Module (Course Syllabus) Catalogue 2022-2023

College/ Institute	**Erbil Health an Medical Technical collage**		
Department	**Physiotherapy**		
Module Name	**Physical Therapy Intervention**		
Module Code	PTI305		
Semester	**3rd**		
Credits	**4 ECTS**		
Module type	**Prerequisite**	**Core** 1	**Assist.**
Weekly hours			
Weekly hours (Theory)	**(2)hr Class**	**( )hr Workload**	
Weekly hours (Practical)	**(2)hr Class**	**( )hr Workload**	
Lecturer (Theory)	**Nawroz Ismael Hassan** **Sardar Qadr Othman**		
E-Mail & Mobile NO.	**nawrozih@epu.edu.iq** **sardarqader@epu.edu.iq**		
Lecturer (Practical)	**Govar and Muzhda**		

Course Book

Course Description	This course serves as a foundation for other medical Rehabilitation courses of the program. It is designed to provide Physiotherapy students with the knowledge of the basic principles of the Physio therapeutic agents used in the medical rehabilitation field, via providing all the required skills for using these agents and devices in the right way and for the right cases. The course emphasizes the aim of the physical therapy and its classification according to the use. This course also provides laboratory guided experience which helps the physiotherapy students to develop skills needed for the correct use of the available devices on a safe and helpful base. The course focuses on development of skills related to the aim of using the physiotherapy device; the technique of using each

	physical agent; main indications and contraindications of each single device, and their side effects. Throughout this course the students will develop their knowledge and skills concerning the physiotherapy devices and the method of using them, as a preparation for their practical performance to be safest and most efficient in dealing with this crucial part of medical rehabilitation through their commencing practical life.
Course objectives	On completion of this course the student will be able to: • Understand development and basic principles of physiotherapeutic modalities and devices. • Understand the aim of using physiotherapy devices. • Describe the classification of the physiotherapeutic modalities. • Recognize the basic indications and contraindication of each physical modality. • Understand the physiological effects and mechanism of action of each physical modality on the body and their advantages and disadvantages. • Understand the method and technique of use of each single physiotherapeutic device. • Recognize the main side effects of the physical agents and how to avoid them. Develop skills for putting strategic plan for applying and utilizing the devices case by case.
Student's obligation	Students should attend the lectures Students should take all exams including daily quizzes and practical exam
Required Learning Materials	**Theory**: lecture halls with computers equipment for lecture presentations, white board, overhead projector. **Laboratory practice**: a laboratory equipped by all the with physiotherapeutic agents and devices for training issue, and to make the students familial with those devices and the way of using them, the main devices and agents include: Heat therapy devices ex. (Hot packs of different sizes and shapes, Paraffin bath, Infra-red and ultraviolet light radiation, Hydrotherapy, Ultrasound Diathermy device, Microwave diathermy and short wave Diathermy device), white board, computer with

	equipment for PowerPoint presentations, overhead projector, posters **General:** library, computer suite with internet access
Assessment scheme	16% Mid Term (Theory and practical) 4% Quiz 40% Assignment (report, paper, homework, seminar..) 25% final practical 15% final theory
Specific learning outcome:	1- Ability to develop general knowledge in physiotherapy and understand the subjects of the module 2- Ability to understand and use, general physics in physiotherapy. 3- Demonstrate the ability to think critically and solve problems 4- Ability to apply knowledge in practice 5- Ability to make a reasoned decision. 6-Demonstrates research skills to investigate, evaluate or problem solve.
Course References:	Key references: Electrotherapy Simplified by Basanta Kumar Nanda ▪ Useful references: Electrotherapy Simplified by Basanta Kumar Nanda, Introduction of Modern Physics in Medicine by Suzanne Amador Kane ▪ Magazines and reviews (internet):

Course topics (Theory)	**Week**	**Learning Outcome**

Week	**Outline**	**No. of Hours**
		Theory
1.	Therapeutics modalities used in rehabilitation, Introduction and classification under the various form of energy.	**1**
2.	Thermal energy modalities (thermotherapy and cryotherapy)	**1**

3.	Moist hot packs-Definition, Indication & Contraindication	**1**
4.	Hydro collator pack-Definition, Indication & Contraindication	**1**
5.	Paraffin wax bath-Definition, Indication & Contraindication	**1**
6.	Whirl pool bath-Definition, Indication & Contraindication	**1**
7.	Hubbard tank-Definition, Indication & Contraindication	**1**
8.	Cryotherapy (cold therapy) 1 Definition 2 Biophysics 3 Indication & contraindication A. Ice pack B. Ice massage C. Cold pack D. Cold whirlpool E. Cryo-cuff F. Cold spray G. Cryo stretch H. Cryo kinetics	**2**
9.	Electromagnetic energy modalities	**2**
10.	Infrared radiations (IRR) Definition. Production-Types of generators (Luminous & Non-Luminous),Indication & Contraindication. Physiological & Therapeutic effect of IRR. Dangers	**1**
11.	Short wave diathermy (SWD) 1. Definition 2. Principle of working 3. Indication & contraindication of SWD 4. Bio-physics of deep heating using SWD a. Capacitor or condenser field method b. Inductance or Magnetic field method - Transmission of shortwave in to tissues Advantage. Dangers of SWD. Precautions and contraindication of SWD. Pulsed Short Wave Diathermy A. Definition, Frequency, Wavelength B. Production C. Parameters D. Physiological effect	**3**

	E. Indication & contraindication	
12.	Micro wave diathermy (MWD) Definition. Bio-physics of micro wave diathermy Indication & contraindication of MWD Physiological & Therapeutic effects. Dangers	**2**
13.	LASER Definition, Properties of laser, Types of laser A. Ruby laser or crystal laser B. Helium-neon laser or gas laser C. Diode laser or semiconductor laser Indications & Contraindications Physiological effect & Therapeutic effect. Dangers	**2**
14.	Ultra violet radiation (UVR) Definition, Classification, Indication & Contraindication Erythema, Pigmentation, Penetration. Physiological effect & Therapeutic effect of UVR. Demonstrate UVR for following conditions. Acne-shoulder& chest, back& chest, Alopecia aereata & Totalis, Psoriasis, ulcer, Pressure sore	**2**
15.	Sound energy modalities	**1**
16.	Ultrasound therapy (US) 1 Definition 2 Bio-physics of ultrasound 3 Indication & contraindication of ultrasound 4 Proprieties of ultrasound-Reflection, Transmission, Absorption 5 Ultrasonic field 6 Coupling media Pulsed mark: Space ratio. Physiological & Therapeutic effects of ultrasound. Dangers of ultrasound	**1**
17.	Phonophoresis A. Definition B. Principle of working C. Drugs used in phonophoresis D. Techniques of application of phonophoresis E. Contraindication	**1**
18.	Contrast bath- Definition, Principle, Indication, Contraindication	**1**
19.	Extracorporeal shockwave therapy	**1**

Practical

Week	Outline	No. of Hours
		Theory
1.	Equipment's used in physiotherapy, Introduction and classification.	**1**
2.	Thermal energy modalities (thermotherapy and cryotherapy)	**1**
3.	Moist hot packs-Definition, Indication & Contraindication	**1**
4.	Hydro collator pack-Definition, Indication & Contraindication	**1**
5.	Paraffin wax bath-Definition, Indication & Contraindication	**1**
6.	Whirl pool bath-Definition, Indication & Contraindication	**1**
7.	Hubbard tank-Definition, Indication & Contraindication	**1**
8.	Cryotherapy (cold therapy) 1 Definition 2 Biophysics 3 Indication & contraindication A. Ice pack B. Ice massage C. Cold pack D. Cold whirlpool E. Cryo-cuff F. Cold spray G. Cryo stretch H. Cryo kinetics	**2**
9.	Electromagnetic energy modalities	**2**
10.	Infrared radiations (IRR) Definition. Production-Types of generators (Luminous & Non-Luminous),Indication & Contraindication. Physiological & Therapeutic effect of IRR. Dangers	**1**

11.	Short wave diathermy (SWD) 1. Definition 2. Principle of working 3. Indication & contraindication of SWD 4. Bio-physics of deep heating using SWD a. Capacitor or condenser field method b. Inductance or Magnetic field method - Transmission of shortwave in to tissues Advantage. Dangers of SWD. Precautions and contraindication of SWD. Pulsed Short Wave Diathermy A. Definition, Frequency, Wavelength B. Production C. Parameters D. Physiological effect E. Indication & contraindication	**3**
12.	Micro wave diathermy (MWD) Definition. Bio-physics of micro wave diathermy Indication & contraindication of MWD Physiological & Therapeutic effects. Dangers	**2**
13.	LASER Definition, Properties of laser, Types of laser A. Ruby laser or crystal laser B. Helium-neon laser or gas laser C. Diode laser or semiconductor laser Indications & Contraindications Physiological effect & Therapeutic effect. Dangers	**2**
14.	Ultra violet radiation (UVR) Definition, Classification, Indication & Contraindication Erythema, Pigmentation, Penetration. Physiological effect & Therapeutic effect of UVR. Demonstrate of UVR for following conditions. Acne-shoulder& chest, back& chest, Alopecia aereata & Totalis, Psoriasis, ulcer, Pressure sore	**2**
15.	Sound energy modalities	**1**
16.	Ultrasound therapy (US) 1 Definition 2 Bio-physics of ultrasound 3 Indication & contraindication of ultrasound 4 Proprieties of ultrasound-Reflection, Transmission, Absorption 5 Ultrasonic field 6 Coupling media	**1**

	Pulsed mark: Space ratio. Physiological & Therapeutic effects of ultrasound. Dangers of ultrasound	
17.	Phonophoresis A. Definition B. Principle of working C. Drugs used in phonophoresis D. Techniques of application of phonophoresis E. Contraindication	**1**
18.	Contrast bath- Definition, Principle, Indication, Contraindication	**1**
19.	Extracorporeal shockwave therapy	**1**

ECTS Workload Calculation Form

Workload	Time Factor	No	Activity Type	Description	Activity	S
24	2	12	Face to face activity hours	Theory In Class	Course	1
36	3	12	Household activity hours	Preparation Theory	Course	2
24	2	12	Face to face activity hours	Practical	Course	3
36	3	12	Household activity hours	Preparation Practical	Course	4
9	3	3	Household activity hours	Homework	Assignment	5
8	8	1	Household activity hours	Seminar	Assignment	6
It's only to set degree			Face to face activity hours	Class Activity	Assignment	7
4	1	4	Household activity hours	Quiz	Assessment	8
1	1	1	Face to face activity hours	Mid Term Thory	Assessment	9
3	3	1	Household activity hours	Mid Term Theory Preparation	Assessment	10
1	1	1	Face to face activity hours	Mid Term Practical	Assessment	11
2	2	1	Household activity hours	Mid Term Practical preparation	Assessment	12
2	2	1	Face to face activity hours	Final Theory	Assessment	13
6	6	1	Household activity hours	Final Theory Preparation	Assessment	14
1	1	1	Face to face activity hours	Final Practical	Assessment	15
4	4	1	Household activity hours	Final Practical preparation	Assessment	16
3	1	3	Household activity hours	& Lab. Reports Activities	Site Visists and Lab Experiments	17

53	Face to face hours	4.42	Face to face hours/12 week
111	Home hours	6.94	Home hours/16 week
164	Total hours	10.25	Total hours/20 week
	Accepted	6.0740740740741	) ECTS (Total hours / 27

Extra notes: