Department of Kinesiology

ATR 688 Lab:
Evidence Based Orthopedic Assessment of the Upper Extremity (1)
Spring 2019

Course Instructor

Dr. Jeff Sullivan, PhD, ATC, CES

Office Phone: 619.849.2901
Cell Phone: 951.515.3054
Email: jsullivan@pointloma.edu
Office Location: Main Campus – Kinesiology Offices

Course Description

This course addresses evaluation techniques and care for musculoskeletal injuries to the upper 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.

Graded assignments (e.g., lab practical exams, assessment outlines and case studies) will be used to help students identify, recall, synthesize and apply the key concepts in orthopedic assessment of the upper 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.

Course Learning Outcomes

- Students will be able to perform manipulative and motor skills necessary to perform a comprehensive injury evaluation of the musculoskeletal system

- Students will be able to interpret the results of the injury evaluation and make appropriate decisions, actions and medical referrals
- Students will be able to objectively measure, muscular strength, girth and other measurements as determined for each anatomical structure.
- Identify voluntary muscular movement including proximal to distal attachments of muscles, major motions and functions, and peripheral and segmental nerve innervations in the head, spine and upper extremity.
- Demonstrate neurological assessment procedures.
- Students will be able to identify indications and contraindications as they relate to athletic participation regarding general medical conditions/illnesses and systemic diseases.
- Demonstrate special tests used to evaluate injuries to the lower extremity, hip, pelvis and lumbar spine.
- Demonstrate techniques and procedures for evaluating common injuries.

Required Books and Materials

Title	Examination of Orthopedic & Athletic Injuries – 4th edition
Author	Starkey, C and Brown, S.
Publisher	F.A. Davis
ISBN	978-0-8036-3918-8

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

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

Clinical Exam Video Tutorial (100 points) – Signature Assignment – Video Rubric

You will be asked to partner with your colleagues to produce an educational video on cluster testing for an assigned 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

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.

Oral Practical Examinations (100 points each)

Practical exams are intended to assess each student's ability to perform the skills associated with the assessment and differential diagnosis of injuries to the upper extremity. Lab practicals will occur at the completion of anatomically specific units 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.

Orthopedic Exam – 5 Minute Reflections (20 points)

Following each Unit/Body Region, student will review the unit and self-reflect on the following:

1. What went right in class and for you personally?
2. Where did you feel the most uncomfortable?
3. In what areas do you need improvement or further study in this body region?

PRESENTATION OF CLINICAL EXAMINATION VIDEO TUTORIALS (20 POINTS)

After submitting your Clinical Examination Tutorial Video in lecture, you will be asked to lead your classmates in the MMT and Special Testing of the specific joint you chose for your video.

Your presentation should be polished and accurate with regard to the demonstration of all special tests included in your video. You should also demonstrate the appropriate sequencing or clustering of tests (i.e. when each special test might be utilized to rule out various conditions and to rule in the most appropriate diagnosis.)

CASE STUDY

For this assignment, you will choose a patient from your current or previous clinical experience. Alternatively, you can make the case study up. Use the HIPS process to outline and describe all aspects of the clinical examination and plan of care (i.e. treatment plan) for the individual or population affected by the pathology. You may work with a partner to complete the case study.

Course Grading

GRADE	Percent - Based off of total points
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

Tentative Schedule

ATR 688L - Evidence Based Orthopedic Assessment of the Upper Extremity			
Week	**Date**	**Laboratory**	**Assignments**
1	1-10	Injury Evaluation Process (Examination Process Map) Review R.O.M. and MMT Assessment	
2	1-17	Eye & Face Examination: Palpation, Special Tests	
3	1-24	Abdomen & Thorax Review **History, Palpation** Lumbar Spine Examination **History, Palpation, Range of motion**	Find your neighbor *Use* NATA Doc
4	1-31	Lumbosacral Spine Examination **MMT, Special Tests** (i.e. Ligamentous, Neurologic tests)	Clinical Exam Tutorial: *L Spine Group Presents*
5	2-7	**LAB PRACTICAL #1:** Lumbar, Thoracic Spine and Thorax (Case Study based differential diagnosis) **Sign Up** (choose partner)	5-Minute Reflection Due
6	2-14	Cervical Spine Examination **History, Palpation, Range of motion**	Clinical Exam Tutorial: *C Spine Group Presents*

7	2-21	Cervical Spine Examination **MMT, Special Testing**	
8	2-28	Head Examination **Palpation, Special Tests** VOMS, SCAT 3&5, BTrackS, EyeSync	Clinical Exam Tutorial: *mTBI & TBI Group Presents* 5-Minute Reflection
9	3-7	**SPRING BREAK = NO CLASS**	
10	3-14	Shoulder & Upper Arm Examination **History, Palpation, Range of motion, Manual Muscle Testing**	Clinical Exam Tutorial: *Shoulder Group Presents*
11	3-21	Shoulder & Upper Arm Examination **MMT & Special Tests** CASE STUDIES	
12	3-28	**Lab Practical #2:** Shoulder, C Spine and Head **Sign Up** (choose partner)	5-Minute Reflection
13	4-4	Elbow Examination **History, Palpation, Range of motion, Manual Muscle Testing, & Special Tests**	Clinical Exam Tutorial: *Elbow & Wrist Group Presents*
14	4-11	Wrist, Hand & Finger Examination **History, Palpation, Range of motion, Manual Muscle Testing, & Special Tests**	
15	4-18	Easter Recess	
Final Exam	4-25	**Oral Lab Practical Final Exam (Case study based differential diagnosis)**	

No	Competency
PHP-17c	Traumatic brain injury
PHP-17h	Cervical spine injury
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-20d	functional assessment
CE-20e	selective tissue testing techniques / special tests
CE-20f	neurological assessments (sensory, motor, reflexes, balance, cognitive function)
CE-20i	abdominal assessments (percussion, palpation, auscultation)
CE-21a	Assessment of posture, gait, and movement patterns
CE-21b	Palpation
CE-	Muscle function assessment

No	Competency
21c	
CE-21h	Neurologic function (sensory, motor, reflexes, balance, cognition)
CE-21m	Ocular function (vision, ophthalmoscope)
CE-21n	Function of the ear, nose, and throat (including otoscopic evaluation)
CE-22	Determine when the findings of an examination warrant referral of the patient.
CIP-4b	lower extremity
CIP-4c	head
CIP-4d	neck
CIP-4e	thorax
CIP-4f	spine