

# Department of Kinesiology

## ATR 6015: Therapeutic Agents

### Fall 2020

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#### COURSE DESCRIPTION

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 apply the appropriate therapeutic modalities based on the recent evidence to treat musculoskeletal pathologies in an athletic population. Students will learn how to select and apply the following therapeutic modalities based on sound judgment and evidence:

- Thermal Modalities
- Electrical Modalities
- Therapeutic Ultrasound
- Manual Therapies
- Biofeedback

In the process, you will develop an emerging mastery of the Educational Competencies of the NATA's Educational Council (See Appendix D for details on these Competencies in preparation for the Board of Certification Examination for Athletic Trainers)

To be successful in this course, students must synthesize the most current evidence presented in class, lecture and through written research projects and apply it in the clinical setting. This means that students will be called to be active in their learning, always seeking the best evidence and constantly questioning their application of therapeutic modalities. 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 therapeutic modalities and pharmacology.

#### *Kinesiology Department Learning Outcomes*

1. Speak and write effectively to a target audience on essential information in their discipline.
2. Critically evaluate and integrate new information into professional practice to solve relevant health and fitness problems.

3. Assess human movement to determine risk for injury and improve human performance.
4. Describe the mechanisms (i.e. metabolic, physiologic, biomechanical, and developmental) by which physical activity aids in health promotion, performance enhancement and disease prevention.
5. Serve others in clinical, educational or athletic settings by pursuing their vocation & calling.

### ***Athletic Training Program (ATP) Learning Outcomes***

1. To prepare students to demonstrate competency in interpreting evidence-based research and improving clinical standards and practice through clinical question development and research methodology
2. To prepare students to develop expertise in the athletic training domains through an integrative experiential clinical model
3. To equip students with appropriate knowledge and educational foundation required for an entry-level Certified Athletic Trainer
4. To prepare students to establish and understand the importance of inter-professional relationships, while collaborating with other health care professionals to become effective communicators
5. 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.

### ***ATR 6015 Learning Outcomes***

*Upon completing this course, students should be able to:*

1. Utilize and apply the appropriate therapeutic modality to musculoskeletal injuries.
2. Appreciate the importance of the role of therapeutic modalities in the treatment of athletic injuries.
3. Describe and understand the parameters, settings, indications and contraindications of the therapeutic modalities learned in this class.
4. Critically think and problem solve using the most recent evidence based medicine
5. Through laboratory sessions, practice and become proficient in the clinical applications of therapeutic modalities in an athletic population.
6. Pass each therapeutic modality lab practical with an 80% or better.

### **COURSE TEXTBOOK**

	<b>Title</b>	Therapeutic Modalities (4 <sup>th</sup> edition)
	<b>Author</b>	Chad Starkey
	<b>ISBN</b>	9780803625938
	<b>Publisher</b>	F. A. Davis Company
	<b>Publication Year</b>	2013

### **COURSE REQUIREMENTS**

1. Discussion Boards/Participation	10-30 points each
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2. Article Critique	30 points each
3. Group Projects	50 pts each
4. Electricity Handouts	50 pts each
5. Research Project/Paper	100 pts each
6. Online quizzes	10 pts each
7. Examinations	<b>100 pts each</b>
8. Final Examination	<b>150 pts each</b>

## COURSE GRADING

<b>A</b> Greater than 94	<b>C+</b> 77-79
<b>A-</b> 90-93	<b>C</b> 73-76
<b>B+</b> 87-89	<b>C-</b> 70-72
<b>B</b> 83-86	<b>D</b> 63-66
<b>B-</b> 80-82	<b>D-</b> 60-62

## COURSE ASSIGNMENTS

### Discussion Boards *(30 points each)*

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 (must be at least 500 words) and to post a reply to at least 2 of your classmate's posts (Must be at least 300 words). 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:

1. Ask a probing question
2. Share an insight from having read your classmate's post
3. Offer and provide evidence to support an opinion
4. Validate a classmate's idea with reference to your own experiences
5. Make a suggestion for improvement
6. 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 10 points for each Discussion Board posting that you have made. **THE PROVISION OF 10 POINTS FOR YOUR POSTING WILL BE BASED ON THE QUALITY OF YOUR POST.**

## Journal Article Reviews (30 points each)

An article will be given to students to evaluate and analyze. The article will contain important findings or conclusions relative to current topics discussed in lecture and tested in lab. The reviews should be 1-2 pages in length (double spaced, 12 pt. font, Times New Roman or equivalent).

**Journal article reviews should include the following information:**

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| <ul style="list-style-type: none"><li>• Purpose of the article</li><li>• Hypothesis</li><li>• Methods - very brief description of what was done in the study</li><li>• Results - you do not have to give me statistics....what did the authors of the study find</li></ul> | <ul style="list-style-type: none"><li>• What were the significant findings and implications?</li><li>• Strengths and weaknesses of the article?</li><li>• Would you recommend the article to be used again?</li><li>• Conclusions</li></ul> |
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## Electricity Labeling Handout – (30 points)

Students will be responsible for turning in a handout which details and labels all of the electrical parameters. See handout for more details

## Electricity Parameter Handout – (30 points)

Students will be responsible for turning in a handout which details parameters that might be used for patients with specific pathologies: acute inflammation, chronic inflammation, acute pain, chronic pain, spasm etc. Handout will be given to students and students will be responsible for providing the appropriate information (please add this assignment to your Building a Modality Book assignment):

1. **Name of modality**
2. **Waveform**
3. **Frequency (be specific don't just say high or low)**
4. **Treatment time**
5. **Etc**

## Learning Object (50 points each)

In a group of at least 4 and no more than 5 persons, you will be required to create a “learning object”. A learning object is something digital that can be created to teach about a specific learning concept or

application of a modality.

1. Applications of Low-power Laser
2. Application of Shortwave Diathermy
3. Application of Therapeutic Massage

The format for each of these learning objects is going to be a video teach out (using any of the following free apps: **edureations** , **screencast -o-matic** , imovie or movie maker) PowerPoint or other electronic presentation format and each learning object must contain:

1. educational objectives
2. information (both graphic and text)
3. appropriate application procedures with pictures
4. multiple-choice assessment quiz
5. references

This learning object should contain enough high quality content to be a stand-alone tutorial, however your group will give a presentation using your learning object. Presentation should be at least 20 minutes in length. This should be of very high quality project and will be graded accordingly. Students will be required to upload their video to **www.youtube.com** and to send to the professor on the assigned due date.

## Lecture Exams (100 points each)

The exams will be designed to test the students' comprehension of the material presented via lectures and independent studying of the textbook. Questions will include: multiple choice, fill in the blank, matching, true/false, short answer, and clinical application and essay formats.

## Final Exam (150 points)

The final exam will be cumulative and summative. Information ONLY from the modalities portion of this class will be tested.

## LATE ASSIGNMENTS

- All assignments are to be submitted by the due date and time listed in the calendar via Canvas.
- While there are due dates for weekly assignments, you are welcome to post your work earlier in the week. In our discussions, late work means that others may not have the opportunity to respond to your comments. It also means that you will not have the benefit of as much interaction with other students as you will have if your assignment is posted on time. If you know you will be away on the day your assignment is due, please post your work before you leave.
- Missed exams or quizzes may ONLY be made up with a legal, written excuse.
- Late work will **NOT** be accepted or graded; assignments will be considered late if posted **after midnight Pacific Standard Time on the day they are due. For every day that an assignment is late you will docked 10%.**

## INSTRUCTOR FEEDBACK

Assignments will be graded within seven days following the due date. All grades and feedback on assignments will be posted to the Canvas grade-book. If an immediate response is needed, please email

## Spiritual Care

PLNU strives to be a place where you grow as a whole person. To this end we provide resources for our Graduate and Adult Degree Completion students to encounter God and grow in their Christian faith. At the Mission Valley (MV) campus we have an onsite chaplain, Rev. Gordon Wong, who is available during class break times across the week. If you have questions for, desire to meet or share a prayer request with Rev.

Wong you can contact him directly at [mvchaplain@pointloma.edu](mailto:mvchaplain@pointloma.edu) or [gordonwong@pointloma.edu](mailto:gordonwong@pointloma.edu). Rev. Wong's cell number is 808-429-1129 if you need a more immediate response.

In addition, on the MV campus there is a prayer chapel on the third floor which is open for use as a space set apart for quiet reflection and prayer.

## **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.

## **Academic Accommodations**

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, located in the Bond Academic Center ([DRC@pointloma.edu](mailto: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.

## **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**

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](mailto: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.

## **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 Graduate and Professional Studies Catalog for additional detail.

## **Academic Dishonesty**

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.