

ATR6088 and ATR6088L

Evidence Based Orthopedic Assessment Of The Spine And Upper Extremities (4 units)

Instructor: Dr. Nicole Cosby

Semester: Spring 2024

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Course Times:

Lecture: Thursdays, 9:30am-10:45am

Lab: 11:00am - 1:00pm

Final Exam: Thursday, May 2 at 9:30am

Office Hours: By Email

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

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. 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

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|-------|---|
| Title | <p>Examination of Orthopedic and Athletic Injuries, 4th Edition https://www.amazon.com/Examination-Orthopedic-Athletic Starkey/dp/080363918X</p> <p>(you may buy 3rd or 4th edition of this book)</p> |
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| 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 (https://www.amazon.com/Special-Tests-Orthopedic-Examin Konin/dp/1617119822) |
| Author | Jeff G. Konin; Holly Brader; Jerome A. Isear; Denise L. W |
| ISBN | ISBN 978-1-55642-741-1 |
| Publisher | SLACK, Inc |

Course Credit Hour Information

In the interest of providing sufficient time to accomplish the stated Course Learning Outcomes, this class meets the PLNU credit hour policy for a 4 unit class delivered over 15 weeks. It is anticipated that students will spend a minimum of 37.5 participation hours per credit hour on their coursework. For this course, students will spend an estimated 150 total hours meeting the course learning outcomes. The time estimations are provided in the Canvas modules.

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> 
(<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?).

Grading

| 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 |

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. If you find yourself scheduled for three (3) or more final examinations on the same day, you are authorized to contact each professor to arrange a different time for one of those exams. However, unless you have three (3) or more exams on the same day, no requests for alternative final examinations will be granted.

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.

Spiritual Care

Please be aware PLNU strives to be a place where you grow as whole persons. To this end, we provide resources for our students to encounter God and grow in their Christian faith.

If students have questions, a desire to meet with the chaplain or have prayer requests you can contact your professor or the [Office of Spiritual Life and Formation](#).

State Authorization

State authorization is a formal determination by a state that Point Loma Nazarene University is approved to conduct activities regulated by that state. In certain states outside California, Point Loma Nazarene University is not authorized to enroll online (distance education) students. If a student moves to another state after admission to the program and/or enrollment in an online course, continuation within the program and/or course will depend on whether Point Loma Nazarene University is authorized to offer distance education courses in that state. It is the student's responsibility to notify the institution of any change in his or her physical location. Refer to the map on [State Authorization](#) to view which states allow online (distance education) outside of California.

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 [Academic Policies](#) for definitions of kinds of academic dishonesty and for further policy information.

Artificial Intelligence (AI) Policy

You are allowed to use Artificial Intelligence (AI) tools (e.g, ChatGPT, iA Writer, Marmot, Botowski) to generate ideas, but you are not allowed to use AI tools to generate content (text, video, audio, images) that will end up in any work submitted to be graded for this course. If you have any doubts about using AI, please gain permission from the instructor.

PLNU Academic Accommodations Policy

PLNU is committed to providing equal opportunity for participation in all its programs, services, and activities. Students with disabilities may request course-related accommodations by contacting the Educational Access Center (EAC), located in the Bond Academic Center (EAC@pointloma.edu or 619-849-2486). Once a student's eligibility for an accommodation has been determined, the EAC will issue an academic accommodation plan ("AP") to all faculty who teach courses in which the student is enrolled each semester.

PLNU highly recommends that students speak with their professors during the first two weeks of each semester/term about the implementation of their AP in that particular course and/or if they do not wish to utilize some or all of the elements of their AP in that course.

Students who need accommodations for a disability should contact the EAC as early as possible (i.e., ideally before the beginning of the semester) to assure appropriate accommodations can be provided. It is the student's responsibility to make the first contact with the EAC.

Language and Belonging

Point Loma Nazarene University faculty are committed to helping create a safe and hospitable learning environment for all students. As Christian scholars we are keenly aware of the power of language and believe in treating others with dignity. As such, it is important that our language be equitable, inclusive, and prejudice free. Inclusive/Bias-free language is the standard outlined by all major academic style guides, including MLA, APA, and Chicago, and it is the expected norm in university-level work. Good writing and speaking do not use unsubstantiated or irrelevant generalizations about personal qualities such as age, disability, economic class, ethnicity, marital status, parentage, political or religious beliefs, race, gender, sex, or sexual orientation. Inclusive language also avoids using stereotypes or terminology that demeans persons or groups based on age, disability, class, ethnicity, gender, race, language, or national origin. Respectful use of language is particularly important when referring to those outside of the religious and lifestyle commitments of those in the PLNU community. By working toward precision and clarity of language, we mark ourselves as serious and respectful scholars, and we model the Christ-like quality of hospitality.

You may report an incident(s) using the [Bias Incident Reporting Form](#).

Sexual Misconduct and Discrimination

In support of a safe learning environment, if you (or someone you know) have experienced any form of sexual discrimination or misconduct, including sexual assault, dating or domestic violence, or stalking, know that accommodations and resources are available through the Title IX Office at pointloma.edu/Title-IX. Please be aware that under Title IX of the Education Amendments of 1972, faculty and staff are required to disclose information about such misconduct to the Title IX Office.

If you wish to speak to a confidential employee who does not have this reporting responsibility, you can contact Counseling Services at counselingservices@pointloma.edu or find a list of campus pastors at pointloma.edu/title-ix.

PLNU Attendance and Participation Policy

Regular and punctual attendance at all class sessions is considered essential to optimum academic achievement. If the student is absent for more than 10 percent of class sessions, 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 withdrawal date or, after that date, receive an “F” grade.

Note: The below must be added to the “PLNU Attendance and Participation Policy” Section if you are teaching an Online or Hybrid course.

Course Modality Definitions*

- 1. In-Person:** Course meetings are face-to-face with no more than 25% online delivery.
- 2. Online:** Coursework is completed 100% online and asynchronously.
- 3. Online Synchronous:** Coursework is completed 100% online with required weekly online class meetings.
- 4. Hybrid:** Courses that meet face-to-face with required online components.

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.

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.

Use of Technology

Note: Include this section if teaching an Online or Hybrid course.

In order to be successful in the online or hybrid 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, microphone, or webcams compatible with their computer available to use. Please note that any course with online proctored exams requires a computer with a camera (tablets are not compatible) to complete exams online.

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