



KINE 201: Functional Anatomy & Kinesiology

Term: Fall 2026

Credits: 4.0

Lecture Times & Location: Monday, Wednesday, Friday 3:00–3:50 p.m., Calder Health Sciences Building 150

Laboratory Time & Location: Tuesday 1:00–3:50 p.m., Calder Health Sciences Building 130

Modality: In-Person Lecture and Laboratory

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Instructor Information

- **Instructor:** Dr. Tyler Harwood (Assistant Teaching Professor of Kinesiology)
- **Email:** tharwood@university.alkimi.ai
- **Office:** Calder Health Sciences Building 322
- **Office Hours:**
 - Tuesday & Thursday: 11:30 a.m.–1:00 p.m. (In person, Calder Health Sciences Building 322)
 - Wednesday: 10:00–11:00 a.m. (Virtual via Zoom; link posted in Canvas)
 - Also available by appointment.

Course Description

The skeletal, articular, and muscular systems and their roles in human movement, joint mechanics, and movement analysis, with a weekly three-hour laboratory in palpation and anatomical models. KINE 201 bridges structural anatomy and the mechanical analysis of human motion. Students examine the osteology, articular structures, and neuromuscular architecture of the upper extremity, lower extremity, spine, and pelvis. Through weekly laboratory sessions in palpation, surface anatomy, and anatomical models, students learn to identify bony landmarks, trace muscle origins and insertions, determine planes and axes of motion, and diagnose functional movement patterns and muscular imbalances.

Prerequisites

BIO 101.

Measurable Student Learning Outcomes

Upon successful completion of KINE 201, students will be able to:

1. **Analyze Musculoskeletal Architecture:** Identify major bones, bony landmarks, articulations, and skeletal muscle groups, describing their functional roles in producing and controlling human movement.
2. **Master Surface Anatomy and Palpation:** Accurately locate and palpate superficial bony prominences, ligamentous structures, muscle bellies, and tendons on anatomical models and peer partners.
3. **Determine Joint Kinematics and Lever Mechanics:** Classify joints by structural and mechanical types, determining planes, axes, degrees of freedom, and anatomical lever systems during closed- and open-chain movements.

4. **Conduct Qualitative Movement Analysis:** Deconstruct complex multi-joint movement patterns into discrete phases, identifying prime movers, synergists, antagonists, and stabilizers throughout each phase.
5. **Evaluate Movement Dysfunction and Injury Risks:** Relate anatomical impairments, postural variations, and muscle length-tension relationships to common athletic and occupational overuse injuries.

Required Course Materials & Approximate Costs

1. **Floyd, R. T. *Manual of Structural Kinesiology*. 21st ed., McGraw Hill, 2021.** Approx. \$90 print, \$55 digital rental.
2. **Biel, Andrew. *Trail Guide to the Body: How to Locate Muscles, Bones and More*. 6th ed., Books of Discovery, 2019.** Approx. \$65 print.
3. **KINE 201 Laboratory Manual: Palpation, Articular Mechanics, and Movement Analysis. Alkimi University Copy Center, 2026.** Approx. \$20.
4. **Total estimated cost:** \$140 to \$175.

Generative AI Policy (AI Level 2: AI Permitted with Disclosure for Specified Tasks)

In accordance with Alkimi University Academic Policies (Student Handbook §5.8), KINE 201 operates under **AI Level 2**.

- **What is permitted:** You may use generative AI tools to generate anatomical study questions, clarify joint motion terminology, explain biomechanical lever mechanics, and review draft text of your movement analysis project for clarity and grammar.
- **What is prohibited:** You may not use generative AI during laboratory practical examinations, nor may you use AI to fabricate palpation observations, generate joint kinematic calculations, or complete weekly anatomy quizzes.
- **Disclosure:** All submitted project reports must include an AI-use disclosure statement describing any AI tools used and their exact role in the assignment. If no generative AI tools were used, state: 'No generative AI tools were used in preparing this work.'

Grading Components and Weights

- **Lecture Examination 1:** 15% (In class, Friday, September 25)
- **Lecture Examination 2:** 15% (In class, Friday, November 6)
- **Laboratory Practical 1 (Osteology and Upper Extremity Palpation):** 12% (In lab, week of October 5)
- **Laboratory Practical 2 (Lower Extremity, Trunk, and Movement Analysis):** 12% (In lab, week of November 30)
- **Qualitative Movement Analysis Project:** 14% (Due Friday, November 20 at 11:59 p.m.)
- **Weekly Canvas Anatomy Quizzes:** 12% (Due Mondays at 11:59 p.m. in Canvas; lowest quiz score dropped)
- **Final Comprehensive Examination:** 20% (Wednesday, December 16, 2026, 11:30 a.m.–1:30 p.m.)

Grading Scale (Alkimi University Standard)

- **A:** 93–100% | **A-:** 90–92%
- **B+:** 87–89% | **B:** 83–86% | **B-:** 80–82%
- **C+:** 77–79% | **C:** 73–76% | **C-:** 70–72%
- **D+:** 67–69% | **D:** 60–66% | **F:** Below 60%
- **Extra credit:** No extra credit assignments are offered in KINE 201.

Course Schedule (Fall 2026)

Week	Dates	Topics & Readings	Laboratory	Assignments & Deadlines
Week 1	Aug 26, 28	Foundations of Structural Kinesiology: Anatomical reference positions, directional terms, planes and axes of motion, and classifications of movement. <i>Reading: Floyd, Ch. 1</i>	<i>No lab meetings this week.</i>	<i>First day of classes: Wed Aug 26.</i>
Week 2	Aug 31–Sep 4	Neuromuscular Fundamentals and Lever Systems: Skeletal muscle architecture, contraction types, length-tension relationships, and first-, second-, and third-class mechanical levers. <i>Reading: Floyd, Ch. 2–3</i>	Lab 1: Skeletal Landmarks, Movement Planes, and Lever Mechanics	<i>Wed Sep 2: Add/section change deadline.</i>
Week 3	Sep 9, 11	The Shoulder Girdle: Sternoclavicular, acromioclavicular, and scapulothoracic joints; scapular movements and stabilizing musculature. <i>Reading: Floyd, Ch. 4; Biel, Ch. 2</i>	Lab 2: Scapulothoracic Osteology and Palpation of Shoulder Girdle Muscles	<i>Mon Sep 7: Labor Day (no classes). Wed Sep 9: Census date (last day to drop without a W).</i>
Week 4	Sep 14–18	The Glenohumeral Joint: Glenohumeral mechanics, rotator cuff anatomy, scapulohumeral rhythm, and muscle actions in overhead throwing and pushing. <i>Reading: Floyd, Ch. 5; Biel, Ch. 3</i>	Lab 3: Rotator Cuff Palpation and Glenohumeral Joint Kinematics	—
Week 5	Sep 21–25	The Elbow and Radioulnar Joints: Hinge mechanics of the elbow, pronation-supination kinetics, flexors, extensors, and valgus stress syndromes; Lecture Examination 1 in class. <i>Reading: Floyd, Ch. 6; Biel, Ch. 4</i>	Lab 4: Palpation of the Elbow Complex and Forearm Compartments	Lecture Examination 1 (in class).
Week 6	Sep 28–Oct 2	The Wrist and Hand: Radiocarpal joint, carpal tunnel anatomy, intrinsic versus extrinsic muscles of the hand, and prehension patterns. <i>Reading: Floyd, Ch. 7; Biel, Ch. 4</i>	Lab 5: Hand/Wrist Palpation and Functional Grip Biomechanics	—
Week 7	Oct 5–9	Upper Extremity Movement Analysis and Practical 1: Synthesis of upper extremity kinetic chains in push-ups, pull-ups, and throwing motions; Laboratory Practical 1 in lab. <i>Reading: Floyd, Ch. 8</i>	Lab 6: Laboratory Practical 1 (Osteology and Upper Extremity Palpation)	Laboratory Practical 1 (Osteology and Upper Extremity Palpation) (in lab section).
Week 8	Oct 14, 16	The Pelvic Girdle and Hip Joint: Pelvic alignment, acetabulofemoral articulation, ligamentous support, and hip flexor/extensor biomechanics. <i>Reading: Floyd, Ch. 9; Biel, Ch. 5</i>	<i>No lab meetings this week (holiday).</i>	<i>Oct 12–Oct 13: Fall break (no classes). Fri Oct 16: Midterm grades due.</i>
Week 9	Oct 19–23	Muscles of the Hip and Thigh: Gluteal complex, adductors, hamstrings, quadriceps, and pelvic stability during single-leg stance. <i>Reading: Floyd, Ch. 9; Biel, Ch. 5</i>	Lab 7: Pelvic Landmarks and Hip Musculature Palpation	—
Week 10	Oct 26–30	The Knee Joint Complex: Tibiofemoral and patellofemoral mechanics, meniscal roles, cruciate and collateral ligaments, and screw-home mechanism. <i>Reading: Floyd, Ch. 10; Biel, Ch. 6</i>	Lab 8: Knee Joint Ligamentous Stress Models and Patellofemoral Tracking	—
Week 11	Nov 2–6	The Ankle and Foot Complex: Talocrural and subtalar joints, arches of the foot, plantar fascia, and triceps surae mechanics; Lecture Examination 2 in class. <i>Reading: Floyd, Ch. 11; Biel, Ch. 7</i>	Lab 9: Palpation of Lower Leg Compartments, Ankle, and Foot Complex	<i>Fri Nov 6: Last day to withdraw (W) or elect Pass/No Pass. Lecture Examination 2 (in class).</i>

Week	Dates	Topics & Readings	Laboratory	Assignments & Deadlines
Week 12	Nov 9–13	The Vertebral Column and Thorax: Cervical, thoracic, and lumbar spine kinetics, intervertebral discs, erector spinae, and spinal stabilizing subsystems. <i>Reading: Floyd, Ch. 12; Biel, Ch. 8</i>	Lab 10: Palpation of the Spine, Paraspinal Musculature, and Rib Cage	—
Week 13	Nov 16–20	The Abdominal Wall and Core Stability: Rectus abdominis, obliques, transversus abdominis, intra-abdominal pressure mechanics, and lifting biomechanics. <i>Reading: Floyd, Ch. 12; Biel, Ch. 8</i>	Lab 11: Core Musculature Assessment and Spinal Loading Models	Qualitative Movement Analysis Project due Fri Nov 20 at 11:59 p.m.
Week 14	Nov 23	Functional Movement Assessment and Posture: Static postural assessment, plumb line analysis, lower crossed and upper crossed syndromes, and squat mechanics. <i>Reading: Floyd, Ch. 13</i>	Lab 12: Postural Screening and Squat Movement Analysis	Nov 25–Nov 27: <i>Thanksgiving break (no classes).</i>
Week 15	Nov 30–Dec 4	Gait Analysis and Practical 2: Phases of the human gait cycle, kinematic events, ground reaction forces, and pathomechanics; Laboratory Practical 2 in lab. <i>Reading: Floyd, Ch. 13</i>	Lab 13: Laboratory Practical 2 (Lower Extremity, Trunk, and Movement Analysis)	Laboratory Practical 2 (Lower Extremity, Trunk, and Movement Analysis) (in lab section).
Week 16	Dec 7, 9	Comprehensive Movement Analysis and Exam Review: Integrative movement analysis case studies, clinical applications in rehabilitation, and final exam synthesis. <i>Reading: Course review packet</i>	Lab 14: Capstone Movement Analysis Workshop and Open Practical Review	<i>Wed Dec 9: Last day of classes. Thu Dec 10: Reading Day.</i>
Finals	Dec 16	Final Comprehensive Examination: Wednesday, December 16, 2026, 11:30 a.m.–1:30 p.m., Calder Health Sciences Building 150.	—	Cumulative examination emphasizing muscle origins/insertions, joint kinematics, and functional movement analysis.

Course Policies

Attendance Policy

Lecture attendance is expected, and laboratory attendance is mandatory. In the laboratory, you develop palpation skills and hands-on movement assessment techniques with partners and specialized anatomical models. Missed laboratory sessions cannot be replicated outside class. Missing more than two laboratory sessions will result in a failing grade for the course. Students who miss the first two class meetings without notifying the instructor may be dropped. Students may miss class for religious observance without penalty if they notify the instructor in writing within the first two weeks of the semester (by Wednesday, September 9, 2026). Absences for university-sponsored activities (athletics, performances, conferences) are excused with a letter from the sponsoring office at least one week in advance.

Late Work Policy

Written project reports submitted past the designated due date will be penalized 10% per day for up to three calendar days. After 72 hours, late submissions will receive a grade of zero unless accompanied by documentation from Student Health Services or Academic Advising.

Laboratory Attire and Professional Touch

Students must wear appropriate athletic apparel (shorts and T-shirts or tank tops) during laboratory sessions to facilitate palpation of anatomical landmarks. Students are expected to maintain professional conduct,

communicate respectfully with peer partners, and respect personal boundaries at all times during surface palpation.

School of Nursing & Health Sciences Major Progression

Kinesiology majors must achieve a grade of C or higher in KINE 201 to satisfy degree requirements and advance to KINE 310 Biomechanics. Pass/No Pass grading is not permitted for courses required in the major.

Final Exam Policy

The final examination (Wednesday, December 16, 2026, 11:30 a.m.–1:30 p.m.) is scheduled by the University Registrar and can't be moved without the Dean's written approval (Faculty Handbook §5.5). A student with three or more final exams on the same calendar day may reschedule one of them. Requests go to the instructor of the middle exam by the last day of classes. For this term, send the request by Wednesday, December 9, 2026 (Student Handbook §6.4).

Academic Integrity

Alkimi University is an academic community devoted to rigorous scholarship, open intellectual inquiry, and uncompromising ethical conduct. All students are subject to the regulations of the Alkimi University Academic Integrity Policy. Academic dishonesty—including plagiarism, cheating on examinations, unauthorized collaboration, fabrication of empirical data, and unauthorized submission of academic work generated by artificial intelligence—undermines the integrity of the university and carries severe disciplinary sanctions. Sanctions range from a failing grade on an assignment or exam to an administrative course failure recorded as an 'XF' on the official transcript, academic suspension, or expulsion. Suspected violations are formally investigated and resolved through the Office of Academic Integrity in accordance with Faculty Handbook §6. For detailed information, consult the Office of Academic Integrity, Lovell Hall 315, (555) 555-0163, integrity@university.alkimi.ai.

Accessibility Services

Alkimi University is committed to providing equitable educational access and reasonable accommodations for all students with documented disabilities, including physical, sensory, psychological, learning, and chronic health conditions. Students requesting academic accommodations must formally register with the Office of Accessibility Services, Harlan Hall 204, (555) 555-0155, access@university.alkimi.ai. Once approved, students will receive an official Faculty Accommodation Letter detailing approved accommodations. Students should present this letter to the instructor as early in the semester as possible, and at least one week prior to any exam or assignment requiring accommodation. Accommodations cannot be applied retroactively.

Student Wellness and Mental Health

Your physical health, psychological well-being, and mental health are essential to your academic success. If you experience heightened stress, anxiety, depressive symptoms, personal trauma, or academic burnout, free, confidential counseling and medical care are available through the Hollis Health & Counseling Center, located in the Hollis Center. Routine appointments are available Monday–Friday 8:00 a.m.–6:00 p.m. and Saturday 10:00 a.m.–2:00 p.m. during the semester by calling (555) 555-0190 or emailing health@university.alkimi.ai. Urgent, 24/7 crisis psychological counseling is accessible immediately at (555) 555-0199.

Campus Student Support Services

- **Academic Advising Center:** Lovell Hall 101 | (555) 555-0158 | advising@university.alkimi.ai
- **Writing Center:** Whitcombe Library 3rd Floor | Free consultations on papers, reports, and research projects at any stage.

- **Whitcombe Library:** Whitcombe Library, Main Floor | (555) 555-0170 | askalibrarian@university.alkimi.ai
- **Hollis Health & Counseling Center:** Hollis Center | (555) 555-0190 | 24/7 Counseling Line: (555) 555-0199 | health@university.alkimi.ai
- **Kinesiology Anatomy Peer Study Table:** Calder Health Sciences Building 130 | Open lab hours with articulated skeletons and anatomical models, Thursdays 6:00–8:00 p.m.