

Course Description

Department: Department of Medical Rehabilitation Science

1439-1440 H Academic Year – Semester-II

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Course name	Electrotherapy - 2
Course number	PTH 222
Credit Hours (teaching units)	2 (1+1)
College	College of Applied Medical Sciences
Targeted Students	2 Year (level 4)
Pre-requisite	PTH 213
Name of Coordinator	Dr. Jaya Shanker Tedla

Course Description

This course provides physical and physiological principles, therapeutic effects, indications, contraindications, dangers, and precautions of low, medium, and high frequency modalities. This course will address the fundamental concepts and characteristics of electro-physics with clinical applications, procedures of clinical electrophysiological evaluation and assessment of neuromuscular system. Use of electrical current for pain control, tissue healing and repair, and functional electrical stimulation Use of EMG, biofeedback, Russian Current, Re-box type Current as well as compression therapy unit will also be included.

Main Textbook

Recommended Text Books:

1. Robertson VJ et al (2006): Electrotherapy explained: Principles and Practice. Edinburgh; Butterworth-Heinemann Elsevier.
2. Claytons Electrotherapy by Forster & Plastangs.
3. Electrotherapy Explained by Low & Reed.
4. Clinical Electrotherapy by Nelson.

Recommended references:

1. Walker JS (2007): Physics. Upper Saddle River: Pearson Prentice Hall.
2. Cameron MH (2009): Physical Agents in Rehabilitation – from Research to Practice. Philadelphia: Saunders

Mark Distribution

Assessment Tasks for Students During the course

#	Assessment task*	Week Due	Proportion of Total Assessment
1	Written Exam-1	6	12
2	Practical Exam-1	7	10
3	Written Exam-2	11	13
4	Practical Exam-2	12	10
5	Class Activities (1 & 2)	All	5
9	Final Practical Exam	16	25
10	Final Theory Exam	18	25

Distribution of Course Lectures and Practical Classes

Topics to be covered

TOPICS TO BE COVERED IN THE COURSE THEORY AND PRACTICAL		
Topics:	No. of week	Contact hours
<ul style="list-style-type: none"> Resting membrane potential & Action potential Departmental/ Clinic orientation. 	1 st week	2
<ul style="list-style-type: none"> Electrical stimulation Therapeutic uses, indications, methods/types, contraindications, dangers and precautions, and practical application. 	2 nd week	2
<ul style="list-style-type: none"> Faradic current. Therapeutic uses, indications, methods/types, contraindications, dangers and precautions, and practical application. 	3 rd week	2
<ul style="list-style-type: none"> Galvanic current & High voltage galvanic current Therapeutic uses, indications, methods/types, contraindications, dangers and precautions, and practical application. 	4 th week	2
<ul style="list-style-type: none"> High voltage galvanic current Therapeutic uses, indications, methods/types, contraindications, dangers and precautions, and practical application 	5 th week	2
<ul style="list-style-type: none"> Russian currents Therapeutic uses, indications, methods/types, contraindications, dangers and precautions, and practical application. 	6 th week	2
<ul style="list-style-type: none"> TENS Therapeutic uses, indications, methods/types, contraindications, dangers and precautions, and practical application. 	7 th week	2

<ul style="list-style-type: none"> • Interferential current • Therapeutic uses, indications, methods/types, contraindications, dangers and precautions, and practical application. 	8 th week	2
<ul style="list-style-type: none"> • Dia dynamic current • Therapeutic uses, indications, methods/types, contraindications, dangers and precautions, and practical application. 	9 th week	2
<ul style="list-style-type: none"> • Radial shock wave therapy • Therapeutic uses, indications, methods/types, contraindications, dangers and precautions, and practical application 	10 th week	2
<ul style="list-style-type: none"> • Extra corporeal shock wave therapy • Therapeutic uses, indications, methods/types, contraindications, dangers and precautions, and practical application 	11 th week	2
<ul style="list-style-type: none"> • Compression therapy • Therapeutic uses, indications, methods/types, contraindications, dangers and precautions, and practical application 	12 th week	2
<ul style="list-style-type: none"> • Electromagnetic therapy • Therapeutic uses, indications, methods/types, contraindications, dangers and precautions, and practical application 	13 th week	2
<ul style="list-style-type: none"> • Biofeed back • Therapeutic uses, indications, methods/types, contraindications, dangers and precautions, and practical application 	14 th week	2
<ul style="list-style-type: none"> • Revision 	15 th week	2