author into one's paper or presentation without giving the author credit.

Penalties for Academic Dishonesty
Penalties may include, but are not limited to reprimand, no credit for the assignment or exam, re-submission of the work, make-up exam, failure of the course, or expulsion from the university.

Student Appeals
A student who wishes to appeal decisions related to academic dishonesty should follow procedures outlined in Academic Appeals by Students (6.3).

Withheld Grades Semester Grades (Policy 5.5)
At the discretion of the instructor of record and with the approval of the academic unit head, a grade of WH will be assigned only if the student cannot complete the course work because of unavoidable circumstances. Students must complete the work within one calendar year from the end of the semester in which they receive a WH, or the grade automatically becomes an F, except as allowed through policy [i.e., Active Military Service (6.14)]. If students register for the same course in future semesters, the WH will automatically become an F and will be counted as a repeated course for the purpose of computing the grade point average.

Student Code of Conduct (Policy 10.4)
Classroom behavior should not interfere with the instructor’s ability to conduct the class or the ability of other students to learn from the instructional program (see the Student Conduct Code, policy D-34.1). Unacceptable or disruptive behavior will not be tolerated. Students who disrupt the learning environment may be asked to leave class and may be subject to judicial, academic or other penalties. This prohibition applies to all
instructional forums, including electronic, classroom, labs, discussion groups, field trips, etc. The instructor shall have full discretion over what behavior is appropriate/inappropriate in the classroom. Students who do not attend class regularly or who perform poorly on class projects/exams may be referred to the iCare: Early Alert Program at SFA. Information regarding the iCare program is found at https://www.sfasu.edu/judicial/earlyalert.asp or call the office at 936-468-2703.