MARTIN COMMUNITY COLLEGE
COURSE SYLLABUS
Semester/Year: Fall 2011

COURSE NUMBER: PTA 130 60

COURSE TITLE: Physical Therapy Procedures I

CREDIT HOURS: 3

CONTACT HRS/WK: 7 (1 class, 6 lab)

PREREQUISITES: Enrollment in the Physical Therapist Assistant Program - ENG 090, MAT 070, RED 090

INSTRUCTOR: Dawn Parker, PTA, ACCE

OFFICE NO: Building 3, Room 45

OFFICE/VIRTUAL HOURS: Th 1:00-3:00

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COREQUISITES: NONE

COURSE DESCRIPTION: This course covers superficial thermal agents, massage, ultrasound, and documentation methods. Emphasis is placed on physiological effects, indications, contraindications, and skilled applications of heat, cold, ultrasound, massage, and documentation. Upon completion, students should be able to safely, correctly, and effectively apply these techniques and procedures.

PROGRAM LEARNING OUTCOMES:

1. Perform duties and patient care activities appropriate for a skilled PTA.
2. Apply the knowledge, skills, and techniques learned in the didactic courses to safe and effective patient care.
3. Recognize the needs of the patient, family and caregivers as well as document changes in the patient's condition and communicate these changes to the PT.
4. Effectively and accurately communicate information relevant to patient status, progress, and safety in the patient's record, to the supervising physical therapist and with the patient's health care team.
5. Demonstrate ethical, legal, safe, and professional conduct appropriate in a health care setting.

COURSE LEARNING OUTCOMES:

Introduction to Physical Agents/Modalities

1. Identify and describe the primary components of the skin and subcutaneous tissue: epidermis, dermis, subcutaneous layer, including structures and functions of each layer
2. Describe the general make up of the peripheral circulatory system: arterial, venous, and lymphatic systems
3. Explain how blood flow is regulated through vascular constriction or dilation: vasoconstriction, vasodilatation
4. Define edema
5. Compare and contrast edema, effusion, and lymphedema
6. Identify and describe components of edema: potential side effects, normal regulation of fluid in the body, abnormal/disruption of fluid regulation in the body
7. Identify and describe clinical descriptors of edema: acuteness, amount (edema scale), location, consistency
8. Identify and explain general pain theories: specificity theory, pattern theory, gate theory, biomedical theory
9. Compare and contrast types of pain reported by patients: acute, chronic, referred, radiating
10. Identify, define and describe the components of thermoregulation: heat transfer, shunting
11. Discuss physical agents as a group of therapeutic procedures within the PT profession
12. Identify and describe the procedures of observation and data collection of skin, circulation, pain and edema performed before and after PT interventions.
13. Discuss the roles of the PT and the PTA in the evaluation, goals, treatment planning, interventions, and treatment

progression based on observation and data collection of skin, edema, pain and circulation.

Cryotherapy

1. Define Cryotherapy
2. Identify, describe and compare and contrast the modes of heat transfer (cooling) associated with cryotherapy: conduction, convection, evaporation
3. Relate the physiological effects of cold to indications of providing cryotherapy techniques during service delivery
4. Identify, describe and compare and contrast cooling techniques: ice massage, ice/cold packs, cold baths, contrast baths, ice towels, vapocoolant spray, RICE and MICE, including indications, contraindications, rationale, precautions, advantages, disadvantages, and preparation of each
5. Identify and describe equipment associated with cryotherapy.
6. Demonstrate competence in the conversion of Fahrenheit and Celsius temperatures.
7. Demonstrate competence in the application and documentation of cryotherapy techniques on simulated patients
8. Discuss the roles of the PT and the PTA in the evaluation, data collection, goal and plan setting, interventions, treatment progression and documentation of cryotherapy treatment techniques.

Heat Modalities

1. Identify and describe the general principles of heat: heat transfer, physiological effects, indications, contraindications, precautions
2. Identify, describe and compare and contrast principles of heat for specific heat modalities, including indications, contraindications, precautions, limitations, advantages, and disadvantages: hot packs, paraffin bath, fluidotherapy, infrared radiation, warm/hot baths, diathermy and ultrasound
3. Identify and describe the skin integrity scale
4. Describe the application of heat modalities: hot packs, paraffin baths, warm/hot baths, infrared radiation, fluidotherapy, diathermy and ultrasound
5. Demonstrate competence in the application, preparation, data collection and documentation of heat modalities: hot packs, paraffin baths, ultrasound.
6. Describe the electromagnetic field associated with diathermy set-up: inductance vs. conductance
7. Identify, define and describe associated terms of ultrasound: mode, BNR, ERA, transmission, reflection, refraction, absorption, frequency, cavitation
8. Define and describe the application of the cosine law to ultrasound and infrared radiation treatments
9. Define and describe the application of the inverse square law to infrared radiation treatments
10. Identify common formulas to determine appropriate ultrasound treatment durations.
11. Identify, describe and compare and contrast thermal and non-thermal ultrasound effects
12. Discuss the roles of the PT and the PTA in the evaluation, goal/plan setting, data collection, interventions, treatment progression and documentation of heat as a therapeutic modality.

Massage and Soft Tissue Mobility techniques

1. Define therapeutic massage and soft tissue mobility
2. Identify and describe the PT goals of treatment for massage and tissue mobility
3. Identify and describe physiological effects of massage and tissue mobility techniques
4. Identify and describe the general principles followed during massage and tissue mobility techniques
5. Identify and describe indications, contraindications, precautions, and application techniques of massage and tissue mobility techniques
6. Identify common causes for decreased tissue mobility
7. Perform and demonstrate competence in massage and soft tissue mobility techniques: preparation, application, safety awareness and documentation
8. Discuss the roles of the PT and the PTA in the evaluation, data collection, goal/plan setting, interventions and documentation of massage and tissue mobility techniques

REQUIRED TEXTBOOKS: : (1) Tappen, Francis and Benjamin, Patricia. (2004). Tappen's handbook of healing massage techniques (4th ed.). Stamford, CT: Appleton & Lange. ISBN: 0-8385-3676-X. (2) Hecox, Mehreteab, Weisberg, and Sanko (2006). Integrating physical agents in rehabilitation (2nd ed.). Upper Saddle River, NJ: Pearson Prentice Hall. ISBN: 0-8385-8132-3.

SUPPLEMENTAL RESOURCRS: Cameron, M.H. (2003). Physical agents in rehabilitation: From research to practice (2nd ed.). St. Louis: Saunders. ISBN: 0-7216-9378-4.

LEARNING/TEACHING METHODS: Lecture, Hands-on Activities, Simulations, Outside Reading Assignments

ASSESMENTS/METHODS OF EVALUATION:

1. Quizzes and Assignments: All will be averaged as an exam grade. I will drop the two lowest quiz grades.
2. Written Exams: 60%
3. Practical Exams: 40%
4. Journal Article/ Outside Reading Assignments: Included in practical exam average

GRADING POLICY:

A 93-100
B 85-92
C 84-77
D 70-76
F below 69

All objectives in this course are measured by written and practical exams with an acceptable score being no less than 77%.

COURSE OUTLINE:

Week One:	Guidelines for Equipment: Chapter 1
	The Skin: Chapter 2
	The Circulatory/Lymphatic System: Chapter 3
	Edema: Chapter 5
	Pain and Inflammatory Response: Chapter 6
Week Two:	Motion Restrictions: Handouts
	Tone Abnormalities: Handouts
Week Three:	Terminology: Chapter 8
	Thermal Physics: Chapter 9
	Biophysics: Chapter 10
	Physiological Response to Thermal Stimuli: Chapter 11
Week Four:	Clinical Effects of Thermal Modalities: Chapter 12
	Safety Considerations: Chapter 17
Week Five:	Superficial Thermotherapy: Chapter 13
	Cryotherapy: Chapter 14
Week Six:	Ultrasound: Chapter 15
Week Seven:	Diathermy: Chapter 16

STUDENT ATTENDANCE POLICY:

The College has a specific absence policy for all courses, which states that students are expected to attend a minimum of 80% of the total hours of the course, which includes classes, labs, and shops. Students must be present at least one class during the first 10% of a course in order to be considered enrolled in the class. If a student has not attended at least one class by the 10% census date, the instructor will administratively withdraw the student. This program abides by the MCC policy. When an absence is unavoidable in a program course,

the student is to notify the class instructor by telephone prior to the scheduled class time as to the reason for the absence. Upon return, the student is to meet personally with that instructor to discuss the class(es) missed and identify make-up work. This is the student's responsibility and must be done in a timely manner. Attendance will be taken at seated class meetings.

Experience has shown that a person with frequent absences or tardy arrivals as a student demonstrates this same behavior as a worker. A potential employer usually inquires as to the student's behavior in regard to absences or tardiness as it reflects a possible problem as a worker. In a physical therapy department, workers depend on each other to be present and on time to get the work done without imposing a hardship or overload on others. The PTA Program is preparing you to be employed in physical therapy departments. We want you to be dependable and reliable as employees, thus as students.

In compliance with G.S. 115D-5, MCC policy permits a student to be excused, with the opportunity to make-up any test or other missed work, a minimum of two excused absences per academic year for religious observances required by the student's faith. The policy limits the excused absences to a maximum of two days per academic year.

Students who wish to be excused for a Religious Observance required by their faith must complete and submit a request form to the instructor(s) prior to the census date of each class. ***The Request for Excused Absences for Religious Observances*** form can be picked up from Student Services. This does not supersede the college-wide attendance policy as outlined in the college catalog or syllabus, with the exception of a reasonable accommodation for the make-up of missed course work.

COURSE POLICIES:

Make-up Policy: Make-up exams are allowed at the discretion of the instructor. Contact the instructor BEFORE the exam. Exams will be taken on the first day you return to class following an EXCUSED absence. Assignments are due on the date assigned. A letter grade will be deducted for each day that an assignment is late. There will be NO make-up quizzes.

Ethical Violation: Any student found cheating on an exam will receive a "F" for the course, and be dismissed from the program.

Plagiarism: Any student caught plagiarizing a paper will receive a zero for the assignment and possible disciplinary action.

Cell Phones: Cell phones must be kept on silent or vibrate during class. There is to be NO texting during class, and if you MUST answer your phone, you should excuse yourself from the class quietly.

If you cannot reach your instructor, you may contact the Dean of Academic Affairs and Student Services at 252-789-0246.

If you have a need for a disability-related accommodation, please notify the Student Services counselor at 252-789-0293.