

KIN 3372

Biomechanical Analysis of Movement

Fall 2021



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Office Hours: Tue/ Thur. 8-11 AM

Course Information

Course Description

This course will focus on the principles of human movement emphasizing an understanding of the relationship of structure and movement with respect to anatomy and mechanical analysis.

Course Credits

3-0.

Prerequisite and Co-requisite Courses

BIO 2323 or HSP 2301

Prerequisite Skills

Accessing Internet websites, using ASU Library resources, and proficiency with Microsoft Word and/or PowerPoint are expectations of the KIN3372.

Program Outcomes

Upon completion of KIN 3372, the student will be prepared to analyze movement based on anatomical and mechanical factors. They should be able to recognize equipment and movement modifications for more efficient and effective skills. Upon completion of the program of study for Kinesiology 3372, the student will be prepared to:

Student Learning Outcomes

| Student Learning Outcome By completing all course requirements, students will be able to: | Assignment(s) or activity(ies) validating outcome achievement: | Mapping to Program Outcomes |
|---|---|------------------------------------|
| Students will develop a knowledge and understanding of anatomical and mechanical principles. | This will be assessed by quizzes, homework, exams, and lab opportunities. | |
| Students will develop an awareness of the importance of mechanics and application of mechanical principles to the study of anatomical structure and analysis of human movement. | This will be assessed by lab, website analysis, formal quizzes and exams. | |
| Students will develop the ability to effectively analyze selected motor patterns. | This will be assessed by a choosing a skill and critically evaluating the components within the task. | |
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Course Delivery

This is a face to face course.

Required Texts and Materials

Basic Biomechanics. Hall, S. (2022). 9th. Ed. St. Louis: McGraw-Hill

Recommended Texts and Materials

None.

Technology Requirements

To successfully complete this course, students need to the use of Blackboard, Respondus Lockdown Browser and Collaborate.

To participate in one of ASU's distance education programs, you need this technology:

- A computer capable of running Windows 7 or later, or Mac OSX 10.8 or later
- The latest version of one of these web browsers: internet Explorer, Firefox, or Safari
- Microsoft Office Suite or a compatible Open Office Suite
- Adobe Acrobat Reader
- High Speed Internet Access
- Ethernet adapter cable required (wireless connections can drop during tests and Collaborate sessions)
- Webcam

Refer to Angelo State University's Distance Education website for further technology requirements: [Angelo State University's Distance Education Website](#)

Topic Outline

Intro to Biomechanics, Kinematics, Kinetics, Bone growth and development, Skeletal articulations, Human Muscle, Upper Extremities, Lower Extremities, Human Spine, Linear Kinematics, Angular Kinematics, Linear Kinetics, Equilibrium and Human Movement, Angular Kinetics. Human Movement in Fluid Medium.

Communication

I will respond to email and/or telephone messages within 24 hours during working hours Monday through Friday. Weekend messages may not be returned until Monday.

Written communication via email: All private communication will be done exclusively through your ASU email address. Check frequently for announcements and policy changes. In your emails to faculty, include the course name and section number in your subject line.

Virtual communication: Office hours and/or advising may be done with the assistance of the telephone, Collaborate, Skype, etc.

Grading

Evaluation and Grades

Course grades will be determined as indicated in the table below.

| Assessment | Percent/Points of Total Grade |
|----------------------|-------------------------------|
| Readings and quizzes | 30% |
| Movement Analysis | 20% |
| 4 major exams | 50% |
| Total | 100% |

Grading System

Course grades will be dependent upon completing course requirements and meeting the student learning outcomes.

The following grading scale is in use for this course:

A = 90.00-100 points

B = 80.00-89.99 points

C = 70.00-79.99 points

D = 60.00-69.99 points

F = 0-59.99 points (Grades are not rounded up)

Teaching Strategies

Students are expected to be “active learners.” It is a basic assumption of the instructor that students will be involved (**beyond the materials and lectures presented in the course**) discovering, processing, and applying the course information using peer-review journal articles, researching additional information and examples on the Internet, and discussing course material and clinical experiences with their peers.

Assignment and Activity Descriptions

***Please note: Rubrics for all assignments and activities are located at the end of this syllabus.**

Late Work or Missed Assignments Policy

POLICY ON LATE OR MISSED ASSIGNMENTS

Due dates and times for assignments are posted. Failure to submit your assignments on the assigned date will result in a five percent deduction for each day after the posted deadline. No papers or postings will be accepted more than one week past the assigned due date.

General Policies Related to This Course

All students are required to follow the policies and procedures presented in these documents:

- [Angelo State University Student Handbook](#)¹
- [Angelo State University Catalog](#)²

Student Responsibility and Attendance

Online: This class is asynchronous, meaning you do not have to be on-line at a certain time. There are readings which you will have to complete to be able to adequately participate in individual and group assignments. In order to complete this course successfully, you do have to participate in all course activities i.e. discussion boards, course projects, reflective logs, etc. Students are expected to engage in course activities and submit work by due dates and times. The hope is that students will make substantive contributions which reflect integration of assigned materials as well as any outside readings as appropriate. Scholarly contribution is an expectation. For planning purposes, this class will probably require a minimum of 6-9 study hours per week on average.

Note: For online courses with a synchronous component, add requirements here. For required online meetings/class lectures, they must be noted in Banner as well.

Academic Integrity

Students are expected to maintain complete honesty and integrity in all work. Any student found guilty of any form of dishonesty in academic work is subject of disciplinary action and possible expulsion from ASU.

The College of Health and Human Services adheres to the university's [Statement of Academic Integrity](#).³

Accommodations for Students with Disabilities

ASU is committed to the principle that no qualified individual with a disability shall, on the basis of disability, be excluded from participation in or be denied the benefits of the services,

programs or activities of the university, or be subjected to discrimination by the university, as provided by the Americans with Disabilities Act of 1990 (ADA), the Americans with Disabilities Act Amendments of 2008 (ADAAA) and subsequent legislation.

Student Disability Services is located in the Office of Student Affairs, and is the designated campus department charged with the responsibility of reviewing and authorizing requests for reasonable accommodations based on a disability. It is the student's responsibility to initiate such a request by contacting an employee of the Office of Student Affairs, in the Houston Harte University Center, Room 112, or contacting the department via email at ADA@angelo.edu. For more information about the application process and requirements, visit the [Student Disability Services website](#).⁴ The employee charged with the responsibility of reviewing and authorizing accommodation requests is:

Dallas Swafford
Director of Student Disability Services
Office of Student Affairs
325-942-2047
dallas.swafford@angelo.edu
Houston Harte University Center, Room 112

Incomplete Grade Policy

It is policy that incomplete grades be reserved for student illness or personal misfortune. Please contact faculty if you have serious illness or a personal misfortune that would keep you from completing course work. Documentation may be required. See ASU Operating Policy 10.11 [Grading Procedures](#)⁵ for more information.

Plagiarism

Plagiarism is a serious topic covered in ASU's [Academic Integrity policy](#)⁶ in the Student Handbook. Plagiarism is the action or practice of taking someone else's work, idea, etc., and passing it off as one's own. Plagiarism is literary theft.

In your discussions and/or your papers, it is unacceptable to copy word-for-word without quotation marks and the source of the quotation. It is expected that you will summarize or paraphrase ideas giving appropriate credit to the source both in the body of your paper and the reference list.

Papers are subject to be evaluated for originality. Resources to help you understand this policy better are available at the [ASU Writing Center](#).⁷

Student Absence for Observance of Religious Holy Days

A student who intends to observe a religious holy day should make that intention known in writing to the instructor prior to the absence. See ASU Operating Policy 10.19 Student Absence for [Observance of Religious Holy Day](#)⁸ for more information.

Copyright Policy

Students officially enrolled in this course should make only one printed copy of the given articles and/or chapters. You are expressly prohibited from distributing or reproducing any portion of course readings in printed or electronic form without written permission from the copyright holders or publishers.

Syllabus Changes

The faculty member reserves the option to make changes as necessary to this syllabus and the course content. If changes become necessary during this course, the faculty will notify students of such changes by email, course announcements and/or via a discussion board announcement. It is the student's responsibility to look for such communications about the course on a daily basis.

Title IX at Angelo State University

Angelo State University is committed to providing and strengthening an educational, working, and living environment where students, faculty, staff, and visitors are free from sex discrimination of any kind. In accordance with Title VII, Title IX, the Violence Against Women Act (VAWA), the Campus Sexual Violence Elimination Act (SaVE), and other federal and state laws, the University prohibits discrimination based on sex, which includes pregnancy, and other types of Sexual Misconduct. Sexual Misconduct is a broad term encompassing all forms of gender-based harassment or discrimination and unwelcome behavior of a sexual nature. The term includes sexual harassment, nonconsensual sexual contact, nonconsensual sexual intercourse, sexual assault, sexual exploitation, stalking, public indecency, interpersonal violence (domestic violence or dating violence), sexual violence, and any other misconduct based on sex.

You are encouraged to report any incidents involving sexual misconduct to the Office of Title IX Compliance and the Director of Title IX Compliance/Title IX Coordinator, Michelle Boone, J.D. You may submit reports in the following manner:

Online: www.angelo.edu/incident-form

Face to face: Mayer Administration Building, Room 210

Phone: 325-942-2022

Email: michelle.boone@angelo.edu

Note, as a faculty member at Angelo State, I am a mandatory reporter and must report incidents involving sexual misconduct to the Title IX Coordinator. Should you wish to speak to someone in confidence about an issue, you may contact the University Counseling Center (325-942-2371), the 24-Hour Crisis Helpline (325-486-6345), or the University Health Clinic (325-942-2171).

For more information about resources related to sexual misconduct, Title IX, or Angelo State's policy please visit: www.angelo.edu/title-ix.

Course Schedule

| Week/Date | Topic/Assignments/Assessments DUE |
|-----------|-----------------------------------|
| Week 1 | Orientation, Chapter 1 and quiz |
| Week 2 | Chapter 2 and quiz |
| Week 3 | Chapter 3 and quiz |
| Week 4 | Chapter 4 quiz, Exam 1 |
| Week 5 | Chapter 5 and quiz |
| Week 6 | Chapter 6 and quiz |
| Week 7 | Chapter 7 and quiz |
| Week 8 | Chapter 8 and quiz |

| Week/Date | Topic/Assignments/Assessments DUE |
|-----------|--|
| Week 9 | Chapter 9 , quiz Exam 2 |
| Week 10 | Chapter 10 and quiz |
| Week 11 | Chapter 11 and quiz |
| Week 12 | Chapter 12, quiz, Exam 3 |
| Week 13 | Chapter 13 and quiz, Movement Analysis Due |
| Week 14 | Chapter 14 and quiz |
| Week 15 | Chapter 15 and quiz |
| Week 16 | Exam 4 |
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| Week/Date | Topic/Assignments/Assessments DUE |
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Grading Rubrics

Student Evaluation of Faculty and Course

Students in all programs are given the opportunity to evaluate their courses and the faculty who teach them. Evaluations are most helpful when they are honest, fair, constructive, and pertinent to the class, clinical experience, or course. Faculty value student evaluations, and use student suggestions in making modifications in courses, labs and clinical experiences.

Angelo State University uses the IDEA (Individual Development and Educational Assessment) system administered through Kansas State University for all course evaluations. The Office of Institutional Research and Assessment administers IDEA for the entire university, online and has established a policy whereby students can complete course evaluations free from coercion.

Select the SLO's you use

1. Gaining a basic understanding of the subject (e.g., factual knowledge, methods, principles, generalizations, theories)
2. Learning to apply course material (to improve thinking, problem solving, and decisions)
3. Learning how to find, evaluate, and use resources to explore a topic in depth

End of Syllabus

¹ <https://www.angelo.edu/student-handbook/>

² <https://www.angelo.edu/catalogs/>

³ <https://www.angelo.edu/student-handbook/community-policies/academic-integrity.php>

⁴ <https://www.angelo.edu/services/disability-services/>

⁵ <https://www.angelo.edu/content/files/14197-op-1011-grading-procedures>

⁶ <https://www.angelo.edu/student-handbook/community-policies/academic-integrity.php>

⁷ https://www.angelo.edu/dept/writing_center/academic_honesty.php

⁸ <https://www.angelo.edu/content/files/14206-op-1019-student-absence-for-observance-of>