

Department of Kinesiology

ATR 5087: Evidence Based Orthopedic Assessment of the Lower Extremity

Number of Units: 3

Fall 2019

Point Loma Nazarene University Mission

Point Loma Nazarene University exists to provide higher education in a vital Christian community where minds are engaged and challenged, character is modeled and formed, and service becomes an expression of faith. Being of Wesleyan heritage, we aspire to be a learning community where grace is foundational, truth is pursued, and holiness is a way of life.

Kinesiology Department Mission

The mission of the Department of Kinesiology is to prepare students to inform, maintain and improve the health, fitness and quality of life of themselves and the people they serve. The department is committed to educating our students and community in the science and benefits of optimal health and human performance; to developing in all students a lifelong habit of living healthfully; and to preparing students for the variety of career opportunities that utilize Kinesiology as a foundation.

Athletic Training Program Mission

The mission of the Athletic Training Program *is to* challenge and fully equip students to become highly effective allied health care professionals and lifelong learners who incorporate a Christian perspective, academic excellence and professional/relational proficiency. Point Loma's athletic training program will consist of extensive laboratory and clinical experiences designed to provide a multifaceted learning experience that incorporates current research and scholarly instruction. The desired outcome of the curriculum is to emphasize an evidence-based approach to healthcare with the integration of Christian faith to produce intellectually and spiritually sound clinicians who are service oriented and focused on providing patient-centered care. Graduates will achieve the entry-level competencies necessary to take and pass the certification examination offered by the [Board of Certification \(Links to an external site.\)](#) (BOC).

Course Description

This course addresses evaluation techniques and care for musculoskeletal injuries to the lower extremities for graduate-level athletic training students. The student must integrate knowledge of anatomical structures, physiology principles and evaluative techniques to provide a basis for evidence based critical decision-making in an injury management environment. To be successful in this course, students must synthesize information presented in the lecture and laboratory and apply it to the clinical setting.

Specifically, this means that studying for quizzes and tests should involve reviewing and integrating the essential ideas contained in both the lectures and the textbook. Where possible, we will do activities in class or have study sessions to improve your retention.

Graded assignments (e.g., tests, quizzes, assessment outlines and review of literature paper) will be used to help students identify, recall, synthesize and apply the key concepts in orthopedic assessment of the lower extremity.

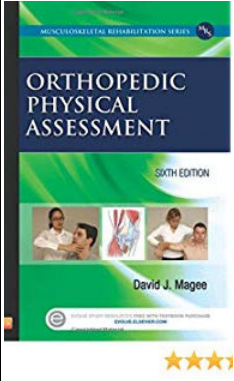
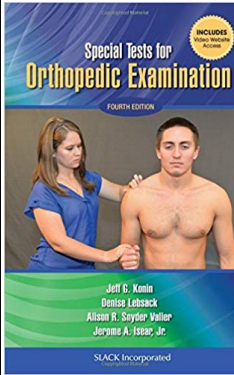
Program Learning Outcomes

- To prepare students to demonstrate competency in interpreting evidence-based research and improving clinical standards and practice through clinical question development and research methodology
- To prepare students to develop expertise in the athletic training domains through an integrative experiential clinical model
- To equip students with appropriate knowledge and educational foundation required for an entry-level Certified Athletic Trainer
- To prepare students to establish and understand the importance of inter-professional relationships, while collaborating with other health care professionals to become effective communicators
- To prepare students to demonstrate preparation, knowledge and skill in the delivery of comprehensive health care to a diverse set of patients with musculoskeletal injuries and conditions and illnesses in a distinctly moral and ethical manner, integrating Christian faith with clinical practice.

Learning Outcomes Of the Class

- Apply a differential diagnosis approach and appropriate medical referral techniques with respect to lower extremity and lumbar spine injuries sustained by athletes and physically active individuals. **PLO#1,3,4**
- Recognize, assess, make appropriate medical referral, and demonstrate knowledge of proper treatment of common injuries to the lower extremity and lumbar spine incurred by athletes and other physically active individuals. **PLO#1,3,4**
- Demonstrate understanding of the relationships between etiologic factors and resulting lower extremity and lumbar spine pathologies. **PLO#1,3,4**
- Demonstrate proper use of established musculoskeletal evaluation methods, e.g., history, inspection/observation, palpation, active & passive range of motion evaluation (with and without a goniometer), resisted range of motion evaluation, manual muscle testing, ligament stress tests, special tests, and neurological & vascular assessment for evaluating common sport-related lower extremity and lumbar spine injuries. **PLO#1,3,4**
- Assess normal and pathological gait **PLO#1,3,4**
- Develop an understanding and appreciation of the specialized roles of the numerous allied health practitioners typically involved in athletic injury assessment. **PLO#1,3,4**
- Develop an understanding of the principles of evidence-based medicine (EBM) and how they apply to sports medicine, specifically, the profession of athletic training.
- Prepare a SOAP note utilizing proper medical terminology. **PLO#1,3,4**

Required Books and Materials

	Title	Orthopedic Physical Assessment
	Author	David J. Magee
	Publisher	Saunders and Elsevier
	ISBN	978-1455709779
	Price	\$80-\$115
	Title	Special Tests for Orthopedic Examination 4th Edition
	Author	Jeff G. Konin PhD ATC PT, Denise Lebsack PhD ATC, Alison Snyder Valier PhD AT, Jerome A. Isear Jr. MS PT ATC-L
	Publisher	Slack
	ISBN	978-1617119828
	Price	\$50-\$70

Academic Accommodations

While all students are expected to meet the minimum academic standards for completion of this course, students with disabilities may require academic accommodations. To request academic accommodations, you'll need to file documentation with the [Disability Resource Center](#) (DRC), located in the Bond Academic Center. Once documentation is filed, the DRC will contact your instructors and provide written recommendations for reasonable and appropriate accommodation to meet your needs. If you have questions or would like to discuss those or any learning problems, please feel free to contact me. See [Academic Policies](#) for full text.

FERPA Policy

As a student at Point Loma, you have a legal right to privacy as outlined in the federal FERPA (Family Educational Rights and Privacy Act) legislation. If I post grades or return assignments, I'll do so in a way that does not publicly reveal your name, PLNU student ID, or social security number without your written permission. See [Policy Statements](#) for full text.

Final Examination Policy

Successful completion of this class requires taking the final examination **on its scheduled day**. The final examination schedule is posted on the [Class Schedules](#) site. No requests for early examinations or alternative days will be approved.

Use of Technology

Point Loma Nazarene University encourages the use of technology for learning, communication, and collaboration. In this course, we will rely on Canvas for accessing course materials, submitting assignments, and collaborating in discussion boards and blogs. We will also use cell phone polling when it enhances our in-class activities. You'll want to make sure you are comfortable with these tools, so take advantage of our computer LabTechs to answer questions and help you with any technology issues. You may also call the Help Desk at x2222.

You are welcome to bring your laptop, iPad, and/or cell phone to class—but please make sure you use them appropriately and responsibly. ***If a tech tool becomes a distraction or disruption while class is in session, I will ask you to put it away or invite you to no longer bring it to class.***

Academic Dishonesty

Students should demonstrate academic honesty by doing original work and by giving appropriate credit to the ideas of others. As stated in the university catalog, “Academic dishonesty is the act of presenting information, ideas, and/or concepts as one’s own when in reality they are the results of another person’s creativity and effort. Such acts include plagiarism, copying of class assignments, and copying or other fraudulent behavior on examinations. A faculty member who believes a situation involving academic dishonesty has been detected may assign a failing grade for a) that particular assignment or examination, and/or b) the course.” See [Academic Policies](#) for full text.

Course Assignments

Concept Mapping

To gain a deeper understanding of the patient evaluation process, students will be asked to use a concept map to lay out of all of the tasks that are required of a clinician to have completed a thorough initial evaluation process. This assignment will be crucial to your foundational skills.

Examples:

1. [Example One](#)
2. [Example Two](#)

Unit Homework Assignments

In order to ensure that students are doing the pre-reading and to prepare the student for lecture Unit Homework Assignments have been placed within each corresponding joint unit. Within each of these assignments, students should ensure their responses to the questions are thorough. This can be done by using your textbook and/or the internet if needed to help facilitate answers. The questions with each of these assignments have been selected because of the level of difficulty of the topic, they are intended to get you to critically think about the joint we are covering.

Injury Assessment Outlines

For each joint discussed in this course, students will be required to fill out an injury assessment outline. These injury assessment outlines have the MOST common pathologies observed/encountered in the field of athletic training. For this assignment students will populate the outline with the following information relating to the injury:

- Mechanism of Injury (MOI)/Etiology
- Signs and symptoms
- Special Tests used in the assessment of the pathology
- Common Diagnostic Test (x-ray, MRI, etc) used to diagnose the pathology

Case Scenarios

Each individual/group will be randomly assigned an injury/pathology associated with the Unit. You are to create an injury scenario for your assigned injury/pathology. The injury scenario **must** include:

- Presentation of the injury/pathology
- History
- Observation/Inspection
- Palpations
- Special tests
- Assessment
- Immediate treatment/plan

Students are encouraged to get creative with their injury scenario. However, the HOPS aspect MUST be complete and thorough. This assignment must be typed and each member if you are working in a group MUST upload their own copy to canvas!

Example:

1. [Example of quality case scenario](#) 

Late Work

For each day that an assignment is late the student will be docked 10%. If the assignment is more than 5 days late it will not be graded. Should you get sick, overwhelmed or have a family emergency please communicate with me to avoid the late work policy penalty.

Make Ups

Makeup exams/quizzes will be given only if the professor is notified of the excused absence prior to the missed class or if the student has a legitimate emergency. No make-up labs will be allowed.

Course Examinations

1. Unit examinations will be used to formatively measure student mastery of the cognitive and affective aspects of the course of st
2. The Final Examination will be comprehensive and summative.
3. No provision is made for early or make-up examination The final examination is Tuesday, December 10:30 – 1:00 pm.
4. Examinations should be regarded as:
 - An assessment of the student's current comprehension of the cognates of the course and the appreciations and values that are the effective aspect of being an allied healthcare professional
 - A learning experience. The professor will provide detailed feedback for the student in assessing the student's performance. The student should value the feedback as another exposure to the cognates and effective content of the course. Professor and student must strive together to accomplish greater understanding and acumen based upon the feedback rendered by the whole examination experience.
 - An opportunity to be accountable for one's own learning

Quizzes

Makeup exams/quizzes will be given only if the professor is notified of the excused absence prior to the missed class or if the student has a legitimate emergency. No make-up labs will be allowed.


Course Communication






Email will be the MAIN form of communication used by the professor outside of class. Students are expected to check their email at least ONCE A DAY. If you know of issues with your @pointloma.edu account please notify the professor immediately.




Course Grading

<u>GRADE</u>	<u>Percent - Based off of total points</u>
A	94-100
A-	90-93
B+	88-89
B	84-87
B-	80-83

Tentative Schedule

ATR 5087: Orthopedic Assessment of Lower Extremity Injuries Lecture Calendar			
Week	Date	Lecture	Assignments and Reading
UNIT ONE - THE INJURY EVALUATION PROCESS (CHAPTER 1)			
1	8-30 (R)	Injury Evaluation Process (Chapter 1)	Reading: 1-84
2	9-4 (T)	Injury Evaluation Process continued	Reading: 1-84 In class: Case Studies Application Assignment Due: Concept Mapping - Injury Evaluation Process
UNIT TWO - PELVIS (CHAPTER 10)			
2	9-6 (R)	Clinical Anatomy	Reading: 649-658 In Class: Anatomy Quiz
3	9-11 (T)	History, Observation, Range of Motion	Reading: 650-663
3	9-13 (R)	History, Observation, Range of Motion	Reading: 650-663
4	9-18 (T)	Special Tests (we will perform in the lab! area of focus should be on knowing the pathology being tested)	Reading: 664-679 Assignment Due: Injury Assessment Outlines 
4	9-20 (R)	UNIT 1-2 EXAM	Injury evaluation process and Pelvis
UNIT THREE - HIP and THIGH (CHAPTER 11)			

5	9-25 (T)	Clinical Anatomy	Reading: 689-695
5	9-27 (R)	History, Observation, Range of Motion	Reading: 689-705 Assignment Due: Unit 3 Homework 
6	10-2 (T)	History, Observation, Range of Motion	Reading: 689-705
6	10-4 (R)	Special Tests (we will perform in the lab! area of focus should be on knowing the pathology being tested)	Reading: 705-735 Assignment Due: Injury Assessment Outline  Group Case Studies 
7	10-9 (T)	UNIT EXAM 3	Hip and Thigh
UNIT FOUR - KNEE JOINT (CHAPTER 12)			
7	10-11 (R)	Clinical Anatomy	Reading: 765-766
8	10-16 (T)	Clinical Anatomy	Reading: 765-766 In class: Anatomy Quiz
8	10-18 (R)	History, Observation, Range of Motion	Reading: 766 - 780
9	10-23 (T)	History, Observation, Range of Motion	Reading: 766-780 Assignment Due: Unit 4 Homework 
9	10-25 (R)	History, Observation, Range of Motion	Reading: 766-780
10	10-30 (T)	Special Tests (we will perform in the lab! area of focus should be on knowing the pathology being tested)	Reading: 780-end of chapter Assignment Due: Injury Assessment Outline 

10	11-1 (R)	PFP Joint	
11	11-6 (T)	Unit 4 Exam	
UNIT 5 - LOWER LEG, ANKLE, FOOT (CHAPTER 13)			
11	11-8 (R)	Clinical Anatomy	Reading: 888-891 Assignment due: Unit 5 Homework 
12	11-13 (T)	History, Observation, Range of Motion	Reading: 892-923
12	11-15 (R)	History, Observation, Range of Motion	Reading: 892-923
13	11-20 (T)	Special Testing	Reading: 923-end of chapter Assignment Due: Injury Assessment Outline  Group Case Studies 
13	11-22 (R)	Thanksgiving Break No Class	NO CLASS STUDY STUDY STUDY
14	11-27 (T)	UNIT EXAM 5	
UNIT 6 - POSTURE and GAIT (CHAPTER 14-15)			
14	11-29 (R)	Foot and Toe Pathologies	
15	12-4 (T)	Healthy gait patterns and Static Posture	Reading: Chapter 16
15	12-6 (R)	Pathological gait patterns	Reading: Chapter 16 Assignment: Muscle Activity Sheets
Finals	12-11 (T)	Final Examination Cumulative	

No	Competency
PHP-3	Identify modifiable/non-modifiable risk factors and mechanisms for injury and illness.
PHP-21	Summarize the principles and concepts related to the fabrication, modification, and appropriate application or use of orthotics and other dynamic and static splints.
CE-4	Describe the principles and concepts of body movement, including normal osteokinematics and arthrokinematics.
CE-6	Describe the basic principles of diagnostic imaging and testing and their role in the diagnostic process.
CE-10	Explain diagnostic accuracy concepts including reliability, sensitivity, specificity, likelihood ratios, prediction values, and pre-test and post-test probabilities in the selection and interpretation of physical examination and diagnostic procedures.
CE-12	Apply clinical prediction rules (eg, Ottawa Ankle Rules) during clinical examination procedures.
CE-13	Obtain a thorough medical history that includes the pertinent past medical history, underlying systemic disease, use of medications, the patient's perceived pain, and the history and course of the present condition.
CE-14	Differentiate between an initial injury evaluation and follow-up/reassessment as a means to evaluate the efficacy of the patient's treatment/rehabilitation program, and make modifications to the patient's program as needed.
CE-17	Use clinical reasoning skills to formulate an appropriate clinical diagnosis for common illness/disease and orthopedic injuries/conditions.
CE-18	Incorporate the concept of differential diagnosis into the examination process.
CE-20a	history taking
CE-20b	inspection/observation
CE-20c	palpation
CE-20e	selective tissue testing techniques / special tests
CE-20f	neurological assessments (sensory, motor, reflexes, balance, cognitive function)

No	Competency
CE-21a	Assessment of posture, gait, and movement patterns
CE-21b	Palpation
CE-21c	Muscle function assessment
CE-21d	Assessment of quantity and quality of osteokinematic joint motion
CE-21e	Capsular and ligamentous stress testing
CE-21f	Joint play (arthrokinematics)
CE-21g	Selective tissue examination techniques / special tests
CE-21h	Neurologic function (sensory, motor, reflexes, balance, cognition)
CE-22	Determine when the findings of an examination warrant referral of the patient.
AC-5	Obtain a medical history appropriate for the patient's ability to respond.
TI-17	Analyze gait and select appropriate instruction and correction strategies to facilitate safe progression to functional gait pattern.
HA-1	Describe the role of the athletic trainer and the delivery of athletic training services within the context of the broader healthcare system.
PD-9	Specify when referral of a client/patient to another healthcare provider is warranted and formulate and implement strategies to facilitate that referral.
CIP-4b	lower extremity