

Course Syllabus

Course Number: CHSC 5203

Trimester Credit Hours: 4

Course Title: Clinical Biomechanics and Motion Palpation

Total Contact Hours Per Trimester: 75

Course Director: **Thomas McCloughan, CPT, BS, DC**

Office Hours: 12:00-1:00 on Monday, Tuesday, Wednesday and Friday; 7:00-8:00 Friday

Lab Hours Per Week: 2

Lab Director/Instructors: Drs. McCloughan

Lab Contact Hours/Trimester: 30

COURSE DESCRIPTION:

This course introduces the concept of clinical biomechanics as it applies to the practice of chiropractic. The objective of the course is to gain an understanding of the clinical biomechanics of the spine, pelvis, and extremities as this forms the foundation to be able to scientifically diagnose and apply treatment to correct the vertebral subluxation complex. This course includes the study of procedures used to evaluate normal and abnormal joint dynamics (subluxation) of the spine and pelvis to determine if Chiropractic Manipulative Therapy (CMT) is indicated. The concepts of the subluxation complex and motion and static listing systems are introduced.

GENERAL APPROACH TO TEACHING:

This course is an interactive lecture course utilizing a video embedded power point presentation, and physical demonstrations. The instructor is open to classroom discussion of relevant topics but mindful of the material that needs to be presented within the course of the trimester. The instructor encourages participation and is respectful of all questions and opinions. The instructor is not tolerant of inappropriate and or disruptive behavior within the classroom and such events will be dealt with appropriately.

ESTIMATE OF STUDENT WORKLOAD:

You should expect to spend 2-4 hours of study each week in this class.

LEARNING OUTCOMES:

At the completion of this course:

- The student will be able to define, describe and clinically relate basic biomechanical terminology and concepts to the fundamental anatomy, physiology and pathophysiology of the physiological joints covered within this course and apply this information to solve a given clinical challenge (questions and case studies).
- The student will be able to define, describe and clinically relate the different qualitative aspects of joint play and end-feel and associate this with normal or abnormal joint kinematics and be able to apply this to correctly solve a given Chiropractic joint assessment (motion palpation) procedure.
- The student will be able to perform a quick spinal scan and determine if there exist regions within the spine in need of further evaluation.
- The student will be able to isolate and evaluate the joint-play and end-play of the joints of the axial skeleton in all of the planes of their normal joint motions.
- The student will be able to determine the plane or planes of aberrant motion and determine if chiropractic manipulative therapy is warranted or not indicated clinically.

ASSESSMENT:**Lecture:**

- The students will be evaluated in their knowledge (name, identify, define), comprehension or application (classify, explain summarize) and analysis or synthesis (compare, differentiate, calculate or break down) the learning outcomes covered in class and assignments. This will be assessed by a series of questions (multiple choice, fill in the blank or short description of rationale for clinical opinion) on the three lecture examinations given throughout the trimester.

Laboratory:

- The student will be evaluated on their ability to perform the following during labs and exams.
 - Introduction:
 - Did the doctor introduce themselves to their patient?
 - Did the doctor tell the patient the region to be examined and asked permission to expose the area if necessary?
 - Did the doctor properly drape the region examined?
 - Equipment:
 - Did the doctor adjust the table appropriately for the maneuver being performed?
 - Did the doctor check the table for safety prior to placement of the patient?
 - Patient Position:
 - Was the patient placed in the correct posture for the maneuver being performed?
 - Were the patient's shoulders positioned off of the headpiece and foot rest supporting the ankles?
 - Doctor's Position:
 - Was the stance the doctor assumed appropriate to the maneuver being performed with regards to the adjusting table and the patient?
 - Did the doctor appropriately position their center of gravity as close as possible to the segmental contact point of the patient and behind their line of drive?
 - Segmental Contact Point:
 - Did the doctor correctly utilize established anatomical landmarks to locate the articular segment?
 - Did the doctor accurately contact with their contact hand?
 - Tissue Pull:
 - Was tissue pull taken in the direction of the maneuver performed?
 - Was the amount of tissue pull taken appropriate (neither excessive nor insufficient)?
 - Contact Point:
 - Did the doctor use a correct contact point for the maneuver being performed?
 - Did the doctor's contact hand appear both secure and comfortable?

- Indifferent Hand:
 - Did the doctor adequately position and utilize their indifferent hand for the maneuver being performed?
 - Did the doctor's indifferent hand appear both secure and comfortable?
- Vector (line of drive):
 - Was the vector(s) created by the doctor's contacts appropriate for the maneuver being performed?
 - Did the doctor assess the correct motion?
- End Play Assessment:
 - Was the amount of pretension appropriate (neither excessive nor insufficient)?
 - Did the doctor adequately isolate the joint they were assessing end play within?
 - Was the amplitude of the end play assessment appropriate (neither excessive nor insufficient) for the maneuver being performed?
- There will be a total of 4 procedures to perform in both the lab midterm and the final practical each worth a total of 25 points
- Each of the above ten components will be assessed by the examiner and awarded a grade of: correct (2.5 points) – correct but needs improvement (1 point) – or incorrect (0 points)
- It is possible for a student to receive the grade of incorrect (0 points) for an individual component if the student receives two or more correct but needs improvement (1 point) on more than one of the sub-components graded which is at the discretion of the examiner.
- A student that performs an entirely incorrect procedure will be awarded no points for that maneuver. If the student performs the correct maneuver but on the wrong side or the opposite direction than instructed, their grade for that maneuver will automatically be reduced 50% with each of the components graded deducted from this number.
- For further information please open the file marked **laboratory grading matrix**

PREREQUISITES:

Developmental and Applied Anatomy

REQUIRED TEXTBOOKS:

Biomechanics in the Musculoskeletal System White and Panjabi

Clinical Biomechanics of the Spine, White and Panjabi

Course Lecture and Laboratory Manual

RECOMMENDED ADDITIONAL TEXTBOOKS:

Clinical Biomechanics of Spinal Manipulation, Herzog
The Biomechanics of Back Pain, Adams, Bogduk, Burton and Nolan
Clinical Anatomy of the Lumbar Spine and Pelvis Bogduk

SUPPLIES:

It is highly recommended that the student bring their plastic model spines and anatomy book with them to class as a visual aid.

GRADING SYSTEM:

Evaluation is an integral part of the educational process and is used as an educational tool to help students identify problem areas, to recognize and reward achievement, and to identify students who are unable to meet the rigors of the curriculum. Final course grades and their interpretation are listed below:

Grade	Numerical Value	Grade Point Average	Interpretation of Academic Achievement
A	89.5 – 100	4.0	Excellent
B	79.5 - 89.49	3.0	Above Average
C	69.5 - 79.49	2.0	Satisfactory
F	69.49 or Below	0.0	Unacceptable

This grading scale is strictly adhered to. There are NO exceptions.

Written Exam I – Basic Biomechanics	20%
Written Exam II – The Axial Skeleton	20%
Written Exam III – The Appendicular Skeleton	20%
Midterm Practical Exam	20%
Final Practical Exam	20%
Total	100%

LABS:

Please wear loose comfortable clothing. Gowns are necessary.

OPEN LABS:

Open lab will be held one day a week from 12-1pm – day will be determined as most appropriate to a class vote.

90/90 RULE:

The 90/90 rule **DOES NOT** apply to Clinical Biomechanics and Palpation. All students are required to take the five (5) examinations scheduled above.

EXTRA CREDIT:

Is at the discretion of the course director.

A complete listing of all Academic policies is found on the Parker Website:

(My Parker, Academics home Page, College catalog, Policies common to all Parker Courses (Summer 2012)
Absences for Religious Holidays
Academic Dishonesty
Academic Promotion, Probation and Dismissal Policy
Appeals
Assistance and Accommodations
Attendance Policy
Audio/Video Taping
Cell Phones and Electronic Devices in Class
Classroom Behavior
Communications
Computer Usage
Examinations (Make-up Exams/Lab Practical's/Altering Grades on Exams/Exam Review)
Final Examinations
Grading System
Missed Exam Policy
Professional Decorum
Special Needs Consideration
Student Bereavement Policy/Excused Absences

DISCLAIMER

The lecture outlines contained in the lecture booklet are NOT intended to represent the entire content of the course. A lecture outline is intended to be a guide to the lecture. The responsibility of the instructor is to follow the outline, expand the concepts and give explanation and illustrations to clarify content. The role of the student is to attend lecture and take notes over material

presented by the lecturer that explains and illustrates the material listed in the outline. It is also the responsibility of the student to question the instructor if explanations and illustrations are not clearly presented or understood.

The instructors take no responsibility for the accuracy or completeness of old notes, quiz questions or exam questions that students may purchase, acquire from off of the internet or be given by previous students.

IMPORTANT NOTE:

The provisions contained in this syllabus do not constitute a binding contract between the student and the Parker University, College of Chiropractic. These provisions may be changed at any time and for any reason at the discretion of the Course Director. When it is necessary to make changes to this document, appropriate notice (at least one week, if at all possible) will be given to the student(s).