

OAKLAND UNIVERSITY
SCHOOL OF HEALTH SCIENCES
PHYSICAL THERAPY PROGRAM
PT 8432 Neuromuscular Interventions II
Winter Semester 2018

Course Description:

This course will prepare the physical therapy student to design intervention programs for patients with neurologic conditions, based on a thorough examination and evaluation. Diagnoses will include spinal cord injury, traumatic brain injury, Parkinson's disease, vestibular disorders, cerebral vascular accident and other select dysfunctions.

Credit Hours: 4 **Contact Hours:** Lecture: 3 credits; Lab: 1 credit

Instructor:

Sheri Brown, PT, DScPT

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Phone: 248-364-8677 Cell: 248-330-5817

Office Hours: 3138 Human Health Building Tues/Thurs 12-1

Class Hours/Location: 5001 HHB Tuesday and Thursday 9:00-12:00 except for special days and Bridge the Gap: see schedule for variations

Course Pre-requisites: PT 6881 (previously PT 597), PT 8350 (previously PT 635), PT 7851 (previously PT 681), PT 8622 (previously PT 762), PT 7421 (previously PT 742)

Instructional Methods: Lecture, class discussion, laboratories and case study problem-solving format. In addition, students will participate in Bridge the Gap; an educational service opportunity providing intervention to individuals with neurological injury thus providing the student with the opportunity to apply principles learned in class.

Required Texts: None

Course Handouts

Assigned handout reading distributed or posted on Moodle

Recommended Text:

- Umphred D, Lazaro R, Roller M, Burton G. Neurological Rehabilitation 2012 6th edition Elsevier ISBN 9780323075862
- O'Sullivan SB, Schmitz TJ. Improving Functional Outcomes in Physical Rehabilitation 2010 FA Davis Co. ISBN-13 978-0-8036-2218-0

Course Requirements and Grading

- 15% Exam 1
- 15% Practical
- 15% Exam 2
- 20% Written Assignments – Neuro I review presentations, Case Studies, LMN, etc.
- 30% Bridge the Gap Experience (satisfactory completion as rated by supervising PT), completion of all documentation and course assignments associated with BTG and patient presentation
- 5% Participation/Professionalism

Sheri Brown, PT, DScPT
PT 8432 Winter 2018

Grade Point Numerical	Grade Letter	Percent	Grade Point Numerical	Grade Letter	Percent	Grade Point Numerical	Grade Letter	Percent
4.0	A	100 - 96	3.3	B	87 - 86	2.6	C	76
3.9	A	95	3.2	B	85 - 84	2.5	C	75
3.8	A	94	3.1	B	83 - 82	2.4	C	74
3.7	A	93 - 92	3.0	B	81 - 80	2.3	C	73
3.6	A	91 - 90	2.9	C	79	2.2	C	72
3.5	B	89	2.8	C	78	2.1	C	71
3.4	B	88	2.7	C	77	2.0	C	70

Bridge the Gap Experience:

The Bridge the Gap (BTG) module of this class includes students working with clients with history of a neurological diagnosis in the class. The student will interpret evaluation results from the PYII's, consult with PYII students regarding the client, devise intervention plans, intervention notes, working with the client to perform a thorough HEP appropriate for the client. In addition the students will be treating clients in for five 90 minute treatment sessions with a selected client. Each group of students will present their client in a short presentation at the end of the module. See below for participatory attendance, professionalism and preparedness expectations.

Lab Participatory attendance:

Include activities for assignments that can *only* be completed in class; for example: w/c and mat mobility skills, movement analysis, case studies and written treatment interventions/rationales, and small group assignments. Should you miss class that day, you will not obtain the points for in class participation for that module.

Assignments:

Include activities that are completed outside of class: for example, equipment letter of justification, case studies, home health assignment. All assignments are due by 5:00 pm on the due date unless notified by instructor differently. It is expected that all assignments will be handed in at the designated time. Late assignments will be penalized by a 1% grade reduction per day in overall assignment grade. It is expected that any student who will not be attending class to turn in an assignment will notify the instructor and turn in the assignment PRIOR to the deadline.

Exams:

There will be two written exams and one SCI practical. A minimum score of 80% must be obtained on the practical and all criteria, as stated in the student handbook, must be met in order to pass. Refer to practical exam rubric for more detailed passing and re-take criteria.

Written and practical exams are to be taken on the date specified. If a student is unable to take the test/practical on the designated date, it is the student's responsibility to contact the instructor PRIOR to the test/practical to schedule a time to take the test/practical. There is no penalty in the grade if the student contacts the instructor PRIOR to the test/practical date. Should a student miss a test/practical without prior notification, the student will be penalized 10% of their final grade for the test or practical.

Professionalism/Participation/Preparedness is composed of behaviors presented in lecture, lab and during class discussions (either in class or on-line). It is important for the student to attend class, read assignments prior to class, contribute to class and web-based discussions, be prepared for and participate in class discussions.

Full credit for class participation/professionalism may be achieved by

- Be prepared for class by having read assigned reading and reviewing course notes as appropriate.
- Actively participating during lecture and laboratory classes and discussions
- Attending all class and lab sessions.
- Providing partner with appropriate feedback about examination and evaluation techniques and skills.
- Wearing appropriate lab clothing that may include sport bras for the women and shorts for all students.
- Demonstrating professional, “clinic-like” behavior during all labs as outlined below (based on the Generic Abilities, UWM, 1996):
- Identify/locate appropriate resources to complete course assignments
- Demonstrate a positive attitude toward learning
- Offer thoughts and ideas in class
- Prioritize information needs
- Accept that there may be more than one answer to any problem or case study
- Maintain a professional demeanor in all classes
- Respect cultural and personal differences of others
- Communicate with others in a respectful manner
- Respect the personal space of others
- Maintain confidentiality in all classroom interactions
- Assume responsibilities for one’s own actions
- Use existing resources and unscheduled time effectively
- Complete assignments in a timely fashion
- Actively seek feedback and help when necessary in a timely manner
- Demonstrate a positive attitude toward feedback
- Develop a plan of action in response to feedback
- Assess one’s own performance accurately
- Abide by the APTA Code of Ethics
- Demonstrate dependability and punctuality
- Accept constructive feedback in an appropriate manner
- Provide constructive feedback to classmates in a diplomatic manner
- Participate actively in group projects
- Prompt attendance in class
- Prepared for class discussions and activities

Professionalism/Participation grading rubric (must meet all criteria in a given block)	
5	The student attends all classes unless excused by instructor; always arrives on time for class. The student always participates in classroom activities and discussions without being asked or prompted. The student is always ready for participation. Student is engaged during lectures, provides answers and asks questions to clarify or increase depth of knowledge; answers questions/offers opinions/verbally participate in at least 75% of “whole class” discussions. Displays appropriate professional behaviors at all times.
4.5	The student attends all classes unless excused by instructor; always arrives on time for class; regularly participates in classroom activities and discussions without being asked or prompted; always participates constructively when asked and is prepared for participation; is predominately engaged during lectures; displays professional behaviors at all times; answers questions/offers opinions/verbally participates in at least 50% of “whole class” discussions
4	The student attends all classes unless excused by instructor; always arrives on time for class; consistently and constructively participates in classroom activities and discussions approximately 50% of the time when asked; is predominately prepared for participation; is predominately engaged during lectures; displays professional behaviors at all times; answers questions/offers opinions/verbally participates in at least 25% of “whole class” discussions.

3.5	The student has 1-3 unexcused absences and/or late arrivals; participates in classroom activities and discussions approximately 25% of the time when asked; is often not prepared for participation; appears distracted or disinterested during lectures; displays unprofessional behaviors on several occasions; rarely (<25%) answers questions/offers opinions/verbally participates in “whole class” discussions
3	The student participates in classroom activities and discussions only when required to do so or when given some form of explicit or implied request/demand and is often not prepared for participation. Student often appears distracted or disinterested during lectures. Displays inappropriate professional behaviors on several occasions.
1-2	The student has numerous unexcused absences and/or late arrivals; is not constructively engaged in classroom activities or discussions a majority of the time and/or displays disruptive behavior during class; is not typically prepared for discussions; is typically distracted during lectures and is disruptive to others in class; frequently displays unprofessional behaviors; never answers questions/offers opinions/verbally participates in “whole class” discussion.
0	Does not attend class; unacceptable behavior; no basis for judgment

Student Responsibilities:

Preparation:

Students are expected to complete the assigned readings prior to coming to class and complete any written assignments by the posted deadline date.

Professional behaviors:

Students are expected to demonstrate professional behaviors during all interactions with classmates, faculty and staff, clinical instructors and members of the community.

Academic Conduct Statement:

Students are expected to adhere to the procedures for Academic Conduct described in the University Graduate Catalog. Please read and refer to the University Graduate Catalog, Policy on Academic Conduct. This policy states that “All members of the academic community...are expected to practice and uphold standards of academic integrity and honesty. Academic integrity means representing oneself and ones work honestly. Misrepresentation is cheating since it means students are claiming credit for ideas or work not actually theirs and are thereby seeking a grade that is not actually earned.” Examples of cheating include “cheating on exams, using books and/or notes when not authorized to do so, copying from someone else’s work or ideas without giving that person credit...Both direct quotations and paraphrases must be documented. Even if students rephrase, condense, or select from another person’s work, the ideas are still the other person’s and failure to give credit constitutes plagiarism of another’s idea.” This policy will be applied in this and all courses in the Program in Physical Therapy. Students found guilty of academic misconduct by the university will be subject to university sanctions and to sanctions from the program by the Physical Therapy Promotion and Honors Committee including probation, suspension or dismissal.

Accommodations/Disability Support Services Statement:

Any student with a documented disability needing academic accommodations is required to speak with the Office of Disability Support Services to make arrangements. The office is located in room 106 North Foundation Hall. For information or to make an appointment, call 370-3266.

Emergency Preparedness Statement:

All students are encouraged to become familiar with the Oakland University Emergency Preparedness Website, Policies and Procedures.

See: <http://www4.oakland.edu/?id=5410&sid=188> In particular, students are strongly encouraged to:

Take the 15-minute *Violence Prevention Training Course* available on the site

Sign up to receive text message alerts in the event of a major campus emergency by visiting the Emergency Notification Web site (Grizz ID and valid OU e-mail address required)

Know how to contact the OUPD in the event of an emergency:

Sheri Brown, PT, DScPT
PT 8432 Winter 2018

Call 911 from any campus phone

Call 248-370-3333 from a cell phone

Text the dispatch office at 911@oakland.edu

E-mail the dispatch office at 911@oakland.edu

Know how to submit anonymous tips online in non-emergency situations.

Attendance:

Attendance is required in compliance with the departmental policies as outlined in the Student Handbook. In the event of absence, the student shall notify the instructor or Administrative Assistants, Darlene and Lori, **prior to the start of class**. Student is responsible for obtaining the information and notes from fellow classmates therefore be sure to ask someone to do that for you. Participatory attendance will include student participation (see participation rubric) as well as projects or assignments that can ONLY be complete in class. These projects cannot be made up in the event of a student's absence on the day of the project. Each class day is a portion of the participation/professionalism grade thus if a student is absent it will affect the participation/professionalism grade even if the absence is excused.

Tardiness: Students should arrive for class on time. Disruption of lecture or lab after it has started will be reflected in grading of professionalism. Please note, the instructor will address large-scale tardiness on a per incident basis (e.g. traffic or weather delays).

Class Clean Up:

Each student is responsible for cleanup of his or her work area following each class. This includes straightening desk chairs, returning mat tables to lower height or put up against the wall, returning equipment to their assigned locations, and removing any trash. During labs that require floor mats, students should be prepared to remove their shoes. If labs are not properly attended to according to the "rules" placed in the classroom, all students will lose participatory points for that day of class.

Course Objectives:

For commonly seen neurological dysfunctions (such as CVA, Parkinson's Disease, Multiple Sclerosis, Traumatic Brain Injury, Vestibular dysfunction, Spinal Cord Injury, Guillian-Barre, and Amyotrophic Lateral Sclerosis) the student will:

- Construct a prescription for a wheelchair that will properly fit patient presented in a case study and identify in writing the appropriate accessories for a patient post-neurological injury
- Demonstrate the ability to justify the purchase of an equipment item for a neurologically involved client via a written letter of justification
- Demonstrate the ability to safely transfer a classmate using different methods as selected by the instructor.
- Demonstrate the ability to create a 'progression' of interventions.
- Demonstrate the ability to consider the 'whole client'.
- Differentiate between management in an acute care, rehabilitation, long term care and community program for the client with neurological injury
- Identify patient problems, establish short term and long term goals, and develop intervention strategies for a client depending upon their level and degree of neurological injury
- Acquire a working knowledge of basic biomechanical principles that can be applied to assisting a patient with SCI in solving a movement problem.
- Construct an appropriate intervention including transfers, mat and bed mobility, wheelchair mobility, car and stair transfers, etc. when considering an individual client's needs.

- Become familiar with the feasibility of ambulation, the appropriate gait devices and gait training strategies for basic and advanced ambulation skills for all levels and degrees of neurological injury.
- Observe/participate in several patient experiences to become familiar with some the advanced equipment in neurological care
- Differentiate between patient management in an acute care, rehabilitation, long term care and community programs.
- Identify the importance of learning functional tasks, discuss practice of specific tasks versus practice of underlying capacities such as strength, speed, coordination, endurance, etc.
- Describe ways in which patient problems that are treated by other disciplines directly and indirectly affect physical therapy intervention and how as a physical therapist you could be providing re-enforcement of these treatments throughout the patient's PT treatment
- Integrate previously learned manual skills such as PNF, NDT, SI etc. as needed for the particular patient.
- Integrate the previously learned concepts of task specific exercise, practice patterns, feedback and motor learning into treatment intervention to improve patient outcomes.
- Choose and provide appropriate patient interventions and functional task training, such as transfers and wheelchair mobility tasks, based on clinical reasoning and be able to demonstrate the intervention with proper body mechanics and handling skills

Bridge the Gap Objectives:

- Synthesize previous course information to incorporate knowledge of the causes, definitions, classifications, and complications related to the commonly seen neurological dysfunctions for executing treatment interventions.
- Analyze neurologic examination and evaluation findings in cases studies involving patients with neurologic dysfunction to develop a physical therapy diagnosis and establish a practice pattern.
- Develop patient problem lists, establish short term and long term goals, prognosis, develop intervention strategies, and discuss regressions/progressions for a client with neurologic dysfunction.
- Integrate motor control concepts such as spatial trajectory, target error and accuracy, movement time, reaction time, movement variability in formulating intervention strategies.
- Integrate previously learned manual skills such as PNF, NDT, SI etc. as needed for the particular patient.
- Integrate the previously learned concepts of task specific exercise, practice patterns, feedback and motor learning into treatment intervention to improve patient outcomes.
- Choose and provide appropriate patient interventions and functional task training, such as transfers and wheelchair mobility tasks, based on clinical reasoning and be able to demonstrate the intervention with proper body mechanics and handling skills
- Demonstrate the ability to adapt specific interventions immediately when patient is not responding appropriately to manual intervention.
- Demonstrate the ability to modify the plan care based on patient response and findings from outcome measures
- Synthesize information found in the literature, advice from a clinical expert, the examination findings and patient's values to determine an intervention pathway for the patient in Bridge the Gap.
- In a small group, while under the supervision of a licensed PT, participate in treatment sessions with an individual with a neurological injury through a pro-bono program (Bridge the Gap). The student will...
- Demonstrate professional behaviors and maintain composure during interactions with supervising therapist, client, family members, and other professionals.
- Respond in a constructive and appropriate manner to feedback given by the lab instructor and primary instructor concerning each note by re-writing this note in response to feedback

- Facilitate a smooth transition between student treatment teams synthesizing oral and written information gathered from previous student treatment team and patient presentation.
- Demonstrate the ability to function as a team and facilitate a coordinated team effort in managing this client.
- Demonstrate the ability to use clinical reasoning to adjust the plan of care, including functional tasks, based on patient's response to the intervention.
- Choose and provide appropriate patient interventions with focus on functional tasks based on clinical reasoning and be able to apply the intervention with proper body mechanics and handling skills.
- Discuss with the clinical instructor whether identified problems should be treated by a physical therapist or assistant, discussed with the referring physician, or referred to an appropriate health professional.
- Utilize appropriate manual skills in facilitating, inhibiting and guiding movement.
- Exhibit awareness and practice of safety through appropriate guarding, assistance, body mechanics,
- Formulate an appropriate discharge plan.
- Develop and instruct a patient in a home exercise program in laymen's terms adjusting according to patient's cognitive status, age, cultural background, and prognosis.
- Demonstrate appropriate teaching, communication and interpersonal skills when working with this client.
 - Construct appropriate written communication related to clients in the Bridge the Gap program :
 - Complete written documentation of for Bridge the Gap using proper use of syntax, grammar, acceptable abbreviations and terminology.
 - Daily note
 - Discharge examination note
 - Physician note discussing patient's status and plan of care.
 - HEP
- Demonstrate ability to perform a discharge re-examination using outcome measures selected by previous team members and others outcome measures deemed necessary.
- Perform self evaluation of function as a team member, problem solving, clinical reasoning, and psychomotor and affective skills used during therapy session.
- Perform a peer evaluation of function as a team member, problem solving, clinical reasoning, and psychomotor and affective skills used during therapy session.