KINE 3362- FUNCTIONAL KINESIOLOGY
SPRING 2018
KINE 3362 is a required course for Bachelor's degree in Kinesiology.
College of Health Sciences
Department of Kinesiology

Instructor:

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Office hours: 1000 AM – 1100AM, Monday and Wednesday

Text/Readings:

Recommended:
Bowden, B.S. & Bowden J.M. (2015). An Illustrated atlas of the skeletal muscles. (4th edition). Morton Publishing: Englewood, CO.

Reference:
Hamill, J. & Knutzen, K. (2009). Biomechanical basis of human movement (3rd Ed). Wolters Kluwer
Behnke, R. (2006). Kinetic anatomy (2nd ed.). Human Kinetics.
Delavier, F. (2006). Strength training anatomy (2nd ed.). Human Kinetics
Clemente C.D. (1997). Anatomy: A regional atlas of the human body (4th ed.). Lippincott. Williams and Wilkins.

Outlines and additional course materials are posted on Blackboard. ***It is strongly recommended that you print all of the information and bring to class on a daily basis.***

Course Description: This course is designed to provide the student with the knowledge of the structure, function and location of fibrous, skeletal, muscular and nervous tissue of the human body and to provide the student with a basic understanding of the mechanics of human motion. Emphasis will be placed on identifying location and the function of various skeletal articulations. A secondary purpose is to provide experiences for application of the knowledge through the analysis of human movement in exercise and sport.

Course Format:

Essential to the class is gaining factual knowledge (terminology, classifications, methods, trends). Important components of the class include developing specific skills, competencies, and points of view needed by professionals in the field most closely related to this course, and acquiring an interest in learning more by asking questions and seeking answers

Standards Matrix:

Objectives/Learning Outcomes	**Activities (* indicates field-based activity)**	**Performance Assessment**	**Standards:** • **State Standards** • ***Specialty Organization Standards*** • *Conceptual Framework #*
Identify the importance of biomechanics as a part of kinesiology	Lecture, Class Discussion	Written exam, Quizzes	
Demonstrate ability to solve quantitative biomechanical problems	Lecture, Class Discussion	Written exam Quizzes	
Identify the common articulations of the body and their location	Lecture, Class Discussion	Written exam Quizzes	
Identify various muscles of the human body and their location	Lecture, Class Discussion	Written exam Quizzes	
Understand the various soft tissues of the human body and their function	Lecture, Class Discussion	Written exam Quizzes	
Understand the lever system and how it relates in the human body	Lecture, Class Discussion	Written exam Quizzes	
Understand various injuries that can occur in the human body through motion and activity	Lecture, Class Discussion	Written exam Quizzes	
Understand movement patterns and discuss common flaws in technique and injuries	Lecture, Class Discussion	Written Exam/Quizzes	
Apply biomechanical knowledge through participation in community activities	Community Engagement	Participation and Reflection Paper	

Web address for **state standards**: N/A
Web address for ***specialty organization standards***: N/A
Web link for *Conceptual Framework*: N/A

Course Content:

I) Understanding Biomechanics, functional kinesiology and problem solving
   a. Introduction
   b. Definitions
   c. Quantitative problem solving
   d. Application

II) Kinematic Concepts for Analyzing Human Motion
   a. Definitions
   b. Planes of the body
   c. Axis of the body
   d. Joint movement terminology
   e. Qualitative problem solving

III) Kinetic concepts for analyzing human motion
   a. Basic concepts related to kinetics
   b. Loads on the human body
   c. Vector algebra

IV) Human Bone Growth and Development
   a. Function and composition of bone
   b. Definitions
   c. Types of bone
   d. Bone growth and development
   e. Bone diseases
   f. Common bone injuries

V) Human Skeletal Articulations
   a. Joint architecture
   b. Synovial structures
   c. Joint stability
   d. Joint flexibility
   e. Common joint injuries and pathologies

VI) Human Skeletal Muscle
   a. Behavioral properties of the muscle-tendon unit
   b. Structural organization of skeletal muscle
   c. Muscle fiber typing
   d. Fiber architecture
   e. Definitions
   f. Factors affecting muscular force generation
   g. Muscular strength, power and endurance
   h. Common muscle injuries

VII) The Lever System of the Human Body
   a. Components of a lever system
   b. Functions of levers in the human body
   c. Types of levers in the human body

VIII) Human Upper Extremity
- a. Structure and movement of the shoulder
- b. Structure and movement of the elbow
- c. Structure and movement of the wrist
- d. Structure and movement of the hand
- e. Common injuries and pathologies

IX) Human Lower Extremity
- a. Structure and movement of the hip
- b. Structure and movement of the knee
- c. Structure and movement of the ankle
- d. Structure and movement of the foot
- e. Common injuries and pathologies

X) Human Spine
- a. Structure of the spine
- b. Spinal curves
- c. Movements of the spine
- d. Muscles of the spine
- e. Loads on the spine
- f. Common injuries of the back and neck

Course Requirements:

1) Calculator
2) Emails kept up to date
3) Blackboard access

Evaluation:

Exams: (**300 points**) 3 exams, (100 points each), objective & subjective questions

Final Exam: ***Comprehensive*** **(100 points)** Objective

Quizzes/Lab Assignments: Minimum of 12 x 10 point unannounced quizzes (100 points). You may drop your lowest two (or more) quiz grades to have a total of 10 quiz grades.

Academic/Community Engagement Project: (**50 Points**) Participation in community engagement project. In order to apply some of the skills acquired in the classroom, each student will volunteer a total of 9 hours working on a selected project (Rocky Raccoon 100 mile or 50 mile race on February 2-4 or Feb 9-10).

Summative Evaluation

495-550 Points	A
440-494 Points	B
385-439 Points	C
330-384 Points	D
Less than 330 Points	F

Please note: There is no provision for extra credit in this class besides what is listed below.

Instructor Expectations:

Cell Phone Policy

Essential to comprehension of the material presented in this class is the ability to maintain concentration during class time. For this reason, cell phone use is prohibited in class. Should a cell phone or other device make any noise deemed a distraction by the instructor, the student will be asked to leave the class. Repeated offenses will result in the student being asked to permanently leave the class. Computers should be used for note taking only. Lectures may be recorded with the permission of the instructor.

In other words, all phones **off** during class time – if you wish to contact someone during class, please exit the room!!!

Attendance Policy

Essential to your understanding of the material is generally your presence and participation. However, the decision to attend class will be left up to you. Attendance will be taken at each class meeting. You are responsible to sign the roll sheet each day that attendance is not called in class. You are responsible to follow the directions on Blackboard regarding attendance on any on-line day. Consequences of attendance are as follows:

0 absences:	Addition of 3 points to final total
1 or more absences:	No additional points awarded

Please pay particular attention to the attendance policy. Three points can be the difference between letter grades!

Notice there is not a distinction between excused and unexcused absences. You will not be penalized for lack of attendance other than the potential for missed quizzes and notes.

Athletic Training Competencies (CAATE 5th Edition)

Prevention and Health Promotion (PHP)

PHP-3. Identify modifiable/non-modifiable risk factors and mechanisms for injury and illness.
PHP-20. Summarize the basic principles associated with the design, construction, fit, maintenance, and reconditioning of protective equipment, including the rules and regulations established by the associations that govern its use.
PHP-32. Describe the role of nutrition in enhancing performance, preventing injury or illness, and maintaining a healthy lifestyle.
PHP-33. Educate clients/patients on the importance of healthy eating, regular exercise, and general preventative strategies for improving or maintaining health and quality of life.
PHP-34. Describe contemporary nutritional intake recommendations and explain how these recommendations can be used in performing a basic dietary analysis and providing appropriate general dietary recommendations.
PHP-35. Describe the proper intake, sources of, and effects of micro- and macronutrients on performance, health, and disease.
PHP-36. Describe current guidelines for proper hydration and explain the consequences of improper fluid/electrolyte replacement.
PHP-37. Identify, analyze, and utilize the essential components of food labels to determine the content, quality, and appropriateness of food products.
PHP-38. Describe nutritional principles that apply to tissue growth and repair.
PHP-39. Describe changes in dietary requirements that occur as a result of changes in an individual's health, age, and activity level.
PHP-40. Explain the physiologic principles and time factors associated with the design and planning of pre-activity and recovery meals/snacks and hydration practices.
PHP-41. Identify the foods and fluids that are most appropriate for pre-activity, activity, and recovery meals/snacks.
PHP-42. Explain how changes in the type and intensity of physical activity influence theenergy and nutritional demands placed on the client/patient.
PHP-43. Describe the principles and methods of body composition assessment to assess a client's/patient's health status and to monitor changes related to weight management, strength training, injury, disordered eating, menstrual status, and/or bone density status.
PHP-45. Describe contemporary weight management methods and strategies needed to support activities of daily life and physical activity.

Clinical Examination and Diagnosis (CE)

CE-1. Describe the normal structures and interrelated functions of the body systems.
CE-4. Describe the principles and concepts of body movement, including normal osteokinematics and arthrokinematics.

STUDENT ABSENCES ON RELIGIOUS HOLY DAYS POLICY
Section 51.911(b) of the Texas Education Code requires that an institution of higher education excuse a student from attending classes or other required activities, including examinations, for the observance of a religious holy day, including travel for that purpose. A student whose absence is excused under this subsection may not be penalized for that absence and shall be allowed to take an examination or complete an assignment from which the student is excused within a reasonable time after the absence.

University policy 861001 provides the procedures to be followed by the student and instructor. A student desiring to absent himself/herself from a scheduled class in order to observe (a) religious holy day(s) shall present to each instructor involved a written statement concerning the religious holy day(s). This request must be made in the first fifteen days of the semester or the first seven days of a summer session in which the absence(s) will occur. The instructor will complete a form notifying the student of a reasonable timeframe in which the missed assignments and/or examinations are to be completed.

STUDENTS WITH DISABILITIES POLICY

It is the policy of Sam Houston State University that individuals otherwise qualified shall not be excluded, solely by reason of their disability, from participation in any academic program of the university. Further, they shall not be denied the benefits of these programs nor shall they be subjected to discrimination. Students with disabilities that might affect their academic performance should register with the Office of Services for Students with Disabilities located in the Lee Drain Annex (telephone 936-294-3512, TDD 936-294-3786, and e-mail disability@shsu.edu). They should then make arrangements with their individual instructors so that appropriate strategies can be considered and helpful procedures can be developed to ensure that participation and achievement opportunities are not impaired.

SHSU adheres to all applicable federal, state, and local laws, regulations, and guidelines with respect to providing reasonable accommodations for students with disabilities. If you have a disability that may affect adversely your work in this class, then I encourage you to register with the SHSU Services for Students with Disabilities and to talk with me about how I can best help you. All disclosures of disabilities will be kept strictly confidential. NOTE: No accommodation can be made until you register with the Services for Students with Disabilities. For a complete listing of the university policy, see:

http://www.shsu.edu/dept/academic-affairs/documents/aps/students/811006.pdf

AMERICANS WITH DISABILITIES ACT
SHSU adheres to all applicable federal, state, and local laws, regulations, and guidelines with respect to providing reasonable accommodations for students with disabilities. Students with disabilities that may affect adversely their work in this class should register with the SHSU Counseling Center and talk with their University supervisor and classroom mentor teachers about how they can help. All disclosures of disabilities will be kept strictly confidential. NOTE: no accommodation can be made until registration with the Counseling Center is complete.

ACADEMIC DISHONESTY POLICY

According to the administration's guidelines: *"All students are expected to engage in all academic pursuits in a manner that is above reproach. Students are expected to maintain complete honesty and integrity in the academic experiences both in and out of the classroom. Any student found guilty of dishonesty in any phase of academic work will be subject to disciplinary action. The University and its official representatives may initiate disciplinary proceedings against a student accused of any form academic dishonesty including, but not limited to, cheating on an examination or other academic work which is to be submitted, plagiarism, collusion and the abuse of resource materials."*

"Students will refrain from behavior in the classroom that intentionally or unintentionally disrupts the learning process and, thus, impedes the mission of the university. Cellular telephones and pagers must be turned off before class begins. Students are prohibited from eating in class, [chewing gum], using tobacco products, making offensive remarks, reading newspapers, or engaging in any other form of distraction. Inappropriate behavior in the classroom shall result in a directive to leave class. Students who are especially disruptive also may be referred to the Dean of Students for disciplinary action in accordance with the university policy."

The full policy for "Code of Student Conduct and Discipline" is found at the following link:
<https://www.shsu.edu/students/guide/dean/codeofconduct.html>

ACADEMIC GRIEVANCE PROCEDURES FOR STUDENTS

GENERAL

Under the provisions of this policy, academic grievances include disputes over:

a. Course grades
b. Unauthorized class absences or tardiness
c. Suspension for academic deficiency
d. An instructor's alleged unprofessional conduct related to academic matters
e. Graduate comprehensive and oral examinations
f. Theses and dissertations
g. Withdrawal or suspension of privileges related to degree-required clinical rotation, internships, or other clinical service delivery in professional degree programs.

The full policy for Academic Grievance Procedures can be viewed here:
http://www.shsu.edu/dotAsset/0bb1346f-b8d6-4486-9290-dba24123d0d8.pdf