Module (Course Syllabus) Catalogue

2023-2024

College/ Institute	**Erbil Technical Health and Medical College**	
Department	**Physiotherapy**	
Module Name	**Clinical gait analysis**	
Module Code	**CGA103**	
Degree	**Technical Diploma ☐ Bachl ☐ High Diploma ☐ Maste ■ Pl ☐**	
Semester	**1st**	
Qualification	**Doctorate in Rheumatology**	
Scientific Title	**Lecturer**	
ECTS (Credits)	**4**	
Module type	**Prerequisite ☐ Cor ■ Assis ☐**	
Weekly hours		
Weekly hours (Theory)	**(2)hr Class**	**(110)Total hrs Workload**
Weekly hours (Practical)	**( )hr Class**	**( )Total hrs Workload**
Number of Weeks	**12**	
Lecturer (Theory)	**2**	
E-Mail & Mobile NO.	**Zekra.aziz@epu.edu.iq/07504413211**	
Lecturer (Practical)		
E-Mail & Mobile NO.		
Websites		

Course Book

<table>
<tr><td>Course Description</td><td colspan="5">This course will introduce the mechanical and biomechanical principles integrated with anatomical and neuromuscular knowledge to provide an understanding of static and dynamic human movement. The biomechanics of human ambulation will be broken down into kinematic and kinetic data during all phases of the gait cycle using instrumented analysis equipment as well as clinical observational analysis. The students will be introduced to pathologic gait and begin to correlate gait deviations because of clinical pathologies to the pathomechanics of gait analysis.</td></tr>
<tr><td>Course objectives</td><td colspan="5">This course will present the fundamental principles of static and dynamic movement in able-bodied persons and persons with lower limb pathology. The experience gained from this course will be used as foundational knowledge of understanding pathological gait for the remaining clinical didactic courses in the program.</td></tr>
<tr><td>Student's obligation</td><td colspan="5">-Reading and understanding of given references.
- Participation in forum and discussions
-Participation in active communication with the lecturer
- Regular assignment submission</td></tr>
<tr><td>Required Learning Materials</td><td colspan="5">Lectures notes, videos, audios, platform-based conferences, homework exercises, homework correction and guidance, live consultation and problem-solving, self-study.
Hall, projector.</td></tr>
<tr><td rowspan="11">Evaluation</td><td colspan="2">Task</td><td>Weight (Marks)</td><td>Due Week</td><td>Relevant Learning Outcome</td></tr>
<tr><td colspan="2">Paper Review</td><td></td><td></td><td></td></tr>
<tr><td rowspan="6">Assignments</td><td>Homework</td><td>6%</td><td>3rd</td><td>1, 2, &3</td></tr>
<tr><td>Class Activity</td><td>4%</td><td>All</td><td>1-6</td></tr>
<tr><td>Report</td><td>7%</td><td>9th</td><td></td></tr>
<tr><td>Seminar</td><td>7%</td><td>7th</td><td>1-4</td></tr>
<tr><td>Essay</td><td></td><td></td><td>1-4</td></tr>
<tr><td>Project</td><td></td><td></td><td></td></tr>
<tr><td colspan="2">Quiz</td><td>6%</td><td>5th & 11th</td><td>1-5</td></tr>
<tr><td colspan="2">Lab.</td><td></td><td></td><td></td></tr>
<tr><td colspan="2">Midterm Exam</td><td>20%</td><td></td><td></td></tr>
<tr><td colspan="2">Final Exam</td><td>50%</td><td></td><td></td></tr>
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	Total	100%		
Specific learning outcome:	1- Normal gait, pathological Gait & Observational Gait Analysis 2- Kinetic & kinematic Analysis, motion analysis & force plate analysis 3- Temporal & Spatial Gait Parameter, stride measurement system & energy Expenditure 4- Running, stair climbing & changes in gait following various surgeries/ diseases/disorders 5- Gait Analysis in lower limb amputation & prosthetics 6- Gait analysis when using orthotics			
Course References:	- Gait Analysis, an introduction, Whittle - Gait Analysis Normal and Pathological Function, Jacquelin. - Kinesiology of the Musculoskeletal System: Foundations for Rehabilitation**.** Donald - The Comprehensive Textbook of Clinical Biomechanics Jim Richards**.** - Atlas of Amputations and Limb Deficiencies, Smith			

Course topics (Theory)	**Week**	**Learning Outcome**
Basic sciences (anatomy, physiology, motor control, biomechanics)	1st	1
Normal gait (the gait cycle, ground reaction force, energy consumption, change of gait with age)	2nd	2
Pathologic and other abnormal gait, specific gait abnormality, walking aids)	3rd	1&3
Method of gait analysis I (visual gait analysis, camera- based motion analysis)	4th	2&3
Method of gait analysis II (active marker systems, measuring force and pressure, measuring muscle activity)	5th	2&3
Application of gait analysis (clinical gait assessment, condition benefiting from gait assessment)	6th	1&4
Midterm exam		
Gait assessment of neurological disorders I (gait assessment in cerebral palsy and stroke)	7th	4
Gait assessment of neurological disorders II (gait assessment in Parkinson's diseases and muscular dystrophy)	8th	4
Gait analysis in musculoskeletal conditions (gait analysis in knee joint osteoarthritis	9th	4
Amputee gait (kinematics and kinetics)	10th	5
Gait analysis in prosthetics (total hip replacement)	11th	5
Orthotic management and gait analysis (knee ankle foot orthotics, foot orthotics)	12th	6
Final exam		

Questions Example Design
Extra notes:
External Evaluator