Co-funded by the Erasmus+ Programme of the European Union
Project Number: 573758-EPP-1-2016-1-JO-EPPKA2-CBHE-JP

JUST-CRS Clinical Rehabilitation Sciences

CLINICAL MASTER PROGRAM IN REHABILITATION SCIENCES AT JUST (JUST – CRS)

COURSE INFORMATION PACKAGE (COURSE CATALOGUE)

COURSE INFORMATION

Course title	Code	Semester	Theory (hours/week)	Application (hours/week)	Laboratory (hours/week)	National Credit	ECTS
Ergonomics	CRS 734	II, III	2	-	1	2	5
Prerequisites	None						
Course language	English						
Course type	Elective						
Mode of delivery (face to face, distance learning, blended)	• Blended						
Learning and teaching strategies	• Lectures • Presentations • Discussion • Problem solving • Project • Literature appraisal • Case Based Learning • Online environment						
Instructor (s)							
Course description	This course will enable students to relate ergonomics into rehabilitation sciences by analyzing and modifying the ecological and human effects on occupational performance. The course applies knowledge related to human biomechanics, capabilities, and limitations to the optimal design of workplaces, manual work tools, and work techniques for safe, efficient, comfortable, and productive performance. Ergonomic techniques are discussed as they are applied on individuals' leisure, self-care, and productivity activities						
Course objective	A study of the relationship of human behavior and ergonomics as applied to workplace and daily life activities safety.						
Learning outcomes	Student will be able to 1- To relate the applicability of ergonomics in rehabilitation sciences. 2- To analyze the effect of the environment in occupational performance. 3- To describe the principles of adapting the environment to improve occupational performance. 4- To integrate ergonomics into their interventions in rehabilitation. 5- To develop innovative ergonomic solutions.						
Course Content	• Investigation of ergonomic analysis principles Job and tasks analysis methods Working capacity assessment methods						

	• Muscle use and anthropometry • Energy conservations techniques • Work-related musculoskeletal disorders • Psychosocial aspects of work Literature investigation
References	Kumar, S. (Ed.). (2009). *Ergonomics for rehabilitation professionals*. CRC Press

COURSE OUTLINE-WEEKLY

Weeks	Topics (Theoretical and Practice – Lab & hands on skills [P])
1.	Introduction – Principles of Ergonomics Practicing proper body mechanics and energy conservation **[P]**
2.	Importance of ergonomics and job safety Practicing activity-based biomechanical analysis **[P]**
3.	Humans in work system environment Practicing activity-based biomechanical analysis **[P]**
4.	Biomechanical models in ergonomics Manipulating the mechanical advantage **[P]**
5.	Physical work capacity: principles and applications Manipulating energy expenditure **[P]**
6.	Evaluating physical qualifications of workers and jobs Evaluating muscle use and anthropometry measurements **[P]**
7.	Work-Related Musculoskeletal Disorders Practicing fatigue ergonomics **[P]**
8.	Workstation evaluation and design Evaluating work-site musculoskeletal hazards **[P]**
9.	Hand Tools evaluation and design Designing ergonomic workstations **[P]**
10.	Mid term Building ergonomic workstations **[P]**
11.	Heavy Work and Evaluating Physical Workloads and Lifting Designing ergonomic work tools **[P]**
12.	Office ergonomics Exploring high-tech ergonomic tools **[P]**
13.	High-tech Ergonomics Working on project **[P]**
14.	The human factors aspects of shiftwork Working on project **[P]** Hazard Prevention and Control Projects defense **[P]**
15.	Exam

**In accordance with the structure of the course, activities such as presentations, projects, seminars, and portfolios can be used in the evaluation system as a midterm exam.*

ASSESSMENT METHODS

Course activities	Number	Percentage**
Attendance		
Laboratory	15	10
Application		
Field activities		
Specific practical training		
Assignments		
Presentation	1	10
Discussion		
Project	1	10
Seminar		
Portfolio		
Online environment*		
Midterms	1	30
Final exam**	1	40
Total		100
Percentage of semester activities contributing grade success		
Percentage of final exam contributing grade success		
Total		100

WORKLOAD AND ECTS CALCULATION

Activities	Number	Duration (hour)	Total Work Load
Course Duration (x4)	14	2	28
Laboratory	14	1	14
Application			
Specific practical training			
Field activities			
Study Hours outside the classroom context (Preliminary work, reinforcement, self-directed learning etc.)	14	3	42
Presentation / Seminar Preparation	1	5	5
Project	1	18	18
Online environment	1	13	13
Homework assignment			
Portfolio			
Midterms	1	15	15
Final Exam	1	15	15
Total Workload			150

MATRIX OF THE COURSE LEARNING OUTCOMES VERSUS PROGRAM OUTCOMES

Program Outcomes	Contribution level*				
	1	2	3	4	5
1. Design and implement autonomously a professional approach based on analysis of complex rehabilitation science knowledge					X
2. Design, deliver and evaluate educational process adapted or customize to different inter-professional contexts (academic/professional/community) using an effective pedagogical approach		X			
3. Provide and disseminate new evidence in accordance with research ethics using updated and integrated knowledge of research methods	X				
4. Develop, manage and organize strategic planning and decision making within the scope of the quality assurance, ethical rules, team development and cooperation	X				
5. Integrate health advocacy at an individual, community and policy levels to promote citizenship and inclusive development of communities				X	
6. Communicates effectively within multidisciplinary clinical or scientific contexts, based on collaborative approach.	X				
7. Plan, implement and advocate interdisciplinary healthcare services within deep understanding of health care systems to promote better networking, and comprehensive patient care.			X		

***1 Lowest, 2 Low, 3 Average, 4 High, 5 Highest**