BIOMECHANICS AND KINESIOLOGY II

Course Name	**Code**	**Term**	**Theory (hours/week)**	**Application (hours/week)**	**Laboratory (hours/week)**		**ECTS**
Biomechanics and Kinesiology II	**FTR 302**	**3.year/ 2.term Spring**	**3**	**-**	**-**		**2**
Prequisites							
Course language	Turkish						
Course type	Compulsory						
Learning and teaching strategies	Theory						
Instructor (s)							
Course objective(Aim of course)	Basic knowledge on mechanics/pathomechanics of columna vertebralis, pelvis, hip, knee, ankle joint/foot and shoulder-arm komplex, elbow and wrist are given. A student who successfully completes the course is expected to have acquired the competency to carry the theoretical knowledge to the pathological conditions of lower and upper limbs and spine.						
Learning outcomes	1. Describes the normal motion/function and make comparisons with pathological conditions. 2. Describes the anatomic and mechanical characteristics of columna vertebralis and compares with pathological conditions; learns preventative factors, ergonomic principles and importance of exercise. 3. Learns mechanic and pathologic features of pelvis, hip, knees, ankle and foot, questions the knowledge to analyse. 4. Learns the kinematic and kinetic data for the dynamic activities of lower limbs. 5. Defines mechanical and pathological conditions of shoulder-arm complex, elbow, wrist, hand and uses this knowledge in practice.						
References	1. Human Movement Explained. Butterworth-Heinemann Ldt. Linacre House, Jordan Hill, Oxford 1996. 2. Nordin M, Frankel VH. Basic Biomechanics of the Musculoskeletal System. Second Edition. Lea&Febiger , USA, 1989. 3. Soderberg GL. Kinesiology. Second Edition. William&Wilkins a Waverly Company, Baltimore, 2005. 4. Lippert LS. Clinical Kinesiology and Anatomy. Fourth Edition. F. A. Davis Company, USA, 2006. 5. Levangie PK, Norkin CC. Joint Structure and Function: a Comprehensive Analysis. Fourth Edition. F. A. Davis Company, Philadelphia, 2005. 6. White AA, Panjabi MM. Clinical Biomechanics of the Spine. Lippincott Williams&Wilkins, Philadelphia, 1990. 7. Valmassy RL. Clinical Biomechanics of the Lower Extremities.						

	Mosby, 1996.

Course outline weekly:

Weeks	Topics
1. Week	Mechanics of columna vertebralis
2. Week	Pathomechanics of columna vertebralis
3. Week	Mechanics of pelvis
4. Week	Pathomechanics of pelvis
5. Week	Mechanics and pathomechanics of hip joint
6. Week	Mechanics and pathomechanics of knee joint
7. Week	Mechanics of ankle joint
8. Week	Midterm Exam
9. Week	Foot deformities
10. Week	Mechanics of shoulder-arm komplex
11. Week	Pathomechanics of shoulder-arm komplex
12. Week	Mechanics and pathomechanics of elbow joint
13. Week	Mechanics and pathomechanics of wrist joints and hand
14. Week	Midterm Exam
15. Week	FINAL EXAM

ECTS (Student Work Load Table)

Activities	**Number**	**Duration**	**Total Work Load**
Course Duration (X14)	14	3	42

Laboratory			
Practice			
Field Study			
Study Time Of Outside Of Class (Pre-Study, Practice, Etc.)			
Presentations (Video shoot/Poster preparation/Oral presentation, Etc.)			
Seminars			
Project			
Case study			
Role playing, Dramatization			
Writing articles, Critique			
Time To Prepare For Midterm Exam	1	4	4
Final Exam Preparation Time	1	5	5
Total Work Load (hour) / 25(s)	51 / 25 = 2.04		
ECTS	2		

Evaluation System

Mid-Term Studies	**Number**	**Contribution**
Midterm exams	1	%100

Quiz		
Laboratory		
Practice		
Field Study		
Course Internship (If There Is)		
Homework’s		
Presentation and Seminar		
Project		
Other evaluation methods		
Total Time To Activities For Midterm		100
Final works		
Final	1	%100
Homework		
Practice		
Laboratory		
Total Time To Activities For Midterm		100
Contribution Of Midterm Studies On Grades		%50
Contribution Of Final Exam On Grades		%50
Total		100

The relationship between learning outcomes and the program qualifications of the courses

Program Qualifications	**Learning outcomes**				
	L.O.1	**L.O. 2**	**L.O.3**	**L.O.4**	**L.O.5**
1. Sufficient background in basic- clinical medical sciences and physical therapy and rehabilitation discipline; ability to use theoretical and practical skills and knowledge in these fields with analytical thinking	**5**	**5**	**5**	**5**	5
2. Ability to determine, define, formulate and solve the factors that affect health; ability to choose and apply evidence based techniques and new methods for this aim.	**5**	**5**	**5**	**5**	5
3. Ability to choose and use modern equipments, techniques and modalities for physiotherapy and rehabilitation practices; effectively use the informatique technologies.					
4. Ability to design multidisciplinary research, keep records, collect appropriate data, analysis and interpret results.					
5. Ability to attain new knowledge, make literature reviews, use medical databases and sources of information devoted to medical- health sciences					
6. To work autonomously and effectively in health team and self confidence to take responsibility					
7. To internalize characteristically development, literate and lifelong learning; quality development,to contribute education and promotion programs in field,to internationalize their professional behavior.					
8. To have professional deontology and ethical awareness					

Contribution to the level of proficiency: 1. Lowest, 2. Low / Medium, 3. Average, 4. High, 5. Excellent