Course Number and Title: PTH 412: Tests & Measures

Number of Credits: 3 credit hours

Course Date, Time, Location:

<table>
<thead>
<tr>
<th>Cohort</th>
<th>Day &amp; Time</th>
<th>Room</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cohort A</td>
<td>M 10-11:50 lab</td>
<td>CGS 101/104</td>
</tr>
<tr>
<td></td>
<td>W 11-11:50 lecture</td>
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<td></td>
<td>W 12-1:50 lab</td>
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<tr>
<td>Cohort B</td>
<td>M- 8-9:50 lab</td>
<td>CGS 101/104</td>
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<tr>
<td></td>
<td>W 8-8:50 lecture</td>
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<tr>
<td></td>
<td>W 9-10:50 lab</td>
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Prerequisites: Good standing in Entry-Level Physical Therapy Program

Course Description: This course emphasizes the clinical test and measure skills needed during patient/client examination. This course strongly emphasizes laboratory experiences where skills are practiced and content is applied to clinical examination procedures of multiple body systems.

Required Texts:


Additional Reading/Educational Supplements:

- [www elsevier.com](http://www.elsevier.com) – website for Hislop text which has videos for technique on MMT at each muscle with grading explanations
- [www.rehabmeasures.org](http://www.rehabmeasures.org) – Rehab measures database of tests and measures common (and some less common) to PT practice. This is a great resource while in the clinic and looking for a standardized test for certain patient population. Also provides many of the statistics and test interpretation for variety of tests.
- Geriatric toolkit.missouri.edu – another database of tests more specifically for the older adult

As appropriate, additional texts, article readings, and video/DVD viewing may be assigned via LMS.

Course Objectives:

Upon successful completion of the course, the student will:
1. Apply neuro anatomy and physiology to safely, effectively and efficiently select, perform and interpret results of different examinations for the nervous, muscular, and skeletal systems including:
   a. Patient observation
   b. Sensation
   c. Muscle tone
   d. Reflexes
   e. Cranial nerves
   f. Mental functions
   g. Coordination
   h. Basic balance testing
   i. Gait
   j. Joint play assessment
   k. Goniometry
   l. Manual Muscle Testing, dynamometry

2. Apply anatomy and physiology to safely, effectively, and efficiently select, perform and interpret results of different examinations for other systems including:
   a. Integumentary
   b. Cardiovascular

3. Use the ICF Clinical Reasoning Tool in order to describe patient/client impairments, activity and participation limitations.

4. Use examination findings to identify impairments and develop a physical therapy diagnosis to guide patient/client management.

5. Use appropriate communication and teaching strategies during patient/client simulations.

Musculoskeletal Track Mission Statement:
The patient-centered aim of the Musculoskeletal Track within the Entry-Level Doctor of Physical Therapy Program in the Division of Natural and Health Sciences at Carroll University is to facilitate student growth and acquisition of the knowledge and attributes consistent with the American Physical Therapy Association and Carroll University to effectively serve others. We strive to produce a generalist clinician who is a compassionate professional, competent in the integration and clinical application of anatomy, biomechanics, kinesiology, pathology, and orthopedics for appropriate patient/client management. Each student will learn to function as an autonomous practitioner and apply principles of best practice in a holistic fashion to patients with musculoskeletal conditions. Major theme: “Structure determines function and dysfunction may alter structure.”

PT Program Goals
1. Students will demonstrate the skills and behaviors as defined by the CAPTE Standards and Elements required for entry-level physical therapy practice in a dynamic healthcare environment.
2. Students will demonstrate evidence-based practice and utilize sound clinical reasoning strategies within the patient/client management and International Classification of Functioning Disability and Health (ICF) models.
3. Students will demonstrate physical therapy professional ethics, values and responsibilities in accordance with APTA Code of Ethics for the Physical Therapist, Core Values and Core Professional Behaviors.
4. The Program will demonstrate commitment to service to Carroll University, professional organizations, and local and global communities.
5. The Program faculty members will demonstrate contemporary expertise in their assigned teaching areas and have ongoing productive scholarly agendas.

Class Policies:
Class policies regarding attendance, assignments, academic standards, and general conduct are in accord with those outlines in the Entry-Level Doctor of Physical Therapy Student Handbook.

Per the Physical Therapy Student Handbook, attendance at class is not required. However, it is professional courtesy to make course coordinator aware of absences before the scheduled class period.

Electronics for social use is not allowed during lecture or lab (phone calls, texting, messaging, emailing, etc). If it appears that this is the purpose of electronics during lecture or lab, they will be prohibited.

**LMS UPLOADS:** Any assignment that requires an LMS upload must be “TURNED IN”. Think of the “turn it in” as putting your signature on a note/evaluation. Without the signature, the note is not completed and an employer, 3rd party payer, etc unable to accept the document. Failure to fully turn in your assignment will result in your assignment not being accepted. If you are having problems with LMS, you should use the “Report MyCourses Issues” link on the left-hand side of all LMS screens.

**LATE ASSIGNMENTS/Homework:** Late homework/assignments are not accepted unless the excuse meets policy for missing an exam as outlined in the PT Program student handbook. Students are encouraged to plan ahead as most assignments could be completed and turned in several days ahead of time. Technology failure is not a valid excuse for late assignments. Should a student know that they will not be able to meet a deadline, they should contact the course coordinator as soon as possible for further guidance.

**DRESS:** Students are expected to dress appropriately for lab. This includes wearing clothing that allows for movement throughout the body for all lab days. In addition, students should wear footwear that has a non-slip sole and protects the top of the foot. This is for the student and patient’s safety. Please consider that you will be getting very close to your classmates for many of the skills and need to make sure you and your “patient” can feel comfortable with what you’re wearing and being close.

**Accommodation for Disabilities:**
Students with disabilities who may need accommodations or any student considering obtaining documents should make an appointment with the Walter Young Center (262-524-7621) no later than the first week of class.

**Statement on Academic Integrity:**
Carroll University and the Physical Therapy Program strictly prohibit any academic misconduct. This includes, but not limited to, the sharing of information from written or practical examinations, skill checks, and other assessments. In addition, seeking information from a student who has taken an assessment in any way is also strictly prohibited. Merely asking a student, “how did _____ go?” may result in the inadvertent sharing of information and therefore any discussions no matter how casual or supportive should be avoided. Per the Carroll University Academic Integrity Policy, all violations will be reviewed by the course coordinator and sanctions imposed as necessary. Finally, students, faculty, and staff who are aware of any academic integrity violations are required to report – see the University policy for details.

Please be sensitive to the academic misconduct policy in the context of skill checks. Students who have completed skill checks are not to discuss the assessment, any course content, or practice skills with any student who has not yet taken the exam.

The Carroll University Academic Integrity Policy is located in your student handbook. You are encouraged to become familiar with the policy. If a student violates this policy in any way, the instructor reserves the right to impose sanctions which may include reduction in score/grade for an assignment/lab/assessment, failure on the assignment/lab/assessment, failure in the course, or other sanctions deemed necessary.

**Modifications to the syllabus:**
The instructors and the University reserve the right to modify, amend, or change the syllabus (course requirements, grading policy, etc.) as the curriculum and/or program require(s).
Course Coordinator:
Karma Lapacek, PT, DPT, GCS  Office Hours:
Office: PT126    Mon 12:00-3:00 CGS
Phone: 262-951-3032   Wed 2-3 CGS
Email: klapacek@carrollu.edu  Or by Appointment

Laboratory Faculty:
Vickie Ericson, PT    Office Hours:
Office: PT109B    Mon 12:00-3:00 CGS
Phone: 262-951-3033   Wed 2-3 CGS
Email: vericson@carrollu.edu      Or by Appointment

Liz Udovich, PT, DPT
Email: eudovich@carrollu.edu
Office hours: by appointment

GRADING
QUizzes: Quizzes will be online and taken outside of normal class hours through the LMS. Content for quizzes is listed on the course schedule below, but concepts may be cumulative. Quizzes are typically due on the date in which the material will be applied during the lab. Quizzes are to be taken ALONE! Taking a quiz with another student is considered cheating and will be treated as such. Talking about content of quizzes is academic misconduct and will result in penalties according to Carroll University policies. It is not appropriate to discuss quizzes with other students. These quizzes are open note, open book but are timed at 12 minutes for a 10 item quiz. Students are allowed to take each quiz up to 3 times and the average score will count. There is a 6 hour wait period between quizzes. After the first or second quiz attempt, if a student does not want subsequent quiz scores to be averaged into the quiz grade, they can make a comment within the quiz prior to taking subsequent attempts and subsequent scores will not change the final grade for that quiz. Once a student chooses this option, they cannot later decide to have the quiz count towards the quiz average. Any questions regarding quiz answers should be brought individually to the course instructor during office hours or by appointment. Quizzes will be open at least 1 week in advance of when they are due. For this reason, late submissions will not be allowed. Students should plan accordingly to take quizzes before the deadline. Quizzes are due by 8AM on the date listed unless otherwise mentioned.

IMPORTANT: If you leave the testing screen, you will not be allowed to return and finish your quiz. You will receive the grade for what you have completed.

LAB HOMEWORK: The purpose of lab assignments is to apply hands-on skills outside of lab time. The practice required for the lab assignments is a very minimum and practicing with more than the minimum number of people is beneficial to the student physical therapist. In addition, lab assignments give students the opportunity to work on SOAP note S: and O: sections of documentation learned in previous coursework. Lab homework sheets are at the end of each individual lab, which are posted to the LMS. Lab Homework is due by 11:55PM on the due date via upload on LMS. Every attempt will be made to review all homework within 5 business days of the due date. Labs will be graded by the following scale:

10 pts – 100% of tests performed on a minimum of 3 different people and ROM recorded clearly; all components of the lab complete and with thoughtful reflection/thought
5 pts – 50-99% of tests performed and initialed on 2-3 different people; open-ended questions partially completed
0 pts – less than 50% of tests performed and initialed on 1-2 different people; open-ended questions less than 50% completed or inaccurate

Late labs are not accepted without prior approval from the course coordinator.
SKILLS CHECKS: Skills checks are formal assessments of execution of tests and measures throughout the course. Skills checks material is outlined in the course schedule. Any material up to the skills check is testable material. It is imperative to read the lab manual introductory material prior to the first skills check. Students will be graded on: patient interaction, application, and execution of the skills. The focus of these skills checks will be on JPA, end-feel, MMT, and goniometry. However, other material may be covered. A score of 80% or greater is required on all skill checks. Any scores lower than 80% require a re-take which may be different skills from the same skill check; no more than 3 attempts are allowed. The gradebook score will remain the original score. Should students require a 3rd attempt the student may be asked to perform the re-take with additional faculty present and/or video tape at the instructor’s discretion. It is the student's responsibility to schedule time with the instructor for re-take skills checks. Failure to have a passing score on all skills checks will result in failure of the course.

PRACTICALS: There will be a midterm and final practical which will be a comprehensive assessment of all content covered in the lab up to that point. The final practical may cover material from the first half of the course and be cumulative with other courses. Students will be graded on: patient interaction, execution of skills, flow of the exam, and clinical reasoning. Further information will be provided later in the semester. A score of 80% of greater is required on practicals. Any score of less than 80% will require re-take with the instructor and will be a different case scenario. The gradebook score will remain the original score. Should students require a 3rd attempt the student may be asked to perform the re-take (with a different scenario) with additional faculty present and/or videotaping at the instructor’s discretion. Students are responsible to schedule with the instructor re-take practicals. Failure to have a passing score on all practicals will result in automatic failure of the course.

WRITTEN EXAMS: Written exams are cumulative. Exams may consist of, but are not limited to the following types of questions: multiple choice, matching, short answer, fill-in-the-blank, and essay. The exam will include knowledge and application questions. Content from other courses may also be included in order to assess integration of material from throughout the DPT Program curriculum. No books or electronics may be used. Please review the academic integrity policy to ensure that you comply with all aspects of course and university policies.

After any graded assessments (i.e. quizzes, exams, etc), students have up to ONE WEEK to dispute any answers that they feel may be correct in addition to the answer identified by faculty. Students are encouraged to meet with faculty 1-on-1 for these discussions in order to allow for student-faculty discussion. Grade changes can only happen during this time frame. During the last 2 weeks of class students have 2 business days for this matter in order to ensure final grades are not delayed.

<table>
<thead>
<tr>
<th>Grading Summary</th>
<th>Linked Objectives</th>
<th>Grading Scale</th>
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<tbody>
<tr>
<td>Quizzes (9)</td>
<td>25%</td>
<td>1-4</td>
</tr>
<tr>
<td>Lab Homework (10)</td>
<td>10%</td>
<td>1, 2</td>
</tr>
<tr>
<td>Skill Checks (3)</td>
<td>20%</td>
<td>1, 3, 4, 5</td>
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<tr>
<td>Midterm Practical</td>
<td>10%</td>
<td>All</td>
</tr>
<tr>
<td>Final Practical</td>
<td>10%</td>
<td>All</td>
</tr>
<tr>
<td>Midterm Written Exam</td>
<td>10%</td>
<td>1-4</td>
</tr>
<tr>
<td>Final Written Exam</td>
<td>15%</td>
<td>1-4</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td></td>
<td><strong>100%</strong></td>
</tr>
<tr>
<td>Date</td>
<td>Topic</td>
<td>Readings &amp; Preparation</td>
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<td>--------------------------------------------</td>
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<tr>
<td>WEEK 1 W 1/25</td>
<td>Lecture: Course overview Neuro Testing Overview</td>
<td>Neuro Readings: <a href="http://www.neuroexam.com">www.neuroexam.com</a> - videos O’Sullivan p 87-119</td>
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<td>Lab: Neuro Testing Part 1: Patient Observation Skills; Cognitive testing; <strong>Superficial Sensation</strong>: light touch <strong>Deep Sensations</strong>: proprioception, vibration <strong>Combined Sensations</strong>: 2-point discrimination, stereognosis, graphesthesia, barognosis <strong>Protective Sensation</strong>: monofilament</td>
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<tr>
<td>WEEK 2 M 1/30</td>
<td>Lab: Neuro Testing Part 2: Muscle tone &amp; spasticity Reflexes – deep tendon reflexes, superficial cutaneous Cranial Nerves</td>
<td>Neuro Readings: <a href="http://www.neuroexam.com">www.neuroexam.com</a> - videos O’Sullivan p 168-180 (reading ends at “Muscle Performance”; need to know Table 5.8; skip “Primitive and Tonic Reflexes” and skip Table 5.7)</td>
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<tr>
<td>W 2/1</td>
<td>Lecture: Goniometry, Joint Play, Loose Pack/Close Pack positions, MMT Lab: Intro to goniometry and JPA; endfeels, LPP/CPP, MMT</td>
<td>Norkin Ch 1, 2, 3 O’Sullivan “Accessory Joint Motions” (p. 143-144)</td>
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<tr>
<td>WEEK 3 M 2/6</td>
<td>Lab: Skill Check – neuro testing</td>
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<tr>
<td>W 2/8</td>
<td>Lecture: Myotomes, Muscle Length Lab: Foot &amp; Ankle</td>
<td><strong>Foot &amp; Ankle Readings</strong> MMT: Hislop Ch 1-2; Kendall Grading Scale handout (posted on LMS) MMT: Hislop p 251-278 Myotomes: O’Sullivan p 152-154 (memorize table 4.8) GON: Norkin Ch 10 (p 263-316) JPA: Handout &amp; images on LMS, review PTH414 F&amp;A arthrokinematics</td>
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<tr>
<td>WEEK 4</td>
<td>Lab: Foot &amp; Ankle</td>
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| M 2/13  | Lecture: Quizzes | Coordination Readings  
O’Sullivan p 211 (Start at “Features of  
coordination impairments”) - 226 (stop at  
“examination of Postural Control and  
Balance”)  
Lab: Coordination |
| W 2/15  | Lecture: Quizzes | Knee & Leg Readings  
JPA: Handout & images on LMS, review  
PTH414 knee arthrokinematics  
GON: Norkin Ch. 9, p 241-262  
MMT: Hislop p 240-250 |
| WEEK 5  | Lab: Knee | Quiz: Knee due 8AM (retakes due  
2/23 8AM)  
W 2/20  | Lab: Knee | Skills Check – MMT, gonio, JPA  
(knee and ankle)  
W 2/22  | Lecture: Skills checks | Quiz: Hip, thigh, Pelvis due 8AM  
(retakes due 3/22 8AM)  
Lab: Skills Checks | Hip, Thigh, & Pelvis Readings  
JPA: Handout & images on LMS, review  
PTH414 H&P arthrokinematics  
GON: Norkin Ch. 8  
MMT: Hislop p 203-239; p 72-75 |
| WEEK 6  | Lab: Hip, Thigh, & Pelvis | Spring Break  
M 2/27  | Lab: Hip, Thigh, & Pelvis MMT |  
W 3/1  | Lecture: Linking “history” to T&M | Written Exam 1  
Lab: Hip, Thigh, & Pelvis MMT |
| WEEK 7  | Lab: Written Exam 1 | Homework: Coordination lab due  
M 3/6  | Lecture: Picking tests based on history  
and Observation  
Lab: Picking tests based on history and  
Observation | |
| W 3/8   | Lecture: Picking tests based on history  
and Observation  
Lab: Picking tests based on history and  
Observation | Homework: Coordination lab due  
M 3/13 &  
W 3/15 | SPRING BREAK | |
| WEEK 8  | Lab: TMJ  
LE Dynamometry | TMJ Readings  
GON: Norkin Ch 13  
MMT: Hislop p 302-308  
W 3/20  | Lecture: Midterm Practicals (info  
through Hip, thigh, & pelvis) | Midterm Practical |
<table>
<thead>
<tr>
<th>Week</th>
<th>Date</th>
<th>Lab:</th>
<th>Lecture:</th>
<th>Lab:</th>
<th>Quiz:</th>
<th>Homework:</th>
</tr>
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<tbody>
<tr>
<td>10</td>
<td>M 4/3</td>
<td>Lab: Spine</td>
<td>Lecture: Choosing Tests and Measures</td>
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<td>Optional - Tuesday, 4/4: CHS Lecture Series: How to be a Hero and Save Healthcare (1 extra credit point on Shoulder Skill Check)</td>
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<td>W 4/5</td>
<td>Lab: Screening</td>
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<td>Homework: Balance/Functional Tests lab due</td>
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<td>11</td>
<td>M 4/10</td>
<td>Lab: Shoulder</td>
<td>Shoulder Readings; JPA: Handout &amp; images on LMS, review PTH414; Shoulder arthrokinematics; GON: Norkin Ch. 4; MMT: Hislop p. 79-137</td>
<td>Quiz: Shoulder due by 8AM (retakes due by 4/17 8AM)</td>
<td>Homework: Spine lab due</td>
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<td></td>
<td>W 4/12</td>
<td>Lecture: Shoulder</td>
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<td></td>
<td>Lab: Shoulder</td>
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<td>12</td>
<td>M 4/17</td>
<td>Lab: Skills Checks</td>
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<td>Skills Check: Shoulder &amp; Spine</td>
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<td>W 4/19</td>
<td>Lecture: Elbow, Wrist, &amp; Hand</td>
<td>Elbow, Wrist, &amp; Hand Readings; JPA: Handout &amp; images on LMS, review PTH414; EW&amp;H arthrokinematics; GON: Norkin Ch. 5-7; MMT: Hislop p 138-202</td>
<td>Quiz: Elbow, wrist &amp; hand due by 8AM (retake due by 5/3 8AM)</td>
<td>Homework: Shoulder lab due</td>
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<td>Lab: Elbow, Wrist, &amp; Hand</td>
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<td>13</td>
<td>M 4/24</td>
<td>Lab: Elbow, Wrist, &amp; Hand</td>
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<td>Date</td>
<td>Event Description</td>
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| W 4/26     | **Lecture:** Alternative Strength Testing  
            | **Lab:** Alt strength testing       |
|            |                                    |
| WEEK 14    | **Lab:** Putting it all together   |
| M 5/1      |                                    |
|            | **Homework:** Elbow, wrist, hand lab due |
| W 5/3      | **Lecture:** Final Written Exam    
            | **Lab:** Final Written Exam        |
|            |                                    |
| F 5/5      | **Final Practical – combined with Therapeutic Interventions** |
| 8-12, 1-5  |                                    |
|            | **Final Practical – combined with Therapeutic Interventions** |