



Department of Kinesiology

ATR 6088: Orthopedic Assessment of the Head, Spine and Upper Extremity

4 Units

Spring, 2021

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Office location and hours: as needed on Zoom, before and after class, and at Balboa campus.

PLNU MISSION

To Teach ~ To Shape ~ To Send

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 is an expression of faith. Being of Wesleyan heritage, we strive to be a learning community where grace is foundational, truth is pursued, and holiness is a way of life.

COURSE DESCRIPTION

This course equips students to implement the S.O.A.P. method of orthopedic assessment to specific injuries of the axial skeleton, central nervous system, thorax, abdomen and upper extremity. Clinical role-playing in the lab setting will allow students to practice and master injury/illness examination through the use of the differential diagnosis process.

COURSE AIM

This course aims to provide you with in-depth study of the differential diagnosis process that is essential for the healthcare provider. We will study the following regions:

- Head, Face, EENT
- Spine (cervical, thoracic, lumbar and sacral)
- Thorax and Abdomen
- Shoulder
- Elbow

- Wrist, Hand & Fingers

COURSE GOAL:

The goal of this course is to provide you with in-depth study of the clinical examination for the upper extremity that is essential for the healthcare provider. My goal throughout is to develop your “clinical minds” to become orthopedic detectives that learn to arrive at appropriate diagnoses and provide the best care for your patients. *To be successful in this course, you should always take the mindset of actively synthesizing information presented in lecture and lab and applying it to the clinical setting. Specifically, this means that studying for quizzes, tests and lab practicals should involve reviewing and integrating the essential ideas by asking the “*Why?*” and “*So what does this mean?*” questions.

COURSE LEARNING OUTCOMES

This course will prepare you to:

1. Utilize and master the components of the *orthopedic examination process* (i.e., perform a thorough History, Inspect, Palpate, and utilize Special Tests) to determine the presence of physical problems in patients.
2. Discover and execute the process of *differential diagnosis*, which involves determining which pathology—from among a variety of possible conditions—is the probable cause of an individual’s symptoms.
3. *Note:* You will create video tutorials and differential diagnosis algorithms to aid in learning the differential diagnosis process; you will edit and refine the work of your colleagues in this process.
4. Describe and appraise the etiology, symptoms, signs and management of upper extremity injuries.
5. Research, summarize and critique contemporary literature on the evaluation and management of potentially catastrophic injuries to the cervical spine and brain.
6. Through laboratory sessions, practice and become proficient in the clinical evaluation of upper extremity posture, flexibility, neurological status and muscular strength.

REQUIRED AND RECOMMENDED TEXTS

Required:

Title	<u>Examination of Orthopedic and Athletic Injuries, 4th Ed.</u> (you may buy 3 rd or 4 th edition of this book)
Author	Chad Starkey; Sara D. Brown

ISBN	978-0-8036-3918-8
Publisher	F. A. Davis Company
Publication Date	2015
Title	Special Tests for Orthopedic Examination, 3rd edition
Author	Jeff G. Konin; Holly Brader; Jerome A. Isear; Denise L. Wiksten
ISBN	ISBN 978-1-55642-741-1
Publisher	SLACK, Inc
Publication Date	January 28, 2006

ASSESSMENT AND GRADING

Discussion Board

We will use discussion boards to expand upon topics raised in class and from your reading of the textbook and outside journals. You will have the opportunity, via the Discussion Boards, to interact with your fellow students and with me and to discuss topics of interest to you. You are invited to become engaged with others in this class as you debate issues raised in the questions, examine and analyze case studies related to the content, and respond to the comments of your classmates. In the process, my hope is that you will refine each other, acting as colleagues to improve learning.

For each Discussion Board topic, you will be required to post one response of your own and also at times to post a reply to a classmate's response (e.g. the tutorials). Thus, you must respond at least once and sometimes twice to each Discussion Board topic on Canvas. Your response to a classmate's post may include one or more of the following:

- Ask a probing question
- Share an insight from having read your classmate's post
- Offer and provide evidence to support an opinion
- Validate a classmate's idea with reference to your own experiences
- Make a suggestion for improvement
- Expand on your classmate's post.

To receive full credit for your participation, your posts must also be made in a timely way. Specifically, this means that you must **post a response during the week after we first encounter a new topic and your colleagues have posted their tutorial assignment**. So, for instance, if a colleague posts a tutorial on the Shoulder on November 1st, then you will need to make your posts on the Discussion Board topic by November 8th in order to receive full credit.

I will review the input that you have given to these Discussion Boards and will award up to 3 points for each Discussion Board posting that you have made, based on the quality of your post. The maximum points available for Discussion Board participation is 30 points. I will also post these instructions with some ground rules.

Clinical Examination Video Tutorials: *Manual muscle testing and special tests*

You will be asked to partner with two colleagues to produce a tutorial video on the Clinical Examination of a specific joint of your choosing. In your video tutorial, make sure to include an *Evidence-Based Approach*: this means you should choose to demonstrate the most clinically useful **Manual Muscle Tests and Special Tests** used to evaluate the joint. You will share your video tutorial with your colleagues via *YouTube* for their education and constructive feedback. You will each also comment on the other tutorials created by your colleagues via Discussion Board.

Your tutorial should include and discuss:

- At least 10 of the most commonly used special tests to evaluate the joint that you select.
- Demonstration of specific direction on patient positioning, direction of testing, S/S of a positive test, and pathology that each test rules in/out
- Wherever possible, comment on the reliability, sensitivity, specificity and predictive ability of the special tests that you choose (*It is critical that your colleagues have a sense about which are the most clinically useful and valuable tests to choose when conducting a differential evaluation. Consult research articles in this area since these psychometric properties are continuing to be reported on.*)
 - Indicate if a cluster of special tests might be used to increase your ability to diagnose a condition (e.g. SI joint tests)

This is a helpful YouTube channel for your review: <http://www.youtube.com/user/bigesor>

Please choose 1 joint below for your tutorial. Remember, you will each also comment on the other tutorials via Discussion Board on Canvas.

- *Lumbar Spine*
- *Sacroliac Joint*
- *Cervical Spine*
- *Shoulder & Scapula*
 - *Instability and Impingement*
- *Elbow & Wrist*
- *Eyes, Ears, Throat*

Quizzes

Quizzes will be accomplished through various forms: (iPad anatomy app, partner quiz, online quiz, mid-class session polling, etc) and through take-home assignments.

Lab Practicals

Lab practicals will occur at the completion of each anatomically specific unit to evaluate student mastery of the psychomotor skills required of the allied health care professional. You will most likely take these lab practicals with a partner.

Lecture Exams

We will have unit examinations to measure your mastery of the material. The final exam will be comprehensive and will require that you have a firm grasp of the orthopedic evaluation process for all joints of the upper extremity that we cover in class. It benefits you to speak with me early about if you will be traveling with a team, or if a family emergency has come up. There are no provisions for early or make-up examinations if you do not communicate clearly in advance.

Examinations should be regarded as an assessment of your readiness to progress toward your given allied health care profession. They will also serve as a learning experience because I will provide detailed feedback for you. Finally, they are an opportunity to be accountable for your learning.

Differential Diagnosis Injury Assessment Outlines (IAO):

These outlines require you to demonstrate the *differential diagnosis* process for various joints. The process refines your ability to determine (“rule in”) an injury from which a patient is suffering while excluding (“ruling out”) conditions that the examination findings do not support.

1. Utilizing an outline format, outline the History, Inspection, Palpation, and Special Tests (including Functional, Ligamentous, and Neurological tests) used to assess pathologies in the following regions:
 - - Face/Eye
 - Head/Neck (C spine)
 - Lumbar Spine (We will interact in class to produce this differential dx algorithm)
 - Shoulder
2. Outlines are due at the completion of each of the anatomically specific units.
 - - Utilize and reference at least two sources in addition to your textbook.

- For the *History section*: after listing a specific question, *provide specific rationale for asking that question* (i.e., When you ask what a patient ate for breakfast, what specific symptom are you evaluating?)
- For *Special Tests* section: *provide the specific pathology* ruled-out with each test (e.g., When you perform the Halo test, what specific pathology are you attempting to rule out? Straight Leg Raise?).

Executive Summary: Review of Current Literature: *An Experience in Scientific Writing*

Requirements:

A formal paper is required based upon a thorough review and critical analysis of the current literature on one of the topics below. While a traditional research paper requires extensive analysis and writing, an **executive summary** summarizes or reviews the main points of a current topic for an audience that may not have time to read the literature on that topic. An effective executive summary **analyzes and summarizes** the most important points of the topic, and will often make a **recommendation** based on the analysis. Executive summaries are “stand-alone” documents that give an audience the best current advice on a topic.

Expectations are high for this paper; the finished product should be of such quality as to be eligible for submission to a peer-reviewed journal or to a student-writing contest (such as the NATA, APTA, or other foundation). You may select one of the following topics on which to write your executive summary (your title does not have to match these exactly. Be innovative, but please have your professor review your working title if it deviates from those below.) I will have you turn in your Abstract, Introduction and Sources on a separate occasion before the final paper.

1. Evidence-based diagnosis and treatment of the Sacroiliac Joint
2. Assessment of the Cervical Spine: pathomechanics, injuries and management strategies
3. Classification systems for lumbar spine pathology: which classification system is best?
4. Evidence based treatment and return to play guidelines for Mild Traumatic Brain Injury.
5. “Differential Diagnosis of Glenohumeral Impingement Syndromes”
6. “Differential Diagnosis of Glenohumeral Instability” or “Surgical options for treating anterior glenohumeral instability”.
7. Another topic which has been approved by Dr. Cosby.

Format:

AMA Style (Consult American Medical Association *Manual of Style*.)

Minimum length: at least **5 pages**, double-spaced

Title page

Include ****Abstract** on a separate leaf following title page-see example on Canvas

Abstracts and references will be submitted prior to 1st draft

References

At least 5 references minimum.

References must be from peer-reviewed medical and/or allied health journals (i.e., Am J Sports Med, JAMA, Arch. Phys. Med. Rehab, JAT, Sport Health, JSR, JOSPT, PT, etc).

All references must be published within the past 10 years. Professor has resources if needed.

GRADING

A total of 1000 points is possible in this class as follows:

Assignment	Point Possible
Clinical Examination Video Tutorial 1@50 pts	50
Discussion Boards	40
Quizzes 5@10 pts each	50
Video Response 10 @ 5 pts each	50
Lab Practicals 4@60 pts each	240
Written Exams 3@100 pts each	300
Differential Diagnosis: Injury Assessment Outlines 4@25 pts	100
Executive Summary	50
Final Exam	120

INCOMPLETES AND LATE ASSIGNMENTS

All assignments are to be submitted/turned in when they are due as outlined in Canvas. Incompletes will only be assigned in extremely unusual circumstances. Be sure to communicate regularly with me and let me know if something in your life is impacting your academic performance.

PLNU ATTENDANCE AND PARTICIPATION POLICY

Regular and punctual attendance at all **synchronous** class sessions is considered essential to optimum academic achievement. If the student is absent for more than 10 percent of class sessions (virtual or face-to-face), the faculty member will issue a written warning of de-enrollment. If the absences exceed 20 percent, the student may be de-enrolled without notice until the university drop date or, after that date, receive the appropriate grade for their work and participation. In some courses, a portion of the credit hour content will be delivered **asynchronously** and attendance will be determined by submitting the assignments by the posted due dates. See [Academic Policies](#) in the Graduate and Professional Studies Catalog. If absences exceed these limits but are due to university excused health issues, an exception will be granted.

Asynchronous Attendance/Participation Definition

A day of attendance in asynchronous content is determined as contributing a substantive note, assignment, discussion, or submission by the posted due date. Failure to meet these standards will result in an absence for that day. Instructors will determine how many asynchronous attendance days are required each week.

DIVERSITY AND INCLUSION IN CLASS

It is my intent that students from all diverse backgrounds and perspectives be well-served by this course, that students' learning needs be addressed both in and out of class, and that the diversity that the students bring to this class be viewed as a resource, strength, and benefit. It is my intent to present materials and activities that are respectful of diversity: disability, age, socioeconomic status, ethnicity, race, nationality, religion, gender, and culture. Your suggestions are encouraged and appreciated. Please let me know ways to improve the effectiveness of the course for you personally, or for other students or student groups as we seek to become exceptional health care providers for all patients. To help accomplish this:

- If you have a name or nickname that differs from what appears in your official PLNU records, please let me know!
- If you feel like your performance in the class is being impacted by your experiences outside of class, please don't hesitate to come and talk with me. I want to be a resource for you.
- I (like many people) am still in the process of learning about diverse perspectives and identities. If something was said or done in class (by anyone) that made you feel uncomfortable, please talk to me about it.

PLNU COPYRIGHT POLICY

Point Loma Nazarene University, as a non-profit educational institution, is entitled by law to use materials protected by the US Copyright Act for classroom education. Any use of those materials outside the class may violate the law.

PLNU ACADEMIC HONESTY POLICY

Students should demonstrate academic honesty by doing original work and by giving appropriate credit to the ideas of others. 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. A faculty member who believes a situation involving academic dishonesty has been detected may assign a failing grade for that assignment or examination, or, depending on the seriousness of the offense, for the course. Faculty should follow and students may appeal using the procedure in the university Catalog. See the [Academic Honesty Policy](#) in the Graduate and Professional Studies Catalog for definitions of kinds of academic dishonesty and for further policy information.

PLNU ACADEMIC ACCOMMODATIONS POLICY

While all students are expected to meet the minimum standards for completion of this course as established by the instructor, students with disabilities may require academic adjustments, modifications or auxiliary aids/services. At Point Loma Nazarene University (PLNU), these students are requested to register with the Disability Resource Center (DRC), located in the Bond Academic Center (DRC@pointloma.edu or 619-849-2486). The DRC's policies and procedures for assisting such students in the development of an appropriate academic adjustment plan (AP) allows PLNU to comply with Section 504 of the Rehabilitation Act and the Americans with Disabilities Act. Section 504 prohibits discrimination against students with special needs and guarantees all qualified students equal access to and benefits of PLNU programs and activities. After the student files the required documentation, the DRC, in conjunction with the student, will develop an AP to meet that student's specific learning needs. The DRC will thereafter email the student's AP to all faculty who teach courses in which the student is enrolled each semester. The AP must be implemented in all such courses.

If students do not wish to avail themselves of some or all of the elements of their AP in a particular course, it is the responsibility of those students to notify their professor in that course. PLNU highly recommends that DRC students speak with their professors during the first two weeks of each semester about the applicability of their AP in that particular course and/or if they do not desire to take advantage of some or all of the elements of their AP in that course.

USE OF TECHNOLOGY

In order to be successful in the online environment, you'll need to meet the minimum technology and system requirements; please refer to the [Technology and System Requirements](#) information. Additionally, students are required to have headphone

speakers compatible with their computer available to use. If a student is in need of technological resources please contact student-tech-request@pointloma.edu.

Problems with technology do not relieve you of the responsibility of participating, turning in your assignments, or completing your class work.