



The City University of New York
Department of Allied Health, Mental Health and Human Services

PTA 700 Modalities and Procedures II

Course Syllabus: Spring 2021

Prerequisites: PTA1, PTA2, PTA10, PTA20, PTA3, PTA4, PTA5, PTA 6
BIO11, BIO12

Co-requisites: PTA 8 PTA 10, PTA 25

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Credit Hours: 4

Contact Hours: 6

Synchronous Lecture: Monday and Wednesday 1:50 PM- 2:10 PM

Lab On campus: Mon/Wed 2:10 PM- 5:10 PM

CATALOGUE DESCRIPTION

This course includes the physical basis of physical therapy modalities of electricity along with physiological principles, indications, and contra-indications and precautions. The course also introduces the student to pulmonary toilet, mechanical traction, phototherapy and therapeutic massage.

PROGRAM MISSION STATEMENT

The mission of the Physical Therapist Assistant program at Kingsborough Community College of the City University of New York is to: develop well qualified entry level physical therapist assistants who reflect the ethnic and cultural diversity of the community which the college serves and who function under the supervision of the physical therapist in a variety of physical therapy settings, capable of providing physical therapy treatments as outlined by the physical therapist to the satisfaction of the physical therapist. Further, the program will provide graduates who meet standards for



licensure or registration as a physical therapist assistant in a variety of states. Additionally, the program's mission includes meeting the accreditation standards of the Commission on Accreditation in Physical Therapy Education for Physical Therapist Assistant Programs.

CORE VALUES - C.O.R.E.

COMPASSION Celebrating a diverse campus, local and global community of people and displaying professionalism and compassion in all interactions.

OPPORTUNITY Presenting current trends and future possibilities for career, academic and personal enrichment.

RESPECT Building mutual respect, integrity and confidence for ourselves, for others and for the environment.

EXCELLENCE Continually striving to achieve the highest standards and exhibit excellence in our programs and relationships with all stakeholders.

PROFESSIONALISM

The concept of professionalism in health care is motivated by the primary goal of providing quality service to the health care consumer. It is also a concept that involves a commitment to the development and maintenance of a level of knowledge, which enables the provider to utilize standards of care in the daily delivery of health care to the consumer. The program's dedicated faculty members provide students with the knowledge and background necessary to develop a sense of professionalism, which will extend into their career.

OVERVIEW OF PROGRAM LEARNING OBJECTIVES

This course begins to address the following PTA program learning outcomes:

1. Demonstrate PTA entry-level skills that are applicable to a variety of patient care settings and meet the needs of the community the college generally serves.
2. Demonstrate competency in performing components of data collection skills essential for carrying out the plan of care.
3. Recognize when the direction to perform an intervention is beyond that which is appropriate for a physical therapist assistant and initiate clarification with the physical therapist.
4. Exhibit conduct that reflects practice standards that are legal, ethical and safe.
5. Demonstrate familiarity with NPAT requirements, format, and test taking strategies to maximize future success potential.

Student Learning Outcomes

As evidenced by successful performance and completion of written and practical examinations, assignments, research article reviews, lab presentations, and the role-playing analysis of clinical scenarios, the student will:

1.0. Implement electrotherapy interventions (including high/low voltage, interferential and TENS).

- 1.1. State the historical use of electrical stimulation in rehabilitation.
- 1.2. Define the therapeutic goals of electrical therapy.
- 1.3. Define the concepts of electrophysics including voltage, resistance, impedance and capacitance.
- 1.3. Identify the difference between direct current and alternating current.
- 1.4. Identify the differences between low voltage and high voltage current.
- 1.5. Define electrical current in terms of pulse and wave forms, amplitude, duration, frequency and duty cycle.

- 1.6. Identify the physiological events associated with electrical stimulation.
- 1.7. Define the distinguishing characteristic and indications and contraindications of electrical stimulation.
- 1.8. Describe the uses and benefits of electrical stimulation in the treatment of pathology (loss of ROM, weakness, pain, open wounds).
- 1.10. Distinguish the physiological effects of various parameters of electrical stimulation (voltage, type, dosage, duty cycle, etc.).
- 1.11. Discuss the therapeutic relationship of electrotherapy with other therapeutic procedures.
- 1.12. Demonstrate safe administration of electrical stimulation including low and high volt current, TENS and interferential current, in the management of pain, weakness, open wounds, and other common conditions treated with physical therapy

2.0 Implement EMG biofeedback intervention.

- 2.1 Define the distinguishing characteristics and indications and contraindications of EMG biofeedback.
- 2.2 Describe the uses of EMG biofeedback in physical therapy intervention.
- 2.3 Discuss the therapeutic relationship of EMG biofeedback with other therapeutic procedures.
- 2.4 Demonstrate the safe use of EMG biofeedback while considering Indications and contraindications.

3. Implement iontophoresis interventions.

- 3.1. Define the distinguishing characteristics, indications, and contraindications of iontophoresis.
- 3.2. Explain the concepts of ion transfer related to iontophoresis.
- 3.3. Discuss the therapeutic relationship of iontophoresis with other therapeutic procedures.
- 3.4. Demonstrate safe administration of iontophoresis, while considering patient comfort, dosage, agent, indications and contraindications and physiological effects.

4.0 Implement edema control activities utilizing air compression, external wrapping, and elevation.

- 4.1. Define the distinguishing characteristics, indications, and contraindications of air compression, external wrapping, and elevation activities.
- 4.2 Define mechanisms of edema control.
- 4.3 Demonstrate safe and appropriate administration of mechanical compression, external wrapping and elevation activities.

5.0 Interpret thoracoabdominal movement and breathing patterns

- 5.1. Observe breathing patterns.
- 5.2. Identify contraction of accessory muscles.
- 5.3. Describe coughing techniques and demonstrate breathing exercises.
- 5.4. Teach coughing and breathing activities.

6.0 Implement pulmonary toilet intervention.

- 6.1. Describe the anatomical organization of the respiratory system.
- 6.2. Discuss the importance of the recognition of respiratory distress and pulmonary hygiene in the prevention and treatment of disease.
- 6.3 Describe postural drainage, vibration and percussion techniques, and the characteristics of cough and sputum.
- 6.4. Describe pathological conditions treated with postural drainage and pulmonary hygiene techniques.
- 6.5. Demonstrate safe and appropriate performance of auscultation, postural drainage, vibration, percussion, and pulmonary hygiene techniques.
- 6.6. Teach pulmonary hygiene activities.
- 6.7. Demonstrate appropriate documentation of pulmonary toileting.
- 6.8. Analyze the effectiveness of pulmonary hygiene techniques.
- 6.9. Discuss the therapeutic relationship of pulmonary toileting with other therapeutic procedures (therapeutic exercise, range of motion, functional activities, etc.)

7.0 Implement therapeutic massage intervention.

- 7.1. Discuss the uses, precautions, and applications of therapeutic massage.
- 7.2. Describe specific massage techniques including, effleurage, petrissage, tapotement and myofascial release.
- 7.3. Discuss the therapeutic relationship of massage with other therapeutic procedures (therapeutic exercise, range of motion, functional activities, etc.)
- 7.4. Demonstrate safe and appropriate performance of therapeutic massage techniques.
- 7.5. Demonstrate appropriate documentation of therapeutic massage.
- 7.6. Teach the benefits of therapeutic massage.

8. Given mock patient scenarios, implement comprehensive physical therapy plan of care as directed by a physical therapist.

- 8.1. Perform therapeutic techniques demonstrating an understanding of the role of the physical therapist assistant in rehabilitation.
- 8.2. Perform therapeutic techniques appropriately employing universal precautions and sound body mechanics.
- 8.3. Perform therapeutic techniques demonstrating an understanding of organizational structure, levels of authority, and fiscal considerations of the health care delivery system.
- 8.4. Teach the uses, applications and responses of modalities and procedures to patient, family and other healthcare workers with emphasis on safety and rationale as directed by the physical therapist.
- 8.5 Demonstrate the adjunctive nature of modalities and procedures by integrating their use in complete treatment applications.
- 8.6 Implement therapeutic interventions within the plan of care utilizing knowledge of assessment and measurement, functional activities, modality, and therapeutic exercises skills.
- 8.7 Implement therapeutic interventions within the plan of care demonstrating consideration of time management, therapeutic sequence and procedure

selection issues.

- 8.9. Demonstrate appropriate documentation of modality and procedure use considering patient response, treatment parameters , long/short term goals, and effectiveness.
- 8.10. Perform physical therapy interventions considering influencing factors (psychosocial, economic, patient satisfaction, legal/ethical, etc.).
- 8.11. Assist in discharge planning and alternative levels of care decision making with supervising physical therapist.
- 8.12. Communicate patient response to supervising physical therapist.
- 8.13. Identify clinical responses and situations that require the attention of the supervising physical therapist or immediate interventions such as first aid or cardiopulmonary resuscitation and take appropriate action.
- 8.14. Analyze the effectiveness of modalities and procedures in specific clinical situations.
- 8.15. Assess patient response to treatment and appropriately alter therapeutic intervention within the plan of care.
- 8.16. Delineate beneficial and untoward effects of electrotherapy, ultraviolet pulmonary toileting and therapeutic massage.
- 8.17. Analyze the relationship of all physical modalities with other therapeutic procedures (therapeutic exercise, range of motion, functional. activities)
- 8.18. Verify effectiveness of teaching behavior by analyzing patient performance.
- 8.19. Recognize aspects of the plan of care that may be outside the PTA's scope of practice and act accordingly.

9. Demonstrate appropriate professional behavior

- 9.1. Attend and be on time for class, lab, and scheduled appointments.
- 9.2. Be prepared for lab activities, attend to tasks assigned.
- 9.3. Accept constructive criticism and respond and/or follows through appropriately.
- 9.4. Express self in a clear and easily understood manner.
- 9.5. Maintain appropriate personal hygiene.
- 9.6. Treat others with positive regard, dignity and respect.
- 9.7. Analyze and examine professional literature considering specific scientific methods, interpretation of results, and clinical significance in order to foster further personal investigation and clinical effectiveness.
- 9.8. Explain the importance of lifelong learning.
- 9.9. Describe how professional development can occur.

Assessment of Outcomes

As indicated in the student handbook, to receive a passing grade in this course the student must successfully complete all comprehensive examinations, assignments and practical examination with a grade of “C” or better. Additionally, the instructor assesses student competencies in skills critical to this course using the standardized skills checklists, located in the laboratory, requiring a passing score of at least 90%. Critical skills in this course include:

- 1.0 Application of the following modalities: low voltage galvanic and faradic stimulation, high voltage galvanic stimulation, interferential stimulation, iontophoresis, TENS, EMG biofeedback, ultraviolet, and mechanical compression.
- 2.0 Instruction of effects and uses of the following modalities: low voltage galvanic and faradic stimulation, high voltage galvanic stimulation, interferential stimulation, iontophoresis, TENS, EMG biofeedback, ultraviolet, and mechanical compression.
- 3.0 Performance of postural drainage.
- 4.0 Performance of vibration and percussion techniques.
- 5.0 Instruction of breathing exercises.
- 6.0 Performance of basic therapeutic massage techniques.
- 7.0 Reporting to supervising physical therapist.

Required Textbooks

Required Texts: Michlovitz, S. L., Bellew J.W., Nolan, T.P. (2012). Modalities for therapeutic intervention 5th edition. Philadelphia, PA: F.A. Davis.
 Kisner C, Colby L (2012). Therapeutic exercise foundations and techniques 6th edition. Philadelphia, PA: F.A. Davis Company

Grades will be calculated according to college and departmental policy as follows:

This is the grading schematic for PTA program:

A+ 95-100	A 90-94	A- 88-89	B+ 85-87	B 80-84	B- 78-79	C+ 75-77	C 70-74
F <70 and below		W Withdrew without penalty		WU Unofficial Withdrawal			

Assigned Research Papers	10%	Each student submits two written papers summarizing and critiquing pertinent research article. Topics are assigned by the instructor. Each assignment is worth five percentage points for ten percent of total grade. Missed assignment are accepted without penalty up to one week after the due date. After that the assignment are accepted for no more than 2.5 percentage points.
Graded Laboratory Activities	5%	A variety of laboratory activities are performed throughout the course. Certain laboratory activities are performed by each student and graded. Students are expected to begin to demonstrate the ability to document findings by week 4 of the course.

Group Presentation	10%	Students are divided into study groups of 3-5 students. Each group is assigned a relevant clinical scenario. The group will be responsible for making a comprehensive presentation. Presentations are made from the sixth week through the twelfth week of the course.
Lab Practical	25%	Students take a laboratory practical examination based on laboratory activities in their final week of the course.
Quizzes	20%	Student must take weekly quizzes specifically related to assigned readings. Quizzes are mainly composed of multiple-choice questions. Quizzes are graded and returned within one week.
Mid-term Examination	15%	Students take a cumulative examination covering the first five to six weeks of the course. The examination includes multiple-choice type questions, short essay and fill in type questions.
Final Examination	20%	The final exam is cumulative for the entire semester's work consisting of multiple-choice questions, short essay and fill in type questions.

Attendance, Participation, and Universal Learning

Attendance and participation are highly important in this small, collaborative, remote class. If the student must be absent because of an emergency or illness, please make every effort to speak with professor about it beforehand, if possible, or after the next class. The professor will excuse such absences with a doctor's note or other form of official documentation. Although the student is excused from attending class, the student is not excused from completing the work for that day. The faculty is committed to the principle of universal learning. This means that our classroom, our virtual spaces, our practices, and our interactions be as inclusive as possible. Mutual respect, civility, and the ability to listen and observe others carefully are crucial to universal learning. Active, thoughtful, and respectful participation in all aspects of the course will make our time together as productive and engaging as possible. The professor will give the student feedback on their performance and participation.

Policies and Procedures

The Department of Allied Health, Mental Health and Human Services adheres to the Policies and Procedures on Academic Integrity as set forth by CUNY. Academic dishonesty is prohibited in The City University of New York and is punishable by penalties, including failing grades, suspension, and expulsion. Additional information can be found in the College catalog <http://www.kingsborough.edu/sub-registration/Pages/catalog.aspx>. Plagiarism is a violation of academic integrity. Plagiarism is the intentional theft(s) of someone else's intellectual property without attribution (proper credit). Determination and penalty – ranging from grade reduction to course failure – will be decided by the instructor.

Students will require a laptop/tablet and internet access to log in to the CUNY Blackboard system.

A student who requires assistance with hardware/computer needs, connectivity issues, email problems or gaining access to their Blackboard account please reach out to: HelpDesk@Students.kbcc.cuny.edu

Students are expected to take all tests when scheduled. In the online environment, exams will be scheduled during synchronous online lectures. Students who do not take a test during the allotted time period must consult with the instructor to reschedule the exam. Those students will be given an alternate makeup test. Students who fail to take the scheduled exams or makeup will receive a grade of zero for that test.

All written assignments must comply with college standards for written work. Specific assignment directions and requirements are provided for each

assignment. Any weekly written assignments are posted on Saturday morning. Assignments posted on Saturday are due by the following Friday at 11:59pm unless otherwise stated in the assignment directions. Written assignments, other than discussion board threads are to be submitted as per assignment directions. A late assignment will meet the requirements of the course but will not receive full credit.

If written assignments are not submitted by the end of the course, the student will receive a grade of "0" for each incomplete assignment.

Refer to the PTA Student Handbook for complete program policies and procedures.

STUDENT SUPPORT SERVICES

Students who need an accommodation for a disability, during their time at Kingsborough Community College should make an appointment with the **Access-Ability Office** in Room D205 at 368-5175. Access- Ability Services (AAS) serves as a liaison and resource to the KCC community regarding disability issues, promotes equal access to all KCC programs and activities, and makes every effort to provide appropriate accommodations and assistance to students with disabilities. The professor will be glad to work with the student to provide necessary guidance and accommodations as needed.

Single Stop, Room V-231, ext. 5411

Single Stop connects Kingsborough students to the benefits and resources for which they may qualify. A free 15-minute benefits screening can potentially point the way to help with rent, groceries, and/or health insurance. In addition, students can receive the following free services; legal aid; financial counseling; and tax preparation.

Counseling Services

Room D-102

All Kingsborough students are eligible to receive free and confidential personal counseling through the Counseling Services Center, where they will find a staff of trained and caring mental health practitioners who are committed to providing high-quality services, in a safe, supportive, and judgment-free environment, while always respecting students as individuals and as members of a diverse school community.

NETIQUETTE

Each student is encouraged to take an active part in class discussions and activities. Honest and respectful dialogue is expected. Disagreement and challenging of ideas in a supportive and sensitive manner is encouraged. Hostility and disrespectful behavior are not acceptable. Just as we expect others to listen attentively to our own views, we must reciprocate and listen to others when they speak, especially when we disagree with them.

1. Be mindful that electronic communication does not convey facial expression or tone of voice. It is important to consider what is written could be misinterpreted.
2. Typing messages all in caps is regarded by most internet users as shouting; so, unless you mean to yell at someone, type your message in standard format.
3. It is appropriate to share your point of view as well as indicate disagreements with another's posts, however, it is not okay to make negative personal statements about another's posts.
4. Clearly indicate the nature of your email messages.
5. If you send an email from a personal email account, sign the message. Often the names of personal email accounts are different from a person's given name. Use the KCC email whenever possible.

EQUITY, CIVILITY, RESPECT for DIVERSITY and INCLUSION

Respect for the opinions of others is very important in an academic environment. Courteous behavior and responses are expected. Therefore, in this classroom, any acts of harassment and/or discrimination based on matters of race, gender, sexual orientation, religion, and/or ability is not acceptable. Students, faculty, and staff have a right to be in a safe environment, free of disturbances in all aspects of human relations. Incivility will not be tolerated. The PTA program strives to create a learning environment for its students that supports a diversity of thoughts, perspectives and experiences, and honors student identities (including race, gender, class, LGBTQAI+, religion, ability, etc.) To help accomplish this, if a student has a name and/or set of pronouns that differ from those that are traditionally used, please communicate this to the professor. The PTA program faculty are dedicated to our students and as such if any student experiences any issues regarding diversity, equity and inclusion, the student is encouraged to reach out to the professor and/or department. All student concerns are treated with the utmost confidentiality.

Religious/Cultural Observance

Persons who have religious or cultural observances that coincide with this class should let the professor know in writing by e-mail one week in advance of your respective observance. Students may be excused from the class, but students are not excused from course requirements. The timely submission of assignments or the make-up of exams should be discussed with the professor.

Week to Week Course Agenda

12-week semester	Topic and Objectives of the week	Reading Assignments	Lab	Assignments and Due Dates
Week 1 3/6-3/13	M. Introduction to Therapeutic Massage. The student is introduced to therapeutic massage. History and physiological effects of are studied. A study of indications, precautions and applications is undertaken. W. Introduction to electrotherapy. This initial week introduces the student to electrical stimulation. The history of electrical stimulation as well as therapeutic goals and electrophysics are explored.	Read: Michlovitz Chapter 9 handouts	M. The student is introduced to therapeutic massage. History and physiological effects of are studied. A study of indications, precautions and applications is undertaken. W. This initial week introduces the student to electrical stimulation. The history of electrical stimulation as well as therapeutic goals and electrophysics are explored.	Reading summary 1 Due Date: 3/13
Week 2 3/14-3/20	M. Continuation Therapeutic Massage, Vital Signs W. Waveforms found in therapeutic	Read: Handouts Michlovitz	M. – . The study of indications, precautions and applications is undertaken for therapeutic massage and soft tissue mobilization.	• Quiz 1 Monday Instructor

	<p>electrical stimulation. pulmonary hygiene techniques appropriate to the scenario. While performing interventions students consider additional factors influencing patient care and the contemporary practice of physical therapy including psychosocial issues and other issues impacting the health care delivery system. Students practice reporting and documenting consequences of interventions to the supervising physical therapist. Students perform mock discharge planning activities including suggestion for home equipment and discharge alternatives. Following this activity, students discuss clinical management and therapeutic techniques.</p>	Chapter 9	<p>W. The introduction to electrical therapy continues. Students study and experience the parameters, responses, and sensations of electrical stimulation. Students are oriented to and identify common characteristics of electrical stimulation equipment (on/off switches, intensity, electrodes, etc.) Treatment Application Activity Students exhibit critical thinking and sound technical skills in the management of an acute pneumonia case as presented by the instructor and implement the prescribed plan of care. Students perform basic pulmonary assessments, range of motion activities, and pulmonary hygiene techniques appropriate to the scenario. While performing interventions students consider additional factors influencing patient care and the contemporary practice of physical therapy including psychosocial issues and other issues impacting the health care delivery system. Students practice reporting and documenting consequences of interventions to the supervising physical therapist. Students perform mock discharge planning activities including suggestion for home equipment and discharge alternatives. Following this activity, students discuss clinical management and therapeutic techniques.</p>	Due Date: 3/20
<p>Week 3 3/21- 3/26</p>	<p>M. Therapeutic Massage continued. Therapeutic massage discussion continues. Specific techniques are studied including: effleurage, petrissage, tapotement and others. W. Current classifications including DC vs. AC, and HV vs. LV are studied in reference to: pulses and waveforms, amplitude and duration, and frequency and duty cycle.</p>	<p>Read: Michlovitz chapter 9 Handouts</p>	<p>M. Therapeutic massage discussion continues. Specific techniques are studied including effleurage, petrissage, tapotement and others. W. Students practice proper electrode placement and use different size and type of electrodes. Waveforms produced by common electrical current generators are viewed on an oscilloscope. Student continue to experience and describe the sensation and visible physical effects of electrical current. Treatment Application Activity Students exhibit critical thinking and sound technical skills in the management of a status post radical mastectomy case as presented by the instructor and implement the prescribed plan of care. Students perform pain and sensation assessments, range of motion activities, compression activities and massage appropriate to the scenario. While performing interventions students consider additional factors influencing patient care</p>	<p>M-Therapeutic Massage Checkout and documentation submission W.- Quiz 1 Due Date: 3/26</p>

			<p>and the contemporary practice of physical therapy including psychosocial issues and other issues impacting the health care delivery system. Students practice reporting and documenting consequences of interventions to the supervising physical therapist.</p> <p>Students perform mock discharge planning activities including suggestion for home equipment and discharge alternatives. Following this activity, students discuss clinical management and therapeutic techniques.</p>	
3/27-4/4	SPRING BREAK - Study and review		Spring Break	<ul style="list-style-type: none"> • Spring Break ends 4/4/21
Week 4 4/5-4/10	<p>M. Neuromuscular Electrical Stimulation</p> <p>W. Functional Electrical Stimulation</p> <p>The physiological effect of electric stimulation is studied. Membrane potentials, peripheral nerves and the motor unit are reviewed (previously learned in Bio 11).</p>	<p>Read : Michlovitz Chapter 9, 10, 13, 14</p>	<p>Specific indications and contraindications, and procedures for low and high voltage galvanic stimulation (LVGS, HVGS) are presented. Students perform LVGS and HVGS interventions. Students consider therapeutic parameters as they relate to pathological conditions and effectiveness.</p> <p>Treatment Application Activity</p> <p>Student exhibit critical thinking and sound technical skills in the management of a cervical radiculopathy case as presented by the instructor and implement the prescribed plan of care. Students perform pain and sensation assessment, range of motion activities, thermal modalities and electrical stimulation appropriate to the scenario. While performing interventions, students consider additional factors influencing patient care and the contemporary practice of physical therapy including psycho-social issues and other issues impacting the health care delivery system. Student practice reporting and documenting consequences of treatment to supervising physical therapist. Students perform discharge planning activities including suggestions for home equipment and discharge alternatives. Following this treatment application activity, students discuss patient management and therapeutic techniques.</p>	<p>Presentation Outline Due to Mark via BB by Friday 4/9</p> <p>Due date: 4/10</p>

<p>Week 5 4/11- 4/17</p>	<p>M. - Introduction to Pulmonary Toilet and Cardiac Rehabilitation A review of the anatomy and physiology of the respiratory system is undertaken. The student is introduced pulmonary toileting. Specifically, auscultation, percussion, vibration, and postural drainage positioning are presented. Students practice these techniques.</p> <p>W. – Transcutaneous Electrical Nerve Stimulation TENS The physiological effect of electric stimulation is studied. Membrane potentials, peripheral nerves and the motor unit are reviewed (previously learned in Bio 11).</p>	<p>Read : Michlovitz Chapter 11 Handouts</p>	<p>M.- Students practice auscultation, positioning, and manual techniques for effective pulmonary physical therapy</p> <p>W. - Specific indications and contraindications, and procedures for low and high voltage galvanic stimulation (LVGS, HVGS) are presented. Students perform LVGS and HVGS interventions. Students consider therapeutic parameters as they relate to pathological conditions and effectiveness.</p> <p>Treatment Application Activity Student exhibit critical thinking and sound technical skills in the management of a cervical radiculopathy case as presented by the instructor and implement the prescribed plan of care. Students perform pain and sensation assessment, range of motion activities, thermal modalities and electrical stimulation appropriate to the scenario. While performing interventions, students consider additional factors influencing patient care and the contemporary practice of physical therapy including psycho-social issues and other issues impacting the health care delivery system. Student practice reporting and documenting consequences of treatment to supervising physical therapist. Students perform discharge planning activities including suggestions for home equipment and discharge alternatives. Following this treatment application activity, students discuss patient management and therapeutic techniques.</p>	<p>M. - Quiz 2 W. – Quiz 2 • Due Date: 4/17</p>
<p>Week 6 4/18- 4/24</p>	<p>M. - Pulmonary Toilet and Cardiac Rehabilitation A review of the anatomy and physiology of the respiratory system is undertaken. The student is introduced pulmonary toileting. Specifically, auscultation, percussion, vibration, and postural drainage positioning are presented. Students practice these techniques.</p> <p>W. – Transcutaneous Electrical Nerve Stimulation TENS The physiological effect of electric stimulation is studied. Membrane potentials, peripheral nerves and the</p>	<p>Read : Michlovitz Chapter 8 Kisner Chapter 25</p>	<p>M.- Students practice auscultation, positioning, and manual techniques for effective pulmonary physical therapy</p> <p>W. - Specific indications and contraindications, and procedures for low and high voltage galvanic stimulation (LVGS, HVGS) are presented. Students perform LVGS and HVGS interventions. Students consider therapeutic parameters as they relate to pathological conditions and effectiveness.</p> <p>Treatment Application Activity Student exhibit critical thinking and sound technical skills in the management of a cervical radiculopathy case as presented by the instructor and implement the prescribed plan of care. Students perform pain and sensation assessment, range of motion activities,</p>	<p>M.-Midterm (combined sections) • Due date: 4/24</p>

	motor unit are reviewed (previously learned in Bio 11).		thermal modalities and electrical stimulation appropriate to the scenario. While performing interventions, students consider additional factors influencing patient care and the contemporary practice of physical therapy including psycho-social issues and other issues impacting the health care delivery system. Student practice reporting and documenting consequences of treatment to supervising physical therapist. Students perform discharge planning activities including suggestions for home equipment and discharge alternatives. Following this treatment application activity, students discuss patient management and therapeutic techniques	
Week 7 4/25-5/1	M. -Edema Management The student is also introduced to the various mechanisms of edema control (external compression, elevation, etc.). Edema is defined and causes explored. W. -Continuation - Edema Management The student is also introduced to the various mechanisms of edema control (external compression, elevation, etc.). Edema is defined and causes explored.	Michlovitz, Chapter 8 Kisner Chapter 25; Handouts	Given mock patient scenarios students apply ace wrapping, Coban, and mechanical compression devices to upper and lower extremities. Treatment Application Activity Students exhibit critical thinking and sound technical skills in the management of a lymphedema case as presented by the instructor and implement the prescribed plan of care. Students perform pain and sensation assessment, circumferential and volumetric measurement, range of motion, goniometry, manual muscle testing, therapeutic exercise, and external compression activities appropriate to the scenario. While performing interventions students consider additional factors influencing patient care and the contemporary practice of physical therapy including psychosocial issues and other issues impacting the health care delivery system. Students practice reporting and documenting consequences of interventions to the supervising physical therapist. Students perform mock discharge planning activities including suggestion for home equipment and discharge alternatives. Following this activity, students discuss clinical management and therapeutic techniques.	Presentation PPT draft Due date: 5/1
Week 8 5/2-5/8	M. - Iontophoresis W. - Interferential Current	Read: Michlovitz, pp. 267-275 PPT	Laboratory/Treatment Application Activity Students apply iontophoresis utilizing their knowledge of dosage, agent and pathology indications and contraindications. Given mock patient scenarios students practice integrating the use of all modalities with therapeutic exercise. Student document integrated interventions.	<ul style="list-style-type: none"> • Article Review due Professor Tangney • Due date:5/8

Week 9 5/9-5/15	A. Case scenarios B. EMG, Biofeedback, EMG biofeedback applications are introduced and correlated with electrophysiology concepts, pathological conditions, and clinical applications.	Read: Michlovitz Ch 9,13,17	Laboratory Students practice use of EMG biofeedback equipment. Treatment Application Activity Students exhibit critical thinking and sound technical skills in the management of a low back sprain as presented by the instructor and implement the prescribed plan of care. Students perform pain and sensation assessments, thermal modalities, therapeutic exercise, electrical stimulation and massage appropriate to the scenario. While performing interventions students consider additional factors influencing patient care and the contemporary practice of physical therapy including psychosocial issues and other issues impacting the health care delivery system. Students practice reporting and documenting consequences of interventions to the supervising physical therapist. Students perform mock discharge planning activities including suggestion for home equipment and discharge alternatives. Following this activity, students discuss clinical management and therapeutic techniques.	Quiz Professor Tangney M.- All presentation Material must be uploaded to Blackboard by Sunday 5/15 • Due date; 5/15
Week 10 5/16 – 5/22	A. Group Presentations B. Reverse Practice	Review	Students in groups of 3-5 students. Each group is assigned a relevant clinical scenario. The group will be responsible for making a comprehensive presentation. Presentations are made this week of the course.	•Due date: 5/22
Week 11 5/23 - 5/29	A. Final Practical and Exam Review B. Case studies	Review	Students in groups of 3-5 students. Each group is assigned a relevant clinical scenario. The group will be responsible for making a comprehensive presentation. Presentations are made this week of the course.	A.- Final Practical Examination • Due date: 5/29
Week 12 5/30 – 6/5	A. MEMORIAL DAY, no class B. Final Practical Exam	Review	Students in groups of 3-5 students. Each group is assigned a relevant clinical scenario. The group will be responsible for making a comprehensive presentation. Presentations are made this week of the course.	B. – Final Practical Examination • Due date: 6/5
Final Exams 6/9-6/15	Study and Review all online Materials via Bb	Review	Final Exams times TBD	• Practical Examination • Final Examination • Due Date: 6/15