Course Title	Code	Semester	Theoretical (hours/week)	Practice (hours/week)	Laboratory (hours/week)	ECTS
Clinical Biomechanics and Applied Kinesiology	FTR604		3	0	0	10
Prerequisites						
Course Language	Turkish					
Course Type	Compulsory					
Teaching Methods	Lecture, Presentation, Discussion, Research, Project preparation					
Instructor(s)						
Course Objective	To provide knowledge on fundamental biomechanics principles, mechanical properties, vector analysis, kinetics and kinematics applied in biomechanics, work/energy assessment methods, movement assessment and analysis methods, and the advantages and disadvantages of analysis methods.					
Course Learning Outcomes	1. Learns methods for evaluating and analysing movement disorders based on the mechanisms of human movement, its relationship with the musculoskeletal system, and the principles of biomechanics and kinesiology. 2. Acquires knowledge about rehabilitation and treatment strategies based on biomechanics and kinesiology for problems encountered in different pathologies. 3. Becomes proficient in the current literature on Clinical Biomechanics and Applied Kinesiology, learns research and publication processes, and discusses its contribution to public health.					
References	1-Neumann’s Kinesiology of the Musculoskeletal System 4th Edition, Brunnstrom's Clinical Kinesiology Sixth Edition					

WEEKLY LECTURE TOPICS

Weeks	DISCUSSION TOPICS TO BE PROCESSED
1.	Force and types of force, forces applied to the body, and Newton's laws
2.	Types of stress, bending stress, shear stress
3.	Composite force analyses in biomechanical evaluation
4.	Equilibrium
5.	Problem solving
6.	Kinematics, Velocity, Acceleration, Work, Energy and Power
7.	**Mid-Term Examination**
8.	Internal and external friction in the body
9.	Normal gait, Pathological gait, Gait analysis methods
10.	Kinetic and Kinematic Analysis of Normal Walking
11.	Mechanics and pathomechanics of upper and lower extremity joints in terms of gait
12.	Walking analysis using observation and footprint analysis
13.	Computerised gait analysers and functional movement analysis methods
14.	Discussion of current literature and research planning
15.	**Final Exam**

ECTS / WORK LOAD TABLE

Activities	**Number**	**Duration**	**Total Work Load**
Course	14	3	42
Laboratory			
Practice			
Field Study			
Outclass course work hours (Self working / Teamwork / Preliminary work)	14	5	70
Presentations (Video preparation / Poster preparation / Oral presentation / Focus group discussion / Applying questionnaire/ Observation and report writing)	14	3	42
Seminars			
Project	2	48	96
Case study			
Role playing, dramatization			
Preparing and criticizing article			
Semester midterm exams			
Semester final exams			
Total Workload (Hours) / 25(S)	**250/25**		
ECTS	**10**		

EVALUATION SYSTEM

Midterm Studies	**Number**	**Contribution**
Midterm exam		
Quiz		
Laboratory		
Practice		
Field Study		
Specific practical training (If exists)		
Homework assignment		
Presentation and seminar	1	%25
Projects	1	%25
Other evaluation methods		
Total of Midterm Studies		%50
Final Studies		
Final		
Homework assignment	1	%50
Practice		
Laboratory		
Total of Final Studies		%50
Contribution of midterm studies to course grade		%50
Contribution of final studies to course grade		%50
Total Grade		100

RELATIONSHIPS BETWEEN COURSE LEARNING OUTCOMES AND PROGRAM QUALIFICATIONS

Program Qualifications		Learning Outcomes		
		LO1	**LO2**	**LO3**
1.	Acquires advanced and original knowledge in the field of physiotherapy and rehabilitation, interprets and applies it.	**5**	**5**	**3**
2	Plans and conducts original research that contributes to the field using scientific methods.	**2**	**3**	**5**
3	With a lifelong learning mindset, keeps abreast of current developments and technologies in the field, improves existing methods and techniques, and designs and implements new applications.	**3**	**4**	**5**
4.	Adopts and applies an evidence-based approach in clinical decision-making processes. Acts in accordance with ethical principles in research and practice.	**2**	**5**	
5.	Establishes effective collaboration in interdisciplinary projects, plans, manages, and executes scientific projects. Effectively shares scientific knowledge on national and international platforms.	**5**		**5**
6.	Performs advanced clinical and laboratory applications in different fields of expertise. Contributes to undergraduate and postgraduate education activities and mentors students.		**3**	
7.	Contributes to the development of rehabilitation services and health policies that promote public health.	**2**	**2**	**5**
8.	Has knowledge of statistical methods commonly used in health-related studies. Selects, applies, and interprets appropriate statistical methods			**5**
9.	Contributes to expanding the boundaries of knowledge in their field by publishing at least one scientific article in national and/or international peer-reviewed journals.	**1**	**1**	**5**

Contribution to the level of proficiency: 1: Low **2:** Low/Moderate **3:** Moderate **4:** High **5:** Excellent