Physiological Aspects of Kinesiology

I. COURSE DESCRIPTION

The course is an introduction to the fundamental principles of human physiology and their application to kinesiology. The web-based format will provide both information and some practical application to real life situations.

II. RATIONALE

The course provides students with a foundational knowledge of the human physiology system and its application to human movement. The course content is fundamental to all upper division kinesiology courses.

III. STATE ADOPTED PROFICIENCIES FOR TEACHERS AND/OR ADMINISTRATORS/COUNSELORS

1. LEARNER-CENTERED KNOWLEDGE: The teacher possesses and draws on a rich knowledge base of content, pedagogy, and technology to provide relevant and meaningful learning experiences for all students.

2. LEARNER-CENTERED INSTRUCTION: To create a learner-centered community, the teacher collaboratively identifies needs; and plans, implements, and assesses instruction using technology and other resources.

3. EQUITY IN EXCELLENCE FOR ALL LEARNERS: The teacher responds appropriately to diverse groups of learners.

4. LEARNER-CENTERED COMMUNICATION: While acting as an advocate for all students and the school, the teacher demonstrates effective professional and interpersonal communication skills.

5. LEARNER-CENTERED PROFESSIONAL DEVELOPMENT: The teacher, as a reflective practitioner dedicated to all students’ success, demonstrates a commitment to learn, to improve the profession, and to maintain ethics and personal integrity.

IV. TExES COMPETENCIES & CAATE COMPETENCIES & PROFICIENCIES

a. TExES COMPETENCIES

Domain II - HEALTH-RELATED PHYSICAL FITNESS
Competency 006 - The teacher understands major body systems, principles of physical fitness development and training, and the benefits of a healthy, active lifestyle.

b. NATIONAL COMPETENCIES & PROFICIENCIES FOR ATHLETIC TRAINING (CAATE 4th Ed.)
Diagnosis Competencies Taught & Evaluated

**DI-C1**: Demonstrate knowledge of the systems of the human body.

**DI-C5**: Describe the principles and concepts of body movement including functional classification of joints, arthrokinematics, normal ranges of joint motion, joint action terminology, and muscle groups responsible for joint actions (prime movers, synergists), skeletal muscle contraction, and kinesthesia/proprioception.

V. COURSE OBJECTIVES AND OUTCOMES

As a result of successfully completing this course, the student will:

1. Understand the mechanical properties of cells and tissues and how cells are compartmentalized and form tissues within the body.

2. Discover how biological energy is acquired, transferred, and used to do biological work, how molecular interactions play a major role in protein function, and how compartmentation of enzymes is essential for organizing and separating metabolic processes.

3. Explain how substances move across cellular membranes in response to gradients and molecular interactions.

4. Understand that functional control systems require efficient communication using a combination of chemical and electrical signals.

5. Know how the endocrine system plays a major role in communication and control of physiological processes via hormonal interactions and pathways.

6. Learn how the nervous system is responsible for maintaining homeostasis and how the divisions of the nervous systems (including the central nervous system, the sensory systems, and efferent division) correlate with the different steps in a reflex pathway.

7. Understand the structure-function relationships and mechanical properties of muscles.

8. Exemplify the importance of the cardiovascular system, blood flow, and the control of blood pressure.

9. Analyze the cellular and protein components of blood and their functions.

10. Understand the mechanics of the respiratory system and how these demonstrate mass flow, homeostatic balance, mass balance, and the law of mass action.

11. Learn that the urinary and renal systems play a vital role in human physiology in terms of absorption, excretion, and filtration.

12. Understand that energy balance and metabolism are dependent upon intake, output, and the glucose that powers the brain.

13. Discover how the digestive system maintains mass balance and homeostasis through the process of secretion, absorption, and movement of nutrients and molecules across membranes.

14. Develop a basic understanding of the endocrine system, its function on growth and metabolism, and how each hormone has stimuli that initiate its secretion and feedback signals that modulate its release.
15. Know that the function of the immune system is based on chemical communication and molecular interactions between receptors, antibodies, and antigens that work together to fight pathogens.

VI. COURSE TOPICS

1. The Human Body: An Orientation
2. Basic Chemistry
3. Cells and Tissues
4. Skin and Body Membranes
5. The Skeletal System
6. The Muscular System
7. The Nervous System
8. Special Senses
9. The Endocrine System
10. Blood
11. The Cardiovascular System
12. The Lymphatic System and Body Defenses
13. The Respiratory System
14. The Digestive System and Body Metabolism
15. The Urinary System
16. The Reproductive System

VII. INSTRUCTIONAL METHODS AND ACTIVITIES

A. Course is completely on-line. All tests, quizzes, assignments, discussions are detailed on the Blackboard calendar, assignment tool and assessment tools.

VIII. EVALUATION AND GRADE ASSIGNMENTS

The methods of evaluation and the criteria for grade assignment are:

A. Requirements and point values. The total number of assignments is listed, but section 7 is tentative, thus the total points may vary at the end of the semester.

1. Syllabus Assignment 10 points
2. Islander Email Assignment 10 points
3. General Information Assignment 10 points
4. Profile Picture Assignment 10 points
5. Pretest assessment 15 points
6. Chapter Assignments (16 @ 10 pts.) 160 points
7. Chapter Quizzes (16 @ 10 pts.) 160 points
8. Discussion assignments (2-4 @ 15 pts.) 60 points
9. Exams (4 @ 100 pts.) 400 points

Total: 835 points

B. Grading Scale (based on 825, but this could vary depending upon #8 above)

<table>
<thead>
<tr>
<th>Point Range</th>
<th>Grade</th>
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<tbody>
<tr>
<td>751.5-835</td>
<td>A</td>
</tr>
<tr>
<td>668-751.4</td>
<td>B</td>
</tr>
<tr>
<td>584.5-668.9</td>
<td>C</td>
</tr>
<tr>
<td>501-584.4</td>
<td>D</td>
</tr>
</tbody>
</table>
IX. COURSE POLICIES AND SCHEDULE

**Chapter Assignments**
Submitted chapter assignments MUST adhere to the following guidelines and those in the “Start Here” menu item on Blackboard. Any guideline not followed will result in a ZERO on the assignment. I would HATE for that to happen, so PLEASE read carefully. Also, if you look in the menu bar under “Sample Chapter Assignments” you’ll see a clean example of what I’m looking for and further suggestions.

1. Assignments must be created on a Word document.
2. Each question should be typed out completely.
3. Your assignment will be in an outline form (see example in the menu)
4. If you use the Word Formatting tool for outlines/multi-level list (recommended) do NOT worry about having the letter that represents the correct answer (e.g. c. Muscle, e. all of the above), just use what the formatting gives you, which is an ‘a’, then ‘b’, etc. I just want you to have the correct answer so this becomes a strong study guide for you. Thus, the letters do not matter, and they don’t match the quizzes anyway.
5. Once your assignment is edited and ready to submit, simply open the appropriate “Assignment” and go to the Section 2 “ASSIGNMENT SUBMISSION” area, click on the “Attach File” button and upload your document from where you have it stored.

**On-line Chapter Quizzes**
You may take the quizzes twice. Blackboard will automatically use your 'best' score for grading purposes. There are 20 questions for each chapter taken at random from a larger bank of questions. Thus, no two students will get the same 20 questions, nor will an individual student get the exact 20 questions if they take the quiz a second time, but will likely get some of the original ones.

Questions will pop up individually and you will have approximately 45 sections to answer each.

Additionally, it is strongly suggested you take the quiz twice even if you make a perfect score the first time, because you get exposed to additional questions that could be on the tests.

Finally, be reminded to plan to have plenty of time PRIOR to the due date time to complete your quizzes. Though the computer will allow you to continue taking the assessment, once the due time (11:00pm) registers, whatever you are working on is officially "late" and a zero will be recorded REGARDLESS of what you may see in your grade book initially.

**Tests**
Similarly to the quizzes, each test utilizes random selections from the entire bank of questions from each chapter in the module. Thus, no two students will get the same questions. There are 100 questions per test. Like the quizzes you will have 45 seconds per question, and thus only 75 minutes to answer 100 questions. This is why being very prepared is necessary as wasted time on questions could result in multiple questions not answered. However, if well prepared for the test, 45 seconds is ample time for an objective multiple choice and/or True/False question.
Additionally, I will likely add some discussion questions to the test as well as additional multiple choice questions and at time multiple answer questions. This is to improve test integrity, as NONE of these will be on the quizzes and solely generated by me. Further, some information will NOT come from the chapter material, but information and experiences shared through discussion forums.

Therefore, instead of just memorizing the response to questions you've written down, photo copied, or saved in some other manner, students will have to rely on what they know and have prepared for on the day of the test. Such questions are also higher point valued, as they will require more critical thinking, and guessing is not likely to help. Therefore, again, please study accordingly so you receive the best grade possible.

Finally, when I do add questions such as these, I'll either add more time to take the test, or reduce the number of the original Multiple Choice and True/False questions so students will have ample time to complete the test.

The test may be taken only once.

Finally, be reminded to plan to have plenty of time PRIOR to the due date time to complete your tests. Though the computer will allow you to continue taking the assessment, once the due time (11:00pm) registers whatever you are working on is officially "late" and a zero will be recorded REGARDLESS of what you may see in your grade book.

**NOTE: Printing online tests and/or quizzes is strictly prohibited.**

**Module 1** (for all Module dates see Blackboard Calendar and Assignments/Assessments)

The Human Body: An Orientation

Basic Chemistry

Cells and Tissues

Skin and Body Membranes

Test I: Chapters 1-4

**Module 2**

The Skeletal System

The Muscular System

The Nervous System

Special Senses

Test II: Chapters 5-8

**Module 3**

The Endocrine System
X. UNIVERSITY POLICIES RELATING TO THIS COURSE

Academic Integrity/Plagiarism

University students are expected to conduct themselves in accordance with the highest standards of academic honesty. Academic misconduct for which a student is subject to penalty includes all forms of cheating, such as illicit possession of examinations or examination materials, falsification, forgery, complicity or plagiarism. (Plagiarism is the presentation of the work of another as one’s own work.) In this class, academic misconduct or complicity in an act of academic misconduct on an assignment or test will result in include more of the following:

1. Written reprimand;
2. Requirement to re-do work in question;
3. Requirement to submit additional work;
4. Lowering of grade on work in question;
5. Assigning grade of “F” to work in question;
6. Assigning grade of “F” for course;
7. Recommendation for more severe punishment.

If the faculty member determines that assigning a grade of “F” to the course is the appropriate penalty and this disciplinary action occurs prior to the deadline for dropping courses, the student forfeits his/her right to drop the course in question.

The faculty member may file a record of cases of academic dishonesty, including a description of the disciplinary action taken, along with any materials involved, with his or her college dean and the Office of Student Affairs. The office of the academic dean of the college in which the offense took place will maintain records of all cases of academic dishonesty. Any student who has been penalized for academic dishonesty has the right to appeal the judgment or the penalty assessed.

Dropping a Class
I hope that you never find it necessary to drop this or any other class. However, events can sometimes occur that make dropping a course necessary or wise. **Please consult with your academic advisor, the Financial Aid Office, and me, before you decide to drop this course.** Should dropping the course be the best course of action, you must initiate the process to drop the course by going to the Student Services Center and filling out a course drop form. Just stopping attendance and participation WILL NOT automatically result in your being dropped from the class. Please see the University Academic Calendar to identify the last day to drop a class with an automatic grade of “W” this term.

**Statement of Civility**

Texas A&M University-Corpus Christi has a diverse student population that represents the population of the state. Our goal is to provide you with a high quality educational experience that is free from repression. You are responsible for following the rules of the University, city, state and federal government. We expect that you will behave in a manner that is dignified, respectful and courteous to all people, regardless of sex, ethnic/racial origin, religious background, sexual orientation or disability. Behaviors that infringe on the rights of another individual will not be tolerated. Further, under Article III of the Student Code of Conduct, classroom behavior that interferes with either (a) the instructor’s ability to conduct the class or (b) the ability of other students to profit from the instructional program may be considered a breach of the peace and is subject to disciplinary sanction outlined in article VII of the Student Code of Conduct. Students engaging in unacceptable behavior may be instructed to leave the classroom. This prohibition applies to all instructional forums, including classrooms, electronic classrooms, labs, discussion groups, field trips, etc.

**Grade Appeals**

As stated in University Procedure 13.02.99.C2.01, Student Grade Appeal Procedures, a student who believes that he or she has not been held to appropriate academic standards as outlined in the class syllabus, equitable evaluation procedures, or appropriate grading, may appeal the final grade given in the course. The burden of proof is upon the student to demonstrate the appropriateness of the appeal. A student with a complaint about a grade is encouraged to first discuss the matter with the instructor. For complete details, including the responsibilities of the parties involved in the process and the number of days allowed for completing the steps in the process, see University Procedure 13.02.99.C2.01, Student Grade Appeal Procedures. These documents are accessible through the University Rules Web site at [http://www.tamucc.edu/provost/university_rules/index.html](http://www.tamucc.edu/provost/university_rules/index.html). For assistance and/or guidance in the grade appeal process, students may contact the Dean’s office in the college in which the course is taught or the Office of the Provost.

**Disabilities Accommodations**

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. If you believe you have a disability requiring an accommodation, please call or visit Disability Services at (361) 825-5816 in Corpus Christi Hall 116. If you are a returning veteran and are experiencing cognitive and/or physical access issues in the classroom or on campus, please contact the Disability Services office for assistance at (361) 825-5816.

**Statement of Academic Continuity**

In the event of an unforeseen adverse event, such as a major hurricane and classes could not be held on the campus of Texas A&M University–Corpus Christi; this course would continue through the use of
Blackboard and/or email. In addition, the syllabus and class activities may be modified to allow continuation of the course. Ideally, University facilities (i.e., emails, web sites, and Blackboard) will be operational within two days of the closing of the physical campus. However, students need to make certain that the course instructor has a primary and a secondary means of contacting each student.

XI. Required Text

XII. Bibliography
The knowledge bases that support course content and procedures include:

*The course syllabus provides a general plan for the course; deviations may be necessary.

KINE 2325 – Physiological Aspects of Kinesiology
Syllabus Acknowledgment Form

I, (print name) ___________________________________________, certify that I have read and understand the policies that are presented in the syllabus for KINE 2325 - Physiological Aspects of Kinesiology at Texas A&M University - Corpus Christi.

Signature ___________________________________________ Date __________________