



**College of Health and Human Sciences  
School of Health Sciences**

**ATTR 530-01: Therapeutic Interventions**

Fall 2023: August 21, 2023 – December 15, 2023

MWF: 10:00-11:00

W: 8:00-10:00 am

HHS 353

4 Credit Hours

**Instructor Information**

Instructor: Ashley B. Thrasher, EdD, LAT, ATC, CSCS (she/her/hers)

Campus Office: HHSB 364

email: [abthrasher@wcu.edu](mailto:abthrasher@wcu.edu)

Phone: 828-227-3511

Office Hours: M: 9:00-10:00 am

W: 12:15-1:15 pm

Also by appointment

Virtual Office Hours may be scheduled by appointment.

Link: <https://wcu.zoom.us/j/91589986514>

**College and Department Information**

College of Health and Human Sciences

School of Health Sciences

Location of Departmental Office: HHSB Suite 428

Preferred contact information for the Department: 828-227-7113

**CHHS Emergency Action Plan:**

Western Carolina University is committed to a safe and healthful environment that protects its students, faculty, staff, and the public, as well as its property. Employees and students at every level are responsible and accountable for the University's overall safety. Complete and active participation by everyone, every day is necessary. All staff and students are responsible for following all procedures detailed in the College of Health and Human Sciences Emergency Action Plan as well as working safely to prevent incidents. As a student you must know:

- The location of the closest emergency exit throughout the Health and Human Sciences building for all your classes and other common areas (these may be exits you don't normally use).
- Safe procedures for emergency evacuation, shelter in place, and adverse weather as well as other emerging situations.
- Emergency evacuation assembly areas.
- How you will be contacted during emergencies - consider signing up for the RAVE system.

**Course Introductory Information**

This course will provide an overview of what occurs physiologically during an injury and how athletic trainers can develop a plan of care to treat those injuries. We will introduce therapeutic exercise and modalities. This course serves as the basis for therapeutic intervention, which will continue in the Spring with Manual Therapy.

**Course Description**

This course will introduce the student to foundations, theories and concepts of pain modulation, the inflammatory response, and healing process to assist students in selecting and incorporating therapeutic interventions based upon the evaluation and patient goals.

**Course Objectives**

1. Discuss the normal injury response and healing process for musculoskeletal injuries
2. Outline the therapeutic rehabilitation process from injury to return to activity
3. Describe and use various therapeutic modalities including but not limited to cryotherapy, thermotherapy, intermittent compression, electrical stimulation, ultrasound, diathermy, iontophoresis, phonophoresis, photobiomodulation, and deep tissue oscillation.
4. Examine the research behind efficacy of commonly used modalities in athletic training.

### **Student Learning Objectives:**

By the end of this course, students will be able to:

1. Describe the pathophysiology of the normal healing process relative to tendon, bone, nerve, and muscle.
2. Describe the inflammatory response to acute and chronic injury and illness
3. Determine and appropriately administer the modality according to the treatment goals and objectives as they relate to wound healing and tissue repair.
4. Formulate a treatment plan, encompassing therapeutic interventions, based on the findings of the subjective and objective evaluation and corresponding assessment.

### **CAATE Accreditation Standards**

The following CAATE Accreditation Standards will be taught and assessed in this course: 69, 73a, 73e, 73g, 73i

The standards can be found on the [CAATE Website](#)

### **Course Materials**

Required:

Draper DO, Jutte LS, Knight KL. Therapeutic Modalities: The Art and Science (3rd ed). Lippincott Williams & Wilkins. 9781975121327

Houglum PA. Therapeutic Exercise for Athletic Injuries (4th ed). Human Kinetics, 2016.

*Referenced Texts:*

Starkey C. Therapeutic Modalities (4th ed). FA Davis, 2013.

Prentice WE. Therapeutic Modalities for Physical Therapists (4 ed.). McGraw-Hill, 2011.

Higgins M. Therapeutic Exercise: From Theory to Practice. FA Davis, 2011

Additional Materials, Equipment, Technology, or Skills:

Western Carolina University and the Athletic Training Program have a laptop requirement for all students. Students will be required to bring his/her laptop to class to complete quizzes, mini-practicals, and examinations on-line. **Students who fail to bring a computer on the days required will earn a zero (0) on that assignment or class participation grade for the day.** Computers need to be charged and all updates completed. Quizzes, mini-practicals, and exams will begin promptly at the beginning of class. Quiz times will NOT be extended because your computer is not ready. Examinations not completed in class at this time, without prior professor approval, will not be allowed to be made up.

### **Faculty Expectations of Students/Course Policies**

Students' Responsibilities in the Learning Process:

"The one who does the work does the learning" (Terry Doyle). Students play a crucial role in the learning process, and while the faculty will facilitate learning by providing opportunities, students are ultimately responsible for taking advantage of learning opportunities.

*Classroom Expectations:*

The shared learning space of the college classroom is built on respect for each other and each other's learning. Learning together means our actions can intentionally and unintentionally distract others from their learning goals. As responsible learners who respect the rights of others and vow to minimize avoidable

distractions such as: non-academic technology use, coming in late, sleeping, off-topic discussions, doing other homework, eating, etc.

#### **Attendance:**

The classroom is the center of University Life and students are expected to attend all classes and laboratory sessions. In the case of an absence (excused or unexcused), the student is responsible for all material presented and assigned. Additionally, students are required to submit any, and all, materials due, that day, in advance. Attendance at all class sessions is required. Failure to attend all class sessions without an excused absence will result in ten (10) points being deducted from the student's final grade for each unexcused absence. In addition, students who arrive to a class or lab after the session has begun will lose ten (10) points from his/her final grade in the course for each day late. In the case of student tardiness, students will not be admitted to class. It is expected that if this were to occur, students will remain professional and honor the professor's request without causing further disruption.

Throughout this semester, students should self-assess daily for signs or symptoms of Covid-19. If a student is showing any signs or symptoms of the virus, or they have knowingly been exposed to Covid-19, **then they should not attend class in a face-to-face setting**. Students should notify the professor ahead of time, which will allow the professor to set up a Zoom link and enable the student to attend class virtually. They should also notify their Primary Care Physician or WCU Health Services who will help to determine what the next course of action should be for the student. Every student will be handled on a case-by-case basis following university policies along with CDC and physician recommendations.

#### *Reporting Illness*

If a student is experiencing an illness, they should communicate with the instructor prior to the start of class. The student should assume any absence will result in missing material and is responsible for that content. If the student is absent for a class session, and therefore any activity, exam, or quiz, the student may not be allowed to make up that assignment. Communication regarding illnesses should be done via email or phone call. Students experiencing signs or symptoms of illness should also consider wearing a mask if in the classroom.

#### **Timely Submissions and Expectations for Submitting Work:**

No late assignments will be accepted. Assignments must be submitted via Canvas by the time required. With the exception of laboratory assignments, assignments will not be accepted via email or hard copy. There are no "make-up" options for missed assignments.

#### **Late Assignments and Deadline Extensions:**

No late assignments will be accepted. There are no deadline extensions without extreme extenuating circumstances. These circumstances must be discussed and approved by the course instructor as soon as possible. Deadline extensions will not be granted within 48 hours of the due date.

#### *Extra Credit:*

Extra credit may be earned throughout the course of the semester in various ways (e.g., participating in research, volunteer opportunities, etc.). Extra credit determinations will be made via the course instructor or MSAT program director, and earned extra credit points may be applied at the end of the term. Students should not ask about additional extra credit opportunities, because they will not be provided.

#### *Cell Phones:*

Cell phones in class or lab are disruptive and considered unprofessional. Cell phones must be put away during class and laboratory sessions. Students who are on their phones in athletic training classes or laboratory sessions may be dismissed from class and subject to a 10 point deduction from their final grade in the course, for each occurrence. Please discuss with the professor, in advance, any extenuating circumstance in which a student feels that a cell phone is required.

#### *Written Communication:*

A critical skill practiced in this course is written communication that is convincing and appropriate. Students can demonstrate this skill by meeting high standards of clarity and correctness in the written work they submit in

this course. The evaluation of written assignments considers content, style, grammar, spelling and punctuation. Students are expected to maintain high standards of expression and presentation in all submitted work and correspondence. No assignments may be submitted via electronic mail without the prior approval of the professor. In addition, contacting the professor by electronic mail, text, or other electronic means regarding attendance issues is not acceptable. Discussion regarding attendance, illness and schedule conflicts should be handled in person or by phone and then followed up via email.

#### *Office Hours*

The professor for this course will be available for regularly scheduled office hours. All other times are available by chance or appointment. The professor may be contacted in person, by phone or by email to ask questions or schedule appointments. Drop-in appointments are welcomed; however availability may be limited due to the professor's teaching, practical, or administrative schedule. Attempts will be made to return all e-mail and voice mail messages within 24 hours (weekdays) or by the next Monday (on weekends). If you do not receive a response to an email message within 24 hours, please assume the message did not reach the professor and resend the original message. Please limit calls to the professor's cell phone to emergencies only.

#### *Technical Standards:*

The Western Carolina University Athletic Training Program has established a set of technical standards for all students enrolled in the Athletic Training major. These technical standards can be found on the Athletic Training Program website. Students are responsible for individually reviewing these technical standards and addressing any questions or concerns to the course instructor or the Program Director for the Western Carolina University Athletic Training Program.

#### *Civil Discourse at Western Carolina:*

Consistent with WCU's core values and our campus creed, the WCU community accepts the freedoms and responsibilities of our shared community. WCU encourages all to clearly express their own views while at the same time seeking to understand the varieties of style, identity, and opinion that are held in any diverse community. In order for us to sustain a learning environment that promotes and values freedom of expression, we have a shared charge to accept personal responsibility for our actions, reactions, and speech, while seeking to learn from the actions, reactions, and speech of others.

#### *Community Vision for Inclusive Excellence Statement:*

The diverse perspectives encountered at WCU are an important part of the preparation of students for roles as regional, national, and global leaders who contribute to the improvement of society. It is expected that members of the WCU community will not only coexist with those who are different from themselves, but also nurture respect and appreciation of those differences. We encourage civil discourse as a part of the learning enterprise, and as a campus we do not tolerate harassing or discriminating behavior that seeks to marginalize or demean members of our community.

#### *Course Recording and Broadcasting:*

Students may make visual or audio recordings (Recording) of any class related content, using any approved recording device (e.g., smart phone, computer, digital recorder, etc.) upon the prior permission of the instructor and subject to the following restriction(s). The Recording, along with the video capture of visible course materials (e.g., visible PowerPoint slides and/or visible lecture notes), shall be limited to the student's personal, course related, educational use and shall be subject to all applicable copyright laws and institutional policies. The student may not transfer, transmit, or otherwise disseminate the Recording to any third party, including classmates, without the permission of the instructor. Any violation of these restrictions, or any other restriction verbally communicated by the instructor, may subject the student to the provisions of the WCU Academic Integrity Policy, the WCU Code of Student Conduct or both.

Meetings of this course may be broadcast and/or recorded. Broadcasting and recording are intended to complement the classroom experience. Instructors may broadcast and/or record courses for pedagogical use, student reference, to meet the accommodation needs of students with a documented disability, or any other reason deemed appropriate by WCU and/or the instructor.

Any recording of class that includes the image or voice of a student, or reference to the student's name, would be considered FERPA. Thus, protected. If faculty intend on making the recording available for future viewing (any viewing that is not live) will require a waiver by each student. The waivers may be collected by email or as a Canvas discussion board post or assignment with the following statement attached: By sending this email (by replying to this discussion board, by completing this electronic form – any use of WCU official identity verification) and typing my name below I acknowledge I have read and fully understand the terms of the VIDEO CONSENT AND RELEASE FORM FOR CLASS RECORDING and hereby release the University as stated in the Form.

If a student refuses to sign the waiver, then their likeness may not be included in any video made available. In other words, they would need to be excluded from video and not allowed to ask questions. If this happens faculty would be able to grade consistent with syllabi. In other words, the faculty member has the right to penalize the student by lowering their grade for not participating. The faculty member is also free to create alternative assignments at his or her discretion.

Course recordings will be available to students registered for the course pursuant to applicable university policy and instructor preference. All broadcasts and recordings are limited to personal, course related, educational use and may not be transmitted, transferred, distributed, sold, or posted on social media outlets without the written permission of the instructor. Unauthorized transmission, transfer, distribution, sale or posting of the broadcast and/or recording for any purpose other than the student's personal, course related, educational use is not permitted. Students are expected to follow appropriate university policies and maintain the security of passwords used to access recorded materials.

### [University Policy 122](#)

For a more detailed version of when a waiver might be needed see:  
[Policy Considerations of Classroom Technology Use](#)

#### *Privacy Settings for 3<sup>rd</sup> Party Tools:*

Third party apps and programs that any instructor uses as part of their course will have its own privacy settings to which students must pay attention and which will be indicated by a box with an arrow in Canvas. If a third party app or program is not accessed through the single-sign-on process, the privacy settings are not controlled by Western Carolina University's Division of Information Technology. It is the student's responsibility to check and change privacy settings and to understand the privacy and data use policies of the site. If you have a concern with the data retention or privacy policies, speak with your professors. Some professors will provide alternative assignments.

#### Technology Required:

Students will be required to use Respondus Lockdown browser for quizzes and exams; therefore, students will need access to a computer with Respondus lockdown browser capabilities. It is the student's responsibility to ensure they have access to a computer for all quizzes and exams. Technology failure, including but not limited to, printer failure, lack of ink for the printer, network disruptions, lack of funds on a Cat Card, Canvas system disruptions and personal computer failure are **not excuses** for late or missing assignments. Computers and printers are available in a number of locations across campus, including computer labs, the library and the University Center. Students should not ask faculty or staff to print or copy assignments for them. Technology issues can best be avoided by completing work at an appropriate length of time prior to the due date. If students are experiencing technological difficulties or disruptions, they should notify the instructor at least 24 hours prior to the due date/time.

#### *Respondus LockDown Browser*

The WCU Athletic Training Program requires students to use the Respondus LockDown Browser for all tests and quizzes. For tests taken at home, students will be required to also use the LockDown Browser with webcam.

### LockDown Browser Requirement

This course requires the use of LockDown Browser for online exams. Watch this video to get a basic understanding of LockDown Browser:

<https://www.respondus.com/products/lockdown-browser/student-movie.shtml>

### Download Instructions

Download and install LockDown Browser from this link:

<https://download.respondus.com/lockdown/download.php?id=238914434>

### Once Installed

- Start LockDown Browser
- Log into Canvas
- Navigate to the test

Note: You won't be able to access tests with a standard web browser. If this is tried, an error message will indicate that the test requires the use of LockDown Browser. Simply start LockDown Browser and navigate back to the exam to continue.

### Guidelines

When taking an online test, follow these guidelines:

- [If testing is to occur at a designated location, such as a testing center, add those instructions here.]
- [If applicable] Select a location where you won't be interrupted
- Before starting the test, know how much time is available for it, and also that you've allotted sufficient time to complete it
- Turn off all mobile devices, phones, etc. and don't have them within reach
- Clear your area of all external materials - books, papers, other computers, or devices
- Remain at your desk or workstation for the duration of the test
- LockDown Browser will prevent you from accessing other websites or applications; you will be unable to exit the test until all questions are completed and submitted

### Getting Help

Several resources are available if you encounter problems with LockDown Browser:

- The Windows and Mac versions of LockDown Browser have a "Help Center" button located on the toolbar. Use the "System & Network Check" to troubleshoot issues. If an exam requires you to use a webcam, also run the "Webcam Check" from this area
- [As applicable, insert information about your institution's help desk, including details about how

### LockDown Browser + Webcam Requirement

This course requires the use of LockDown Browser and a webcam for online exams. The webcam can be the type that's built into your computer or one that plugs in with a USB cable.

Watch this brief video to get a basic understanding of LockDown Browser and the webcam feature.

<https://www.respondus.com/products/lockdown-browser/student-movie.shtml>

### Download Instructions

Download and install LockDown Browser from this link:

<https://download.respondus.com/lockdown/download.php?id=238914434>

### Once Installed

- Start LockDown Browser
- Log into Canvas
- Navigate to the test

Note: You won't be able to access tests with a standard web browser. If this is tried, an error message will indicate that the test requires the use of LockDown Browser. Simply start LockDown Browser and navigate back to the exam to continue.

### Guidelines

When taking an online test, follow these guidelines:

- Ensure you're in a location where you won't be interrupted
- Turn off all other devices (e.g. tablets, phones, second computers) and place them outside of your reach
- Before starting the test, know how much time is available for it, and also that you've allotted sufficient time to complete it
- Clear your desk or workspace of all external materials not permitted - books, papers, other devices
- Remain at your computer for the duration of the test
- If the computer, Wi-Fi, or location is different than what was used previously with the "Webcam Check" and "System & Network Check" in LockDown Browser, run the checks again prior to the exam
- To produce a good webcam video, do the following:
  - Avoid wearing baseball caps or hats with brims
  - Ensure your computer or device is on a firm surface (a desk or table). Do NOT have the computer on your lap, a bed, or other surface where the device (or you) are likely to move
  - If using a built-in webcam, avoid readjusting the tilt of the screen after the webcam setup is complete

to contact them. Some help desks want students to run the "System & Network Check" and the "Webcam Check" before they are contacted - and even, to forward the results of these checks at the time of opening a ticket.]

- Respondus has a Knowledge Base available from support.respondus.com. Select the "Knowledge Base" link and then select "Respondus LockDown Browser" as the product. If your problem is with a webcam, select "Respondus Monitor" as your product
- If you're still unable to resolve a technical issue with LockDown Browser, go to support.respondus.com and select "Submit a Ticket". Provide detailed information about your problem and what steps you took to resolve it

- Take the exam in a well-lit room, but avoid backlighting (such as sitting with your back to a window)

- Remember that LockDown Browser will prevent you from accessing other websites or applications; you will be unable to exit the test until all questions are completed and submitted

#### Getting Help

Several resources are available if you encounter problems with LockDown Browser:

- The Windows and Mac versions of LockDown Browser have a "Help Center" button located on the toolbar. Use the "System & Network Check" to troubleshoot issues. If an exam requires you to use a webcam, also run the "Webcam Check" from this area
- [As applicable, insert information about your institution's help desk, including details about how to contact them. Some help desks want students to run the "System & Network Check" and the "Webcam Check" before they are contacted - and even, to forward the results of these checks at the time of opening a ticket.]
- Respondus has a Knowledge Base available from support.respondus.com. Select the "Knowledge Base" link and then select "Respondus LockDown Browser" as the product. If your problem is with a webcam, select "Respondus Monitor" as your product
- If you're still unable to resolve a technical issue with LockDown Browser, go to support.respondus.com and select "Submit a Ticket". Provide detailed information about your problem and what steps you took to resolve it

## Academic Integrity Policy and Reporting Process

This policy addresses academic integrity violations of undergraduate and graduate students. Graduate students should read inside the parenthesis below to identify the appropriate entities in charge of that step of the process.

Students, faculty, staff, and administrators of Western Carolina University (WCU) strive to achieve the highest standards of scholarship and integrity. Any violation of the Academic Integrity Policy is a serious offense because it threatens the quality of scholarship and undermines the integrity of the community. While academic in scope, any violation of this policy is by nature, a violation of the Code of Student Conduct and will follow the same conduct process (see Article VII.B.1.a.). If the charge occurs close to the end of an academic semester or term or in the event of the reasonable need of either party for additional time to gather information timelines may be extended at the discretion of the Department of Student Community Ethics (DSCE).

### General:

This policy addresses academic integrity violations of undergraduate and graduate students. Students, faculty, staff, and administrators of Western Carolina University (WCU) strive to achieve the highest

standards of scholarship and integrity. Any violation of this policy is a serious offense because it threatens the quality of scholarship and undermines the integrity of the community.

Instructors have the right to determine the appropriate academic sanctions for violations of the Academic Integrity Policy within their courses, up to an including a final grade of “F” in the course in which the violation occurs.

Definitions:

1. Cheating – Using, or attempting to use, unauthorized materials, information, or study aids in any academic exercise.
2. Fabrication – Creating and/or falsifying information or citation in any academic exercise.
3. Plagiarism – Representing the words or ideas of someone else as one’s own in any academic exercise.
4. Self-Plagiarism – Reusing work that you have already published or submitted for a class. It can involve re-submitting an entire paper, copying, paraphrasing passages from your previous work, or recycling old data.
5. Facilitation – Helping or attempting to help someone to commit a violation of the Academic Integrity Policy in any academic exercise (e.g. allowing another person to copy information during an examination).

Undergraduate and Graduate Academic Integrity Process:

Additional information is available on the Student Success website under Student Community Ethics:

<http://www.wcu.edu/experience/dean-of-students/AcademicIntegrity/academicintegrity.asp>

*Plagiarism Scanning Tool:*

All written work submitted for this class is eligible for submission to the institution’s plagiarism scanning tool at the instructor’s discretion.

*Generative AI:*

Students should note that ChatGPT and other AI sites and tools are not and should not be a replacement for their own ideas and writing. While these tools can be valuable for learning, students are expected to only submit original work and to cite any and all sources they used appropriately. There are several written assignments in this course, and they are intentionally designed to help students build skills they will use as they progress through the program and as they transition into clinical practice. Additionally, some information students will be working with in these assignments is protected by HIPAA, which is a federal, privacy regulation, and that information should, therefore, never be shared with an AI tool or site. If a student has questions about appropriate use AI, they should contact the course instructor.

**Examination Policy:** Students who require testing accommodation(s) are required to go through the Office of Accessibility Resources and should meet with the course instructor prior to the test administration date to discuss how accommodations will be honored without jeopardizing exam integrity.

1. Electronic devices (including, but not limited to, cell phones, MP3 players, cameras and calculators) are not permitted in the classroom, laboratory or computer lab where the exam is being administered. All such items should be turned off and left in the area designated by the exam proctor prior to being seated for the examination. If a calculator is required for the examination, the exam proctor will notify students of this prior to the beginning of the examination.
2. Personal items such as hats, scarves, jackets and outerwear must be removed and stored prior to being seated for the examination.
3. If necessary, during computerized testing, the examination proctor will supply students with blank scratch paper. At the conclusion of the examination, all notes taken by the student during testing will be turned in to the exam administrator.
4. Students will not have access to personal items during the test.
5. At the conclusion of the examination, all exam materials (including test booklets, exams, scratch paper, answer sheets, etc.) will be returned to the exam proctor. Under no circumstances, may any examination materials be removed from the classroom, laboratory or computer lab where the exam is being administered.

**Violation of any of the examination policy is grounds for dismissal from the testing area, failure of the examination, failure of the course and dismissal from the Athletic Training Program.**

## **Student Resources**

### *Office of Accessibility Resources:*

Western Carolina University is committed to providing equal educational opportunities for students with documented disabilities and/or medical conditions. Students who require reasonable accommodations must identify themselves as having a disability and/or medical condition and provide current diagnostic documentation.

Office of Accessibility Resources.

135 Killian Annex

828-227-3886

<https://www.wcu.edu/learn/academic-services/disability-services/>

### *Student Support Services:*

Student Support Services provides support to students who are either first-generation, low-income or those who have disclosed a disability with: academic advising, mentoring, one-on-one tutorial support, and workshops focused on career, financial aid and graduate school preparation. You may contact SSS at (828) 227-7127 or email [sssprogram@wcu.edu](mailto:sssprogram@wcu.edu) for more information. SSS is located in the Killian Annex, room 138.

### *Hunter Library:*

Hunter Library provides students with access to group and individual study spaces and to thousands of information resources: print and electronic books, newspapers, and scholarly journal articles.

These resources can be searched online and often accessed there (<http://www.wcu.edu/hunter-library>) or library staff and subject specialists skilled in their specific disciplines can be contacted via the library's research guides (<http://researchguides.wcu.edu/>).

### *Canvas Support:*

The learning management system for this class is Canvas and can be found at: <http://wcu.Canvas.com>. Additional help with Canvas can be found at: [tc.wcu.edu](http://tc.wcu.edu), (828) 227-7487 or by visiting the Technology Commons located on the ground floor of the Hunter Library.

### *Academic Toolbox:*

The Academic Toolbox is available in all WCU courses via the course Canvas site. It can be found in the left-hand side column. The Academic Toolbox contains information and contact information for nearly all of the resources needed by WCU students, including but not limited to: technology assistance, academic services, student support, co-curricular programs and university policies.

### *Mentoring and Persistence to Success (MAPS)*

Mentoring and Persistence to Success provides comprehensive programs and holistic services designed to connect first generation and independent students with resources, empower them to achieve academic and personal goals, and guide them to graduation from Western Carolina University. MAPS also designs, supports, and administers summer programs for incoming freshman, most notably Catamount Gap and the Academic Success Program (ASP).

### *Writing and Learning Commons (WaLC)*

The Writing and Learning Commons (Belk 207) and Mathematics Tutoring Center (KA 214) promote student success through math and course tutoring, writing support, academic skills consultation, exam prep activities, and more. If you have questions or challenges with accessing our services online, please contact so we can help you find a solution: 828.227.2274 [Writing and Learning Commons](#) (WaLC)

### Math Tutoring Center

Students may use the Math Tutoring Center for one-on-one, virtual, or drop in tutoring. [Mathematics Tutoring Center](#). Visit <http://mtc.wcu.edu/> or contact at (828) 227-3830.

**Academic Resources:** Information related to academic resources and contact information for nearly all of the resources needed by WCU students, including but not limited to: technology assistance, academic services, and university policies can be found on Canvas.

### Top 5 Frequently Requested Resources

1. [myWCU](#)
2. [Registrar's Office](#)
3. [Canvas Student Guides](#)
4. [Supported Browsers & Computer Requirements](#)
5. [Policies](#)

### Other Academic Resources

- [Accessibility Resources](#)
- [Brainfuse](#) (*tutoring for distance learners*)
- [Center for Career and Professional Development](#)
- [Discipline-specific guides and assistance](#)
- [Military Student Services](#)
- [Registrar's Office](#)
- [Tutoring for Distance Students](#)
  - Visit <http://tutoring.wcu.edu/> or call (828) 227-2274.
- [Graduate Course Catalog](#)

### Campus Resources and **Activities**

- [Academic Calendar \(Required\)](#)
  - University [Final Exam Schedule](#)
- [Be Prepared for an Emergency](#)
- [Counseling and Psychological Services](#)
- [Diversity webpage](#)
- [Health Services](#)
- [myWCU](#)
- [WCU Website](#)

### Technical Resources

- **Canvas Help**
- [Canvas Student Guides](#)
- [Login to Canvas](#)
- [Supported Browsers & Computer Requirements](#)
- **Canvas on the Web**
  - [How do I get help with Canvas as a student?](#)
  - How do I get help with the Student app on my [Android device](#) or [iOS device?](#)
    - [Download the Canvas Student Android App](#)
    - Download the [Canvas Student iOS Mobile App](#)
  - [Canvas Operational Status](#)
  - [Canvas Release Notes](#)
- **Information Technology at WCU**
  - [IT Help Desk](#)
  - [Learn about the Technology Commons](#)

### Grading and Assignments:

Grades will be assigned based on points earned per assignment. Points for each assignment are found on Canvas in *Grades*. Final grades are calculated based on grades earned divided by the total points.

Assignment	Points	Total Points
Written Examinations (4)	100 points each	400
Quizzes (2)	10 points each	20
Practical Examinations (3)	50 points each	150
Mini-practical examinations (7)	10 points each	70
Laboratory Activities (10) *	5 points each	50
Online Lecture Quizzes (22) (lowest score dropped)	5 points per quiz	105
Therapeutic Intervention Cases *	50 points	50
Evidence-based therapeutic intervention project	50 points	50
	Totals	895 points

\*Students are permitted to work with one other classmate for the laboratory activities and case studies. Each student needs to turn in their own assignment. All other activities must be completed independently.

Grading System: Grades assigned to graduate credit courses are:

- A – 90 – 100%
- B - 80 – 89.9%
- C - 70 – 79.9%
- F - Below 70%
- I - Incomplete

### Course Assignments / Activities

**Written Examinations:** There will be four computer-based exams in this course. Students will be required to use Respondus Lockdown browser for quizzes and exams. The four exams will consist of multiple choice, multiple answer, short answer, hybrid, and essay questions. Unexcused absence from any scheduled examination, or failure to bring computer on examination day will result in a grade of zero (0) for the exam. SLOs 1-4.

**Practical Examinations:** There will be three major practical examinations in this class. The major practical examinations will occur as scheduled on the syllabus. Major practical examinations will be scheduled individually with the faculty member outside of regularly scheduled class time or via computer simulation. Unexcused absence from any scheduled practical examination will result in a grade of zero (0) for the exam. All students are required to dress minimally in Code Yellow for all practical examinations unless otherwise instructed by the professor. Students will receive a 10% deduction from the practical grade if this policy is violated. Additionally, students will be evaluated on patient interactions (e.g., professionalism, communication) during practical exams. SLOs 3-4

All major/unit practical exams must be completed with a 78% to be considered “passing.” If a student does not achieve a 78% on their first attempt, they will need to remediate the practical exam. Students should email the instructor who administered the practical exam within 48 hours of receiving their grade to schedule a remediation practical that must be completed within 3 weeks following the original exam. The highest grade a student can earn on their first remediation practical exam is an 80%. If the student does not achieve the 78% mark on their remediation exam, they must follow the same procedure to schedule a second remediation practical. The highest grade a student can earn following a second remediation attempt is a 73% (or their original grade). If a third remediation is necessary, the student should follow the same procedure and can earn up to a 70% (or their original grade).

**Mini-Practical Examinations:** There will be multiple mini-practical examinations in this course. The mini-practicals will be skill based and will occur within the content modules. Mini-practical examinations will be scheduled individually with the faculty member outside of regularly scheduled class time or via computer simulation. Unexcused absence from any scheduled practical examination will result in a grade of zero (0) for the exam. SLOs 3-4

**Quizzes:** There will be two quizzes throughout the semester, based on the information you have been covering in class at that time. Quizzes will be completed on the computer (unless stated by the professor) and will have similar questions as exams. Unexcused absence from any scheduled quiz, or failure to bring computer on a quiz day will result in a grade of zero (0) for that quiz. SLOs 1-2

**Online Lecture Quizzes:** Online lectures will be assigned throughout the semester for students to listen to on their own time. After listening to each online lecture, students will complete a 5-point quiz on the material they just learned. Quizzes will be completed through Canvas using Respondus, and are due by the date/time listed on the schedule. Any changes to online lectures and quizzes will be communicated to students by the professor. SLOs 1-4

**Laboratory Assignments:** Laboratory assignments will be assigned throughout the semester. The student should print off the laboratory assignments and complete them during the lab session. These are designed to be completed during lab, but if a student is unable to complete the entire assignment during the laboratory session, the assignment is due the following day. These will be turned in hard-copy. SLOs 3-4

**Case studies:** At the end of several modules, students will complete case studies related to the intervention. Case studies can be found on Canvas and due dates are assigned throughout the semester. SLOs 3-4

**Evidence Based Therapeutic Intervention Project:** The aim of this project is to give students an appreciation of current literature related to therapeutic interventions and evidence-based therapeutic interventions. Specifically the purposes of this project are to: 1) expose students to literature in therapeutic interventions, 2) identify appropriate resources to guide evidence-based practice, 3) synthesize research to answer a clinical question, and 4) utilize literature to guide patient care decisions related to therapeutic interventions. Students will be required to compile evidence based on a clinical question and complete a paper and presentation. See project description and rubric for more details. SLO 4

## Course Schedule

Wk	Day	Date	Topic	Supplemental Materials	Assignments and Online Lectures Due
1	M	8/21	Course Introduction Pain Modulation	Syllabus Draper Ch. 8 Starkey Ch. 2 (on Canvas)	
	T	8/22	<b>**During Ortho**</b> Pain Modulation Inflammatory Response Process	Draper Ch. 5 Starkey Ch. 2 (on Canvas)	
	T	8/22	<b>**During EBP**</b> Inflammatory Response Process	Draper Ch. 5 Starkey Ch. 2 (on Canvas)	
	W	8/23	*ORTHO*		
	W	8/23	*EBP*		
	F	8/25	Inflammatory Response Process	Draper Ch. 5 Starkey Ch. 2 (on Canvas)	
2	M	8/28	Tissue Repair and Healing	Draper Ch. 7	Tissue Histology Online Lecture and Quiz  <b>**Pain Modulation Quiz**</b>
	LAB	8/30	Tissue Repair and Healing Inflammatory and Healing Lab	Draper Ch. 7	Healing in Tissue Types online lecture and Quiz
	W	8/30	Tissue Repair and Healing		Intro to TI Online Lecture (Review from ATTR 523)— <b>no quiz</b> <b>**Will be on exam**</b>
	F	9/1	Intro to Therapeutic Interventions  Therapeutic Interventions through the Healing Process	Houglum Ch. 2	Nutrition for Healing online lecture and quiz  <b>**Inflammatory Response and Tissue Repair Quiz**</b>
3	M	9/4	LABOR DAY		
	LAB	9/6		EXAM I	

			<b>Pain Modulation, Inflammatory Response Process, Tissue Repair and Healing, Intro to Therapeutic Interventions, Therapeutic Interventions through the Healing Process, All online lectures from this section</b>		
	W	9/6	Range of Motion and Flexibility	Houglum Ch. 5	Effects of Immobilization Online Lecture and Quiz  Stretching Online Lecture and Quiz
	F	9/8	Muscular Strength and Endurance	Houglum Ch. 7 Muscle Physiology OL from ATTR 510	Intro to Muscular Strength and Endurance Online Lecture and Quiz
4	M	9/11	Proprioception	Houglum Ch. 6 Nerve Physiology Part III: Proprioception from ATTR 510	
	W	9/13	Biofeedback	Draper Ch. 17	Biofeedback Online Lecture and Quiz
	LAB	9/13	ROM, Strength and Endurance, and Proprioception Lab		Aerobic Exercise Online Lecture Due  Lab Activity Due after lab
	F	9/15	Plyometric Exercises	Houglum Ch. 8	Intro to Plyometric Exercises Online Lecture and Quiz
	9/11-9/15		<b>Mini-Practical #1: Stretching and ROM</b>		
5	M	9/18	Functional Exercise	Houglum Ch. 9	<i>Aerobic Exercise Case Studies Due</i>
	LAB	9/20	Plyometric and Functional Exercise Lab		Lab activity due after lab
	W	9/20	Isokinetic Exercise <b>Meet in Isokinetics Lab</b>	Readings on Canvas	Isokinetics Online Lectures (Part I and II) and Quiz (one quiz) Lab activity due after lab
	F	9/22	Intervention Progression	Houglum Ch. 12	
	9/19-9/23		<b>Mini-Practical #2: Proprioception and Strength/Endurance</b>		
6	M	9/25	Aquatic Rehab Lab 1 <b>Wear swimsuit</b>	Houglum Ch. 16	Aquatic Rehab Online Lecture and Quiz
	LAB	9/27	Aquatic Rehab Lab 2 <b>Meet at Reid Pool and wear swimsuit</b>		Rehabilitation Adherence Online Lecture and Quiz
	W	9/27	Flex/Review Day		
	F	9/28	Cryotherapy	Draper Ch. 12&13	
7	M	10/2	Cryotherapy		
	LAB	10/4	<b>Exam 2 (content since Exam 1, not cryotherapy) ROM, Muscular Strength and Endurance, Proprioception, Biofeedback, Plyometrics, Isokinetics, Functional Exercises, Aquatic Rehabilitation, Aerobic Exercises, Rehabilitation Compliance, Intervention Progression All online lectures from this section</b>		
	W	10/4	Superficial Thermotherapy	Draper Ch. 12&13 Draper Ch. 10&11	
	F	10/6	Superficial Thermotherapy		
	10/2-10/6		<b>Practical Exam #1: ROM, Strength and Endurance, Proprioception, Plyometrics, Isokinetics, Functional Exercise, and Intervention Progression</b>		
8	M	10/9	Compression		
		10/9	Electrical Stimulation: Foundations	Draper Ch. 17	

			*During Emergency Care Time** (11:15-12:15)		
	LAB	10/11	Cryotherapy, Superficial Thermotherapy, and Compression Lab		Cryotherapy and Thermotherapy Application Techniques Online Lectures and Quiz (one quiz) <b>Lab activity due after lab</b>
	W	10/11	Emergency Care Exam during Therapeutic Interventions class time (10-11)		
	R	10/12	*During Clinical Education Class time* Electrical Stimulation: Foundations		Foundations of E-stim: Currents Online Lecture and Quiz  Foundations of E-stim: Application Techniques Online Lecture and Quiz  *One quiz for both online lectures
	F	10/13	*Clinical Education Class		<i>Cryotherapy and Thermotherapy Case Studies Due</i>
	10/13-10/14		<b>Mini-Practical Exam #3: Cryotherapy and Superficial Thermotherapy</b>		
10/16-10/20		<b>Fall break: No Classes</b>			
	M	10/23	IV Administration during class time (10-11) <b>Code Yellow</b>		
	W	10/25	Electrical Stimulation: Application Techniques  Electrical Stimulation: Premod, IFC, TENS	Draper Ch. 17	E-Stim for Pain Control Online Lecture Due and Quiz
9	LAB	10/25	Intro to E-stim Lab		<b>Lab activity due after lab</b>
	W	10/25	Electrical Stimulation: Premod, IFC, TENS  During EMC class time (11:15-12:15)	Draper Ch. 17	
	F	10/27	Electrical Stimulation: High Volt, Microcurrent	Draper Ch. 17	E-Stim for Wound Healing Online Lecture and Quiz Due
	F 10/27		<b>Evidence Based Therapeutic Interventions Project Topic Due</b>		
	M	10/30	Electrical Stimulation: High Volt, Microcurrent	Draper Ch. 17	
10	LAB	11/1	Electrical Stimulation: Lab: Premod, IFC, TENS		<b>Lab activity due after lab</b>
	W	11/1	Electrical Stimulation: NMES Part 1	Draper Ch. 17	NMES Online Lecture and Quiz
	F	11/3	Electrical Stimulation: NMES Part 2	Draper Ch. 17	
	11/1-11/9		<b>Mini-Practical #4: Electrical Stimulation: Premod, IFC, TENS</b>		
11	M	11/6	Electrical Stimulation Lab: HVPC, NMES		<b>Lab activity due after lab</b>
	LAB	11/8	<b>Exam 3</b>		

			<b>Cryotherapy, Superficial Thermotherapy, Compression, Electrical Stimulation</b> <b>All online lectures from this section</b>		
	W	11/8	Ultrasound	Draper Ch. 14	<i>Electrical Stimulation Case Studies Due</i>
	F	11/10	Ultrasound		Theories of Ultrasound Online Lecture and Quiz Ultrasound Parameters Online Lecture and Quiz
	11/10-11/11		<b>Mini-Practical #5: Electrical Stimulation: HVPS, NMES</b>		
12	M	11/13	Ultrasound		
	LAB	11/15	Ultrasound and Combo Lab		<b>Lab activity due after lab</b>
	W	11/15	Ultrasound and Combo	Draper Ch. 15	
	F	11/17	Diathermy		Theories of Diathermy Online Lecture and Quiz
	11/13-11/17		<b>Practical Exam #2: Cryotherapy, Thermotherapy, Electrical Stimulation</b>		
13	M	11/20	Diathermy		
	11/20-12/1		Mini-Practical #6: Ultrasound and Diathermy		
	W-F	11/22-24	<b>NO CLASS: Thanksgiving Break</b>		
14	M	11/27	Iontophoresis		Phoresis (Ionto and Phono) Online Lecture and Quiz
	W	11/29	Iontophoresis		
	LAB	11/29	Phonophoresis and Diathermy Lab		<b>Lab activity due after lab</b>
	F	12/1	Photobiomodulation	Draper Ch. 21	Photobiomodulation Online Lecture and Quiz
15	M	12/4	Photobiomodulation		<i>Ultrasound and Diathermy Case Studies Due</i>
	LAB	12/6	Photobiomodulation and Iontophoresis Lab		<b>Lab activity due after lab</b>
	W	12/6	Deep Tissue Oscillation and Thermostim Probe	Starkey Ch. 14 (on Canvas)	
	F	12/8	Flex/Review		<i>Ionto and Photobiomodulation Case Studies Due</i>
	12/7-12/8		Mini-Practical #7: Ionto and Photobiomodulation		
Finals	12/11-12/15		<b>Practical Exam #3: Ultrasound, Diathermy, Iontophoresis, Phonophoresis, Photobiomodulation, Deep Tissue Oscillation</b>		
	W	12/13	<b>FINAL EXAM (comprehensive, additional focus on content since Exam 3: Ultrasound, Diathermy, Iontophoresis, Photobiomodulation, Deep Tissue Oscillation)</b> <b>All online lectures from this section</b> <b>Wednesday 8:30 am – 11:00 am</b>		
	R	12/14	<b>Evidence-Based Therapeutic Intervention Project Due by 5:00 pm</b>		

### Academic Calendar

This includes dates for all breaks, university closures, final exams, etc. The academic calendar can be found at <http://www.wcu.edu/learn/academic-calendar.asp>

### Final Exam

The university final exam schedule can be found here:

<http://www.wcu.edu/learn/academic-services/registrars-office/final-exam-schedule.asp>

**Important Dates:**

First Day of Classes	Monday, August 21, 2023
Labor Day (No Classes)	Monday, September 4, 2023
Fall Break (No Classes)	October 16-20, 2023
Last Day to drop with a "W"	Friday, October 27, 2023
Advising Day (No Classes)	Tuesday, October 31, 2023
Thanksgiving Break	November 22-24, 2023
Last Day of Classes	December 8, 2023
Final Exams	Saturday – Friday, December 11 – December 15, 2023
All Grades Due by 10:00 am	Monday, December 18, 2023
Commencement	Saturday, December 16, 2023

**Syllabus Updates**

This syllabus, along with its course schedule, is based on the most recent information about the course content and schedule planned for this course. Its content is subject to revision as needed to adapt to new knowledge or unanticipated events. Updates will remain focused on achieving the course objectives and students will receive notification of such changes. Students will be notified of changes and are responsible for attending to such changes or modifications as distributed by the instructor or posted to Canvas.

Students must be familiar with the class attendance, withdrawal, and drop-add policies and procedures.

---