زانکۆی پۆلیتەکنیکی هەولێر
ERBIL POLYTECHNIC UNIVERSITY

Kurdistan Region Government
Ministry of Higher Education
and Scientific Research
Erbil Polytechnic University

Module(Course Syllabus)Catalogue

2022-2023

College/ Institute	**Erbil Technical Health College**	
Department	**physiotherapy**	
Module Name	**Prosthesis and orthosis**	
Module Code	PNO502	
Degree	**Technical Diploma** ☐ **Bachelor** ☒ **High Diploma** ☐ **Master** ☐ **Ph** ☐ ☐	
Semester	**5**	
Qualification	**M.Sc**	
Scientific Title	**Assistant lecturer**	
ECTS (Credits)	**8**	
Module type	**Prerequisite** ☐ **Core** ☒ **Assist.** ☐	
Weekly hours	**6**	
Weekly hours (Theory)	**(2)hr Class**	**(2)Total hrs Workload**
Weekly hours (Practical)	**(4)hr Class**	**(4)Total hrs Workload**
Number of Weeks	**12**	
Lecturer (Theory)	**Masood Abdullah Hussein**	
E-Mail& Mobile NO.	**masood.abdullah@epu.edu.iq07504539113**	
Lecturer (Practical)	**Masood Abdullah Hussein**	
E-Mail & Mobile NO.	**masood.abdullah@epu.edu.iq0750453911**	
Websites		

Course Book

Course Description	1-Understand the levels of amputation upper and lower extremity and learning pre and post prosthetic exercise. 2-knowledge of using the type of upper and lower extremity

	orthosis and type of exercise. 3- donning and doffing of prosthesis and orthosis. 4-Bandaging stump of upper and lower extremity amputation 5- assessment of amputee and paralysis .
Course objectives	On completion of this course the student will be able to: • Understand development and basic principles of prosthesis and orthosis. • Understand concepts of normal and deformed spine or limbs. • Describe the types of prosthesis and the condition that use for it. • Understand the principles of body mechanics and demonstrate skills of safe positioning, moving, transferring and mobilizing patients, and assisting patients with active and passive exercises during using orthsosis.
Student's obligation	The student's task is to know how to focus on studying better during the collection period
Required Learning Materials	1-Type of prosthesis and orthosis of upper and lower extremity 2-bandag , tape measurement, gone meter, 3- different type of exercise tool 4- parallel bar , crutch , walker , wheelchair

	Task		**Weight (Marks)**	**Due Week**	**Relevant Learning Outcome**
Evaluation	Paper Review				
	Assignments	Homework	5		
		Class Activity			
		Report			
		Seminar	10		
		Essay			
		Project			
	Quiz		8		
	Lab.		10		

	Midterm Exam	25		
	Final Exam	40		
	Total	100		
Specific learning outcome:	1- familiarity to assessment how and when. 2- assess movement dysfunction and identify the correct position 3- identify upper and lower extremity amputation levels and device describing . 4- analysis the gait and causes and disciple the suitable device and exercise. 5- Knows about the deformities and diseases and determent the treatment (exercise). 6- knowledge of advanced types of operation and advanced types of device			
Course References:	• Susan B O'Sullivan, Thomas J Schmitz (2007). Physical Rehabilitation, 5th ed., Jaypee Brothers Medical Publishers. • Stuart Potter (2008).Tidy's Physiotherapy, 14th ed., Churchill Livingstone Elsevier • S Sunder (2010). Text Book of Rehabilitation, 3th ed., Jaypee Brothers Medical Publishers ICRC.(2013).Prosthetic Gait Analysis for Physiotherapists ICRC. Physiotherapy Reference Manual Patient Management Guide lines. ICRC. • ICRC.(2012). Patient Management Guidelines ICRC Physiotherapy ,Reference Manual Patient Management Guidelines ICRC Physiotherapy. • ICRC pictures. • T. Verhoeff, STICKY, ICRC, 1990, p: 2-25. • R. and A. Gailey, PROSTHETIC GAIT TRAINING PROGRAM FOR LOWER EXTREMITY AMPUTEES, an Advanced Rehab Therapy Incorporated publication, 1989, .p: 1-2, 10-28. • Bella J. May, AMPUTATIONS AND PROSTHETICS, F.A Davis Company, 2nd edition, 1996, p : 202-209, • P. Le Roux, TECHNIQUES DE RÉÉDUCATION POUR AMPUTÉS ARTÉRITIQUES, Kinésithérapie scientifique, n°252, déc. 1986 (Article) • D. Delassalle, REEDUCATION DE L'AMPUTE, Kinésithérapie scientifique, n°182, juillet 1980 (Article) • R. Seymour, PROSTHETICS AND ORTHOTICS, Lippincott			

	Williams & Wilkins, 2002, p 143-173

Course topics (Theory)	**Week**	**Learning Outcome**
Introduction to prosthesis and orthosis, assessment ,short term and long term assessment, levels of amputation	1	1
Immediate post operation, Prosthetic components, Evaluation of TT prosthetic , Fitting, Percussions	2	3
Type of T.F socket , tolerant and un tolerant pressure area	3	2
Normal gait , stance phase and swing phase	4	4
Gait training , pre and post prosthetic exercise	5	4
Gait deviation of T.T Prosthesis and T.F prosthesis	6	5
Mid term examination		
Introduction for upper and lower orthosis, Patient assessment, physical examination, upper extremity prosthesis	1	1
Ossiointegration , type and rehabilitation	2	6
Foot orthosis, type of foot disease, type of foot orthosis ,exercise of foot, club foot	3	4
Common Pediatric Disorders of the Lower Extremity Affecting Gait	4	5
Tibia vara , knee disease orthosis knee	5	5
HIP-KNEE-ANKLE-FOOT orthosis ,	6	5
Final exam		
Practical Topics	**Week**	**Learning Outcome**
Level of lower extremity amputation, assessment ,pain score , swilling	1	3
Muscle test, ROM, muscle tone ,positioning for TT and TF	2	2

Pre prosthetic exercise ,stretching and strengthening exercise , standing , balance, walking pre prosthetic exercise hip and knee joint	3	5
Transfer, bandaging TT, TF,type of socket TT,TF prosthesis component	4	3
Alignment TT,TF, normal gait, donning and doffing TT,TF	5	2
Post prosthetic exercise, gait deviation	6	5
Mid term examination		
Upper extremity prosthesis, assessment and exercise	1	3
Foot orthosis type and foot exercise AFO	2	5
Knee orthosis type and exercise KAFO	3	5
Hip orthosis type and exercise HKAFO	4	5
Upper extremity orthosis type and exercise	5	3
Spinal orthosis exercise and type	6	3
Final examination		

Questions Example Design

Types of questions you will use

Multiple choice

Example:

1- one of the complication for amputation is

A- hematoma B- Neuroma C- infection D- swelling

2 - Mid stance phase means

a. The point when the heel hits the floor.
b. Pushing off with the toes to propel us forwards.
c. Where we transferring weight from the back, to the front of our feet.
d. Point where the whole of the foot comes into contact with the floor.

Matching pairs

Example:

Match the following orthosis in the column A with the examples in the column B:

A	B
1. Hand orthosis	**a.** Airplane splint
2. Head-cervical- orthosis	**b.** Taylor brace
3. Shoulder-elbow-wrist-hand-Orthosis	**c.** Opponens orthosis
4. Thoraco-lumbo-sacral orthosis	**d.** C - bar splint
5. Wrist-hand-finger orthosis	**e.** Milwaukee brace
6. Cervico-thoraco-lumbo-sacral orthosis	**f.** Four poster collar orthosis

Answer for matching pairs:

1.	2.	3.	4.	5.	6.

Short answer

Example:

1- Write what you know about Airplane splint.

Answer by short paragraph.

Definition:

Example:

Define the following terms:

1. Prosthesis
2. Gait cycle

Enumerate

1. Level of amputation of upper limbs: 1. 2. 3.
2. Write examples for foot orthosis:
   1. 2. 3.

Answer by true or falls and correct the falls.

1- Perthes disease Peak age of onset 3-5year.

2- Pes valgus and pes varus are Foot disease and disorder.

Quiz

What is the direction of distal and proximal portion of knee joint in Genu valgum deformity?

Practical:

Type of question	Example
Oral test	1. Named and describe the braces that use to for scoliosis. 2. How the knee joint appear in bow leg deformity.
Laboratory practice	1. Do the exercises that you should learn the patient if suffering from flat foot 2. Do the toe off stapes in stance phase of gate.

Extra notes:

Almost included many important titles that include how and quality students develop in theory and practice in the best Way Other things can be added, such as visiting rehabilitation centers to gain practical.

External Evaluator

I do accept the content of the course book, it enables student to understand the principles of Prosthesis and Orthosis. The course book covers a wide range of subjects to provide all the necessary Information in theoretical part. The students also gets hands on training in the lab to asses, evaluate and provide rehabilitation

karim

Lecturer
Karim Mahmood Ababakr