PLNU forward

Spring 2020

Department of Kinesiology

ATR 3087: Assessment of Lower Extremity Pathology
Number of units: 3

Meeting days: Tuesday, Thursday	**Instructor:** Shawna Baker, MS, ATC
Meeting times: 11:00 – 12:15 pm	**Office phone:** 619-849-2914
Meeting location: Kinesiology #1	**E-mail:** shawnabaker@pointloma.edu
Any additional info: Labs in SMC	**Office hours:** By appointment
Final Exam: Thursday, May 7, 2020 10:30 am – 1:00 pm	**Canvas Login:** canvas.pointloma.edu

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 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.

COURSE DESCRIPTION and AIM

This course aims to provide you with in-depth study and eventual mastery of the knowledge and skills you will need as a health professional to assess injuries to the:

- ✓ Foot and Ankle
- ✓ Knee
- ✓ Pelvis
- ✓ Thigh
- ✓ Hip

To be successful in this course, students must synthesize information presented in the lecture and laboratory and apply it to the clinical setting. Specifically, 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 upper extremity.

STUDENT LEARNING OUTCOMES

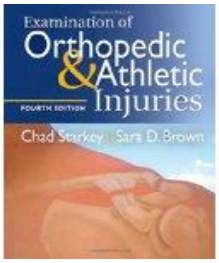
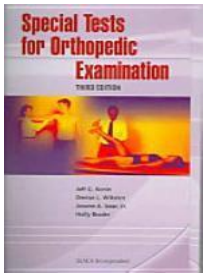
Upon completing this course, you should be able to:

- 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.

- Appreciated the importance of a systematic approach to injury assessment and documentation.
- 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.
- Describe and appraise the etiology, symptoms, signs and management of upper extremity injuries.
- Research, summarize and critique contemporary literature on the evaluation and management of an injury to the lower extremity.
- Through laboratory sessions, practice students will become proficient in the clinical evaluation of lower extremity posture, flexibility, neurological status and muscular strength.
- Students will describe the use of diagnostic imaging tests used for assessment of injury and illness when prescribed by a medical doctor.

REQUIRED TEXTS AND RECOMMENDED RESOURCES

	**Title**	**Examination of Orthopedic and Athletic Injuries**
	Author	Chad Starkey; Sara D. Brown; Jeff Ryan
	ISBN	978-0-8036-1720-9
	Publisher	F. A. Davis Company
	Publication Date	January 30, 2015
	Price	Hard Copy $89.95, Kindle Edition: $45.25
	**Title**	**Special Tests for Orthopedic Examination**
	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
	Price	$47.95

ACADEMIC ACCOMMODATIONS

If you have a diagnosed disability, please contact PLNU's Disability Resource Center (DRC) within the first two weeks of class to demonstrate need and to register for accommodation by phone at 619-849-2486 or by e-mail at DRC@pointloma.edu. See Disability Resource Center for additional information.

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 per university policy.

PLNU ATTENDANCE AND PARTICIPATION POLICY

Regular and punctual attendance at all classes is considered essential to optimum academic achievement. If the student is absent from more than 10 percent of class meetings, the faculty member can file a written report which may result in 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. See Academic Policies in the Undergraduate Academic Catalog.

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.

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. You will 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 disruption in class, I will ask you to put it away or invite you to no longer bring it to class.***

ACADEMIC HONESTY

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.

ACTIVE LEARNING AND EVIDENCE BASED MEDICINE

Active Learning

Your active participation in this class will be required. You will be responsible for your own learning by reviewing class material before and after class. I will guide you in this process; however, in the end the onus of learning will be your responsibility. **Become intrinsically motivated to improve yourself and your understanding of therapeutic modality treatments** and techniques; if you do this you will succeed every time.

Here are some KEYS to success:

o EFFORT (Work hard)
o APPROACH (Work smart)
o ATTITUDE (Think positively)

Evidence Based Medicine

Evidence based medicine (EBM) is the integration of clinically relevant research, clinical skills and experience, and patient preferences and values (Sackett et al 2000). The increased awareness **and focus on the practice of Evidence Based Medicine comes from our daily need for valid information about diagnosis, prognosis, therapy, and prevention.** We want to ask local questions about the effectiveness of

therapeutic modalities and design ways to find answers. The EBM portion of this course is **designed so students can explore evaluation techniques of the lower extremity commonly used in medicine** and determine what **evidence is available to support their current uses**.

COURSE REQUIREMENTS

*Please Note: *The PLNU Catalog states that 1 semester unit represents an hour of class per week, and 2 hours of preparation are normal for each hour of class. Therefore, if you spend about 4 hrs per week outside of class in preparation, you will significantly increase your chances of doing well!*

Course Assignments

Discussion Boards

We will utilize the Discussion Board feature of canvas to expand upon topics raised during 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.

For each Discussion Board topic, you will be required to post one response of your own and to post one reply to a classmate's response. Thus, you must respond at least **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 chapter or topic. So, for instance, if we first start discussing the Ankle on March 1st , then you will need to make your posts on the Learning Discussion Board topic(s) by March 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. **THE PROVISION OF 3 POINTS FOR YOUR POSTING WILL BE 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 on canvas.

Evidence Based Decision Videos (100 points)

You will be asked to partner with 2-3 of your colleagues to produce an educational video on cluster testing for an assignment joint within the body. Each group will be assigned a common injury within the lower extremity and be asked to research and present a cluster of tests that would be most effective at ruling in and ruling out pathologies based on the current evidence. Students will be asked to do the following in each video:

1. Present the epidemiology and significance of the injury within the lower extremity and athletic/general population
2. Present a cluster of special tests (that they found in the research or text) that a clinician should/could use in a quick assessment

3. Provide justification for the tests presented in the video (should include current research - within the last 5 years, can you use the text)
4. Perform the special tests and provide verbal instruction on how to perform (in other words, step by step instructions)

The students are responsible for uploading the video to YouTube…once the video is uploaded to YouTube you will then copy and paste your link into the assigned joint specific discussion board to start the discussion. This video should be uploaded on the assigned due date so that others have a chance to comment and provide feedback.

Lower Quarter Screening Project (40 Points)

Students will be responsible for creating/designing a video, picture, diagram etc which will help with the memorization of the lower quarter screen!

For this project students will be required to include the following:

- Myotomes and Dermatomes for the lower extremity
- Description and the importance of the lower quarter screen in the clinical setting
- Please be creative…do not just draw and color the myotomes! Bring your inner creativity out www.youtube.com/watch?v=LZi4kAyzj9I&list=PL7E354F8A6557103&index=3

Drawing and Classification of Fx/Peripheral Nerve Injuries (30 Points)

Students will be responsible for drawing and labeling the Salter Harris fractures and types of fractures that can occur to the skeleton. Students must also provide a sentence or 2 on what life would be like if each of the fractures occurred to a young skeleton. In otherwords, how would structure and function be impacted by each of these fractures. Please see pages 92, 95-97 for the minimum expectation for the assignment. An in class quiz will be administered the day this HW assignment is due.

Labeling and Drawing (20 Points Each)

Students will be given 2 out of class HW assignments which required them to draw, color and label certain anatomical structures. Handouts will be given 1 week in advance along with instructions.

Critical Appraisal Topic (100 points)

Requirements:

A critically appraised topic (CAT) is a systematic review in that it summarizes the best evidence in a body of literature; however, it is a **shorter manuscript** and **less rigorous critical review** for **answering the clinical question of interest**. CATs provide an excellent mechanism **for busy evidence-based practice clinicians** to collect and disseminate information they find while searching for answers to important clinical questions. A CAT typically includes a critical appraisal of at least **3 high quality** studies but **not more than 5**.

For an example of a CAT, please go to: http://journals.humankinetics.com/jsr-extras/jsr-extras/jsr-critically-appraised-topics-cats

Your CAT should include all of the following components:

1. **PICO Question** – Clinical question that you were seeking to answer with your CAT (see course ppt for PICO format)
2. **Introduction to the topic**…present the current problem, introduce the reader to the topic (3-5 paragraphs)
3. **Using 3-5 high quality articles (published within the last five years) do the following:**
    a. Critically appraise these articles using the PEDro scale
    b. Place them in a table (See example) with corresponding information
4. **Clinical Bottom Line:** Summarize (briefly) the results of the studies included in your CAT and then give me a take home message (should we use the special test or intervention in clinical practice based on the research)

Potential Topics for the Lower Extremity Include but are not limited to:

- Ankle bracing and taping are they effective at reducing ankle sprains
- Are balancing training programs for the ankle effective at reducing ankle sprains
- Are prevention programs effective at reducing ACL sprains in females
- Which special tests are beneficial at ruling in or out a specific pathology

Gait Analysis (40 Points Each)

Students will be responsible for taking video of 4 friends while walking and then providing a gait analysis of each walking gait. Students will upload a video for each friend (no longer than 60 seconds in length each) and upload a separate word document as well. See canvas for gait analysis sheet.

Tests and Evaluations

Quizzes

Formative evaluation will be accomplished through various forms of quizzing (announced, partner, oral, mid-class session) 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.

Lecture Exams

1. Unit examinations will be used to formatively measure student mastery of the cognitive and affective aspects of the course of study.
2. The Final Examination will be comprehensive and summative.
3. No provision is made for early or make-up examinations. The final examination is **May 7, 10:30 – 1:00 pm.**
4. Examinations should be regarded as:
    a. An assessment of the student's current comprehension of the cognates of the course and the appreciations and values that are the affective aspect of being an allied health care professional.
    b. 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 affective 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.
    c. An opportunity to be accountable for one's own learning

Course Rules/Guidelines

Class Attendance and Participation

Class experiences contain information that you will need in order to do well in this course. A pattern of missing classes will cause your grade to be lowered or you may be "de-enrolled" **(Six misses, total from all sections, will qualify you for de-enrollment).** Each student is required to be **ON TIME** in every class meeting without fail. Responsible attendance and promptness are essential to gain the maximum benefits from this class. There are no allowed or excused absences. (Exceptions: When necessitated by certain college-sponsored activities and are approved in writing by the Academic Dean.)

Excused absences for emergencies are accepted with notification ASAP. Role will be taken and students missing more than 6 classes will be de-enrolled from the class. If an canvas quiz is due on the day a student misses class the student will receive a 0 on that quiz whether it was completed or not.

5 minutes after the start of class the door to the classroom will be locked. Please plan to be on time for all class sessions that you plan on attending.

Late Work/ Make-Ups

No late work accepted. The assignments have all been set with due dates for the entire semesters. Students should plan accordingly to ensure that their work is turned in on time. Make up 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.

Email

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.

Acceptable behavior

- ✓ **Make sure cell phones are turned off and put away (no texting or making/receiving calls during class).**
- ✓ **Even if you don't always agree, you will have respect for each other's opinions as to what is being discussed in class.**
- ✓ **Everyone learns at a different rate; at no time should you make other's feel inadequate.**

Course Grading

GRADE	POINT VALUE
A	94-100
A-	90-93
B+	88-89
B	84-87
B-	80-83
C+	78-79
C	74-77
C-	70-73
D+	68-69
D	64-67
D-	60-63
F	0-59

Modules	Topic	Assignments Due	Labs
1. Foundations of Examination	Course introduction/ Roles of Healthcare Professional (Group)		
	Injury Nomenclature: Neuromusculoskeletal pathologies	**Online Lecture: Injury Evaluation** http://www.youtube.com/watch?v=Z85IIBz1b_M **HW #1 Drawing and Classification of Fractures/Peripheral Nerve Injuries** **In class quiz – Fracture Terminology**	
	Lab – Lower Quarter Screen	**HW #2 Dermatomes and Myotomes (pp. 25-30)** **Online Lecture EBP -**	**X**
	Differential Diagnosis/ EBP in Diagnosis	**In-class use of EBP (please watch online lecture)** **Online Lecture: PPE** https://www.youtube.com/watch?v=ZewLkQizIQ8	
2. Foot, Toes, Ankle and Lower Leg	Postural assessment: influence of deformities on lower ext. inj	**Online Lecture: Imaging** **Online Exam#1 (Have until 7pm to complete)**	
	Postural assessment: influence of deformities on lower ext. inj/Lab	**Foot and Toes Special Testing Video posted on Canvas DB**	
	Foot/Toes Lecture	**PICO Question and Critical Appraisal Topic Due**	
	Foot/Toes Lecture		
	Foot/Toes Lab: Lab Class Please Dress Appropriate	**Ankle/Lower Leg Special Testing Video posted on Canvas DB**	X
	Ankle/Lower Leg Lecture	**HW #3 Compartment Drawing and Labeling** **In Class Quiz - Compartments**	
	Ankle/Lower Leg Lecture		
	Ankle/Lower Leg Lab - Lab Class Please Dress Appropriate	**3-5 articles for CAT due along with PEDro Scores**	X
	Exam # 2 Foot, Toes, Ankle, Lower Leg		
	Lab Practical#1: Foot/Toes/ Ankle/Lower Leg		
3. Knee Joint	Knee Lecture	**Knee Special Testing Video posted on Canvas DB**	
	Spring Break		
	Knee Lecture/Lab Class – Please Dress Appropriate		X
	Knee Lab Class Please Dress Appropriate	**CAT Table due**	X
	Knee Lab Class Please Dress Appropriate		X
	Easter Break		
	Patellofemoral Joint Lecture	**Patellar Positioning Drawing Due** **In Class Quiz – Patellar Positions**	
	Patellofemoral Joint Lab Please Dress Appropriate		X
	Exam #3: Knee and Patellofemoral Joint		
	Lab Practical #2 - Knee		
4. Thigh, Hip & Pelvis	Thigh, Hip, Pelvis Lecture		
	Thigh, Hip, Pelvis Lecture	**Hip Special Testing Video Posted on Canvas DB**	
	Thigh, Hip, Pelvis Lab Please Dress Appropriate	**Final CAT Paper**	X
	Lab Practical #3 – Thigh, Hip and Pelvis		
5. Gait Analysis	Gait Analysis Lecture		X
	Gait Analysis Lab	**Gait Video Analysis Due**	
	MAY 7 Final Examination 10:30 – 1:00 pm		

Tips for Effective Scholarly Writing

1. Construct, order, and connect paragraphs to guide your reader from one topic to the next, along a logical train of thought.
   - Present main idea in first sentence of each paragraph
   - Provide supporting evidence to amplify idea.
2. Provide a strong and precise thesis statement.
   - Referred to as the 'problem statement' in scholarly writing.
   - Outline the reason for the paper and follow with details to stimulate reader's interest. *(Why are you writing this paper? Explain knowledge gap.)*
3. Support your thesis/problem statement throughout the paper with details and examples.
4. Avoid conversational tone.
5. Use active voice *(Each subject lifted 100 lbs* vs.*The weight was lifted by the subject.)*
6. Avoid superlatives (*extremely, very)*. Keep language simple, concise, clear.
   - Evidence speaks for itself
7. Avoid empty clauses *(due to the fact that…the simple fact is… the reality is….)*
   - State the point, provide evidence to support.
8. Synthesize the work of others concisely; then interpret, do not copy.
9. Always cite your source when using another's idea.
   - Directly quote someone only when you cannot word things another way.
10. Emphasize facts, not who wrote them

When you think you're finished

1. Proofread, then proofread again, then have your roommate proofread, etc.
2. The *Tutorial Center* is ready and willing to help.
3. There should be <3 grammatical, structural, or punctual errors (3 total!)
4. Check to see that your language/ideas flow together, are logical, and are consistent with your thesis statement.
5. Be coherent: tie paragraphs together with appropriate transitional sentences.
6. Always seek to answer the "so what?" question.

Knight KL, Ingersoll CD. **Optimizing Scholarly Communication: 30 Tips for Writing Clearly.** *J Athl Train*, 1996; 209-213.
http://www.pubmedcentral.nih.gov/picrender.fcgi?artid=1318505&blobtype=pdf

Guidelines for Writing:
tp://www.nata.org/jat/authors/authors_guide.pdf