

# Physical Medicine and Rehabilitation

## Spring 2012 – CP-6212

### Department of Clinical Reasoning and Therapeutics

**Course Number and Name:** CP6212 – Physical Medicine and Rehabilitation

**Lecture:** Monday 8am to 9am in L-205

**Laboratory:** Tuesday and Thursday 8am to 9am Moody Health Center Rehab room

**Course Credits:** 2 credits, 45 hours

**Course Instructor:** Debra Bonnefin, DC, DACRB, MAppSc

**Office:** Iwama Bldg., Rm. 240

**Office hours** Please email me for an appointment if possible.

Monday 9-11, Wednesday 10-12, Friday 11:00am – 1:00pm; or most days  
by appointment.

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**E-mail address:** [dbonnefin@txchiro.edu](mailto:dbonnefin@txchiro.edu)

**Web Address:** Edvance 360 - Address: <http://edvance360.com/txchiro>

**Lab Assistant:** Tim Lee, DC

#### **Course materials:**

##### **Required Text:**

Prentice, WE. Therapeutics Modalities for Sports Medicine and Athletic Training. 6<sup>th</sup> edition. 2009. McGraw Hill.

##### **Suggested Reading:**

Cameron, MH. Physical Agents in Rehabilitation: From Research to Practice. 3<sup>rd</sup> edition, 2009. Elsevier

Belanger, AY. Evidence-Based Guide to Therapeutic Physical Agents. 2002 Lippincott, Williams and Wilkins

Notes will be handed out throughout the semester of lab.

Power point presentations will be available on Edvance 360.

The student is required to purchase one set of adhesive electrical stimulation pads.

#### **Course Description:**

This course is designed to teach the student how to effectively and safely use passive modalities in the clinical setting based on various aspects of the patient evaluation. These therapies include various electrical stimulation devices, ultrasound, diathermy, traction (decompression therapy), ultraviolet, low level laser, and infrared therapies. In addition, the student will learn to transition a patient from passive to active care.

**COREQUISITE:** Clinical Neurology

### **CCE/TCC Competencies**

#### **CCE:**

1. History taking
2. Neuromuscular evaluation
3. Psychosocial assessment
4. Case management
5. Record keeping
6. Doctor-patient relationship
7. Ethics and integrity

#### **TCC:**

1. Business aspect of practice
2. Communication
3. Evidence Based Practice/Research
4. Special Populations
5. Physical Therapeutic procedures

### **Learning Outcomes:**

1. The student will apply appropriate passive therapies based on the patients' clinical presentation.
2. The student will understand indications, precautions and contraindications for all modalities and patient application.
3. The student will integrate previous knowledge of basic and clinical sciences to effectively assess the patient's function and pain level and modality application.
4. The student will recognize a timely basis for terminating passive care and transition to active care.

### **Learning Objective:**

#### **The student must:**

1. Analyze historical, neuromuscular, physical and psychosocial evaluations to apply appropriate therapy as necessary.
2. Explain which modalities will be most effective for which conditions.
3. Determine a treatment goal and know how to accomplish that using a variety of different modalities.
4. Define indications and contraindications for each modality.
5. Demonstrate a proper knowledge of anatomy and biomechanics to effectively apply passive therapies per the patient presentation.
6. Design an appropriate treatment program in regards to physiotherapy modalities for the patient's condition.
7. Assess on a continuous basis the progress of the patient's status and realize when passive therapy has reached a plateau and it is now appropriate to transition into active care.
8. Demonstrate the ability to appropriately chart the treatment parameters for an individual patient encounter.

9. Demonstrate respect for the patient's safety and need for modesty.

**Teaching Philosophy:**

I strive to create an environment of learning that involves both integration of material into a clinical model as well as some rote memorization. Lecture time will be used to learn about each modality relating to the physical and physiologic effects of each modality and when it is best used. Indications and contraindications will be covered for each modality.

Lab time will allow the student to apply the modality, as repetitive use will help to enhance the learning experience. The students may also be asked to teach modality use to another student to deepen the learning experience.

Observation of therapy application in the lab during the trimester setting will be used as a teaching instrument to allow the student to understand clinical applications and effects of the different modalities.

**Student Responsibilities:**

1. Students should act professionally to meet the challenges of this program by coming to class on time, being ready to learn and by paying attention.
2. Students are expected to do the reading from the text and to preview the course notes prior to attending the class.
3. Students should make the most of the time in class and ask questions. Every student should participate in answering questions during lectures and in the laboratory.
4. Students are to conduct themselves in a professional manner at all times. Failure to follow these rules may lead to dismissal from the course. Conduct during labs must be professional at all times.
5. Studying for other classes during lecture and lab will not be allowed.
6. Refrain from talking, texting, leaving during class and using your computer for anything other than taking course notes as it is disruptive to the class and disrespectful of the instructor.
7. Students are to obtain one set of adhesive electrodes. They may be purchased in the Moody Health Center or bookstore.
8. Students are to be properly attired as to access different areas of the body for therapy (shorts and tank tops). Gowns may be worn during the laboratory practice time.
9. After the laboratory is completed the students are to clean up the areas they are working in, i.e. spray the tables, change the head rest paper, place materials back in their proper place, return the therapy device to a presentable condition and then return them to the PODS.
10. Students are allowed to practice therapy application during the student's idle times in the Moody Health Center during regular operating hours. The students are to use the Yellow Treatment Pod (Pod C) and inform the instructor or an attending clinician of their purpose. Moody Health Center **interns have priority**

when therapy devices or treatment rooms are needed. The instructor is available for help when Moody Health Center activities permit.

**Methods of Instruction:**

Course material will be presented in lecture via power point presentations and/or case presentations and skills demonstrations in lab. Course notes and reading assignments are provided to enhance the lecture information. Material presented will be referenced from the textbooks and journals, with references to the instructor’s own clinical experiences.

The iClicker will be used as a means of performing both formative and summative assessment of the material covered in lecture and the reading assignments and to monitor participation. Each student is required to purchase an I-Clicker remote for in-class participation and assessment. ***The iClicker will be used every day in class and you are responsible for bringing the remote daily and that it is functioning (have extra batteries).***

**Methods of Assessment:**

**Lecture**

One written examination will be given during the trimester. The examinations will consist of multiple choice questions and some short answers. The items used will emphasize clinical knowledge, recall, analysis and problem solving.

**Lab**

Lab Practical

- During the lab exam the student will choose an appropriate therapy dependent on the clinical presentation. The student will be expected to explain physical and physiological aspects of each modality tested.
- The student is expected to know the anatomical location of the condition in order to apply the therapy.
- During practical lab exams, you must conduct yourself in a professional manner – no jokes or casual comments. Lab exams are timed and will be limited to 7 minutes per person.
- The assessment center will be used to capture the student instructing and implementing stabilization protocols to a live patient for a specific clinical presentations.

**Point Distribution**

i-Clicker	8
Lab Practical	20
Lab Final Practical	30
Midterm examination	25
<u>Final</u>	<u>40</u>
Total Points	123

### **iClicker Points**

- 87-100% = 8 points
- 75-86% = 7 points
- 65-74% = 6 points
- 57-64% = 5 points
- 50-56% = 4 points
- 42-49% = 3 points
- 34-41% = 2 points
- <34%= 0 points

### **Grade Method and Scale:**

TCC Grading Scale

A= 90-100

B=80-89

C=70-79

F=below 70

**Grade disputes will start with the instructor, then department head then Dean of Academics.**

### **Missed Examinations**

Students must notify faculty before missing any examination. If an examination is missed for good and sufficient reason and the student has notified the faculty member in advance, a make-up examination may be given subject to a fee of \$40.00. The fee for the make-up examination is a minimum of \$75.00 if a standardized patient is required for the exam. Additional required standardized patient hours may increase this \$75.00 minimum fee. All intra-term examinations must be made up prior to final examinations. Missed final examinations must be made up within the first week of the next trimester. A student may be allowed a maximum of two missed examination dates for good and sufficient reason per trimester. These two missed examination dates are for all enrolled courses in a trimester, not for each individual course. Any request for additional make up examinations will require documentation substantiating the absence and must be approved by the Dean of Academic Affairs.

**Note: All written make-ups will be short answer/essay. All missed examinations/quizzes/etc must be taken within two weeks of the student's return to the college or the score will convert to a zero.**

Students arriving late for written examinations will not be allowed extra time. Students arriving late for lab quizzes without a valid documented reason will receive a zero on that quiz. Students arriving late for the cases will have points deducted for lack of professionalism. Students arriving after an examinee has completed the written examination will not be allowed to take the written examination and must schedule an appointment for a make-up provided they have appropriate documentation as to why they were late.

**Retention of Examinations:**

The course professor will retain all the exams, quizzes, etc. If any student desires to review any these materials, he/she can contact the lead instructor to set an appointment. Each student will have two weeks from the date in which a grade is posted to review that examination.

Any documentation of course grades will be kept by the lead instructor until the second Friday of the following trimester. After that time, the grades may not be reviewed.

**Attendance Policy:**

Attendance in all lectures and labs is required. Attendance is necessary for learning the material as such roll will be taken each day. A student is subject to academic penalty if absences exceed **10%**. Absences exceeding 20% subject a student to dismissal from a course. Three (3) incidences of tardiness constitute an absence. You are considered tardy once your name is called during roll.

If you leave class early you will be counted as absent, if you leave and return during lecture or lab you will be counted tardy. If your absence constitutes more than 20 minutes you will be counted as absent that day.

It is the student's responsibility to check the official class roster for your name. Any student not officially enrolled in this class is not to participate and will not receive credit for this course. Do not wait until late in the trimester to take care of this matter. Any grade received while not enrolled in the course will count as zero.

This class meets 3 times per week.  $3 \times 13$  is 39. 10% of 39 is 3.9 rounded up to 4. 20% of 39 is 6.8 rounded up to 7.

## Course Content and Outline

Week	Lecture/Lab/Readings
1	Lecture: In-service Training [No class Monday] Lecture: Introduction to the course and to PT modalities in general, safety, transitioning to active care, chart documentation. Lecture/Lab: Pain, Healing Phases Reading assignment: Prentice chapters 1 & 2
2	Martin Luther King Day [No class Monday] Lecture: Chiropractic theory of modality use, the healing process, pain theories Lecture/Lab: Hot and Cold therapy Reading assignment: Prentice Chapter 3 & 4
3	Lecture: Ultrasound, phonophoresis, chart documentation Lab: Ultrasound Reading Assignment- Prentice Chapter 8
4	Lecture: Electromagnetic Therapy - Diathermy Lab: Use of braces, Ultrasound Reading Assignment: Prentice pp. 3-10
5	Lecture: Low Level Laser, Light Therapy, Ultraviolet, Infrared Lab: Laser, Light Reading Assignment: Prentice Chapter 9
6	Lecture: Basics of Electricity; Biphasic, Russian stimulation Lab: Electrical muscle stimulation Biphasic and Russian Stimulation techniques Reading assignment: Prentice Chapter 5
7	Lecture: President's Day [No lecture Monday] Lab: Written midterm Lab: Lab Practical
8	Lecture: High volt galvanic (HVG), Combo, Nerve Block, Low Volt Galvanic Iontophoresis, chart documentation Lab: HVG, Combo, Nerve Block Reading Assignment: Prentice Chapter 6: pp. 174-178
9	Lecture: Review ES Modalities Lab: Clinical Case Practice
10	Lecture: Interferential Current (IFC), Microcurrent, TENS Lab: IFC, Microcurrent Reading Assignment: None
11	Lecture: Review Lab: Clinical Case Practice
12	Lecture: Traction Reading Assignment- Prentice Chapter 12: pp. 322-337 Lab: Traction
13	Lecture: Review Lab Final
14-15	<b>Finals</b>

### **Disclaimer statement:**

The faculty teaching this course reserves the right to reasonably alter the sequence of activities, evaluation and assignment dates. Every effort will be made to inform the class members of such changes. Students are responsible to follow the syllabus and any change instituted by the faculty.

**For specific procedures on how each policy is enforced see the Student Handbook.**