



UNIVERSITÀ DEGLI STUDI DI PALERMO

DEPARTMENT	Scienze Psicologiche, Pedagogiche, dell'Esercizio Fisico e della Formazione		
ACADEMIC YEAR	2020/2021		
BACHELOR'S DEGREE (BSC)	PHYSICAL EDUCATION AND SPORT SCIENCES		
INTEGRATED COURSE	HUMAN MORPHOLOGY AND BIOMECHANICS		
CODE	20672		
MODULES	Yes		
NUMBER OF MODULES	2		
SCIENTIFIC SECTOR(S)	M-EDF/01, BIO/16		
HEAD PROFESSOR(S)	ZANGLA DANIELE	Professore Associato	Univ. di PALERMO
OTHER PROFESSOR(S)	BARONE ROSARIO	Professore Associato	Univ. di PALERMO
	ZANGLA DANIELE	Professore Associato	Univ. di PALERMO
	CARUSO BAVISOTTO	Ricercatore a tempo	Univ. di PALERMO
	CELESTE	determinato	
CREDITS	12		
PROPAEDEUTICAL SUBJECTS			
MUTUALIZATION			
YEAR	1		
TERM (SEMESTER)	1° semester		
ATTENDANCE	Not mandatory		
EVALUATION	Out of 30		
TEACHER OFFICE HOURS	BARONE ROSARIO		
	Friday	11:00 13:00	Sezione Anatomia Umana e Istologia, Dipartimento Bionec
TEACHER OFFICE HOURS	ZANGLA DANIELE		
	Tuesday	16:00 17:00	via Pascoli o via teams previa comunicazione

DOCENTE: Prof. DANIELE ZANGLA

PREREQUISITES	Knowledge of anatomy and physiology of the exercise
LEARNING OUTCOMES	Knowledge and understanding: they have demonstrated knowledge of biomechanics and motor control of human movement and methods of presentation of motor and sports teaching activities. Ability to apply knowledge and understanding: acquisition of the principles of biomechanics and methods and techniques for presenting motor skills and sports in different educational contexts. Making judgments: they have the ability to identify short-term goals, medium and long term due to the achievement of a result in the motor field and biomechanical. Communication skills: ability to communicate clearly and without ambiguity the knowledge acquired to an audience of both experts and non-experts movement. Learning skills: they have developed those learning abilities which are necessary to continue to carry out further studies with a high degree of autonomy, paying particular attention to the theme of movement.
ASSESSMENT METHODS	The exam is an oral exam aimed at verifying the acquired skills and abilities at the end of the course. The purpose of the questions is to verify the knowledge of the content acquired at the end of the course, analytical skills and exhibitions. The assessment of knowledge includes the examination of the ability to establish relationships between the contents, theories, models and methodologies that have been subject of study during the course. As for the analysis capabilities, The exam will have the purpose of verifying that the student has reached at least one of the following objectives: - making judgments and opinions on the disciplinary contents - understand applications and the implications of disciplinary content in the of the specific reference discipline - set disciplinary contents within the professional, technological and socio-cultural context of reference. The student will have to answer at least two / three questions in the form oral exam on aspects of the program with reference to the recommended textbooks. The exam aims to verify the knowledge and understanding of topics, the interpretative competence and independent judgment of concrete cases. The threshold minimum to pass the exam will be considered achieved if the student proves to have acquired the arguments of the specific subject, is able to solve specific concrete cases and transmit knowledge correctly with satisfactory exhibition skills. Below the aforementioned threshold, the examination will be considered unsatisfactory. The more the student can interact with the his examiner and shows mastery of language, of specific matter e the ability to convey his knowledge of industry topics specific reference, the more positive the evaluation will be. The latter will be expressed from 18 to 30-30 and praise.
TEACHING METHODS	Frontal and practical lessons

MODULE ANALYSIS OF MOVEMENT

Prof. DANIELE ZANGLA

SUGGESTED BIBLIOGRAPHY

Rolf Wirhed "Abilita' Atletica e Anatomia del Movimento", Edi-Ermes, ult. edizione

AMBIT	10683-Attività formative affini o integrative
INDIVIDUAL STUDY (Hrs)	108
COURSE ACTIVITY (Hrs)	42

EDUCATIONAL OBJECTIVES OF THE MODULE

Teaching purpose is to provide the knowledge and basic methodological tools related to a particular context biomechanics of human movement . To this end they will face in an integrated vision biomechanical aspects and neurophysiology of motor control. Particular attention will be devoted to the application outcomes in areas such as science motor and sports medicine .

SYLLABUS

Hrs	Frontal teaching
5	Definition of force , relevant physical parameters for the study of the motions , and scalar Vector , the sum of the vectors , the decomposition of carriers
7	muscle strength and decomposition vector , the three laws of Newton , static measure of strength, weight force , reaction forces , the force normal , static and dynamic sliding friction , friction coefficient , air resistance
5	centrifugal and centripetal force , circular motion , work , power , energy concept , potential energy, kinetic energy, conservation of energy , the time of a force
5	moment of a force applied to the human joints , muscle insertion point and mechanical implications , the balance of the suspended bodies , center of gravity of a homogeneous body , a center of gravity of non- homogeneous body
5	the levers , the physical characteristics of a lever , the three types of levers , the levers applied to the human body , balance of forces . Muscles and joints . anatomical planes
4	video analysis with Kinovea
6	strength and angular speed of motion , muscle recruitment , strength training , flexibility trainin
5	gait analysis

MODULE HUMAN ANATOMY I

Prof. ROSARIO BARONE - Lettere A-L, - Lettere A-L

SUGGESTED BIBLIOGRAPHY

Martini F.H. e coll.: Anatomia umana. Edises

Barni T. E coll.: Anatomia dell'apparato locomotore. Edises, ult. ed

AMBIT	50097-Biomedico
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INDIVIDUAL STUDY (Hrs)	108
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COURSE ACTIVITY (Hrs)	42
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EDUCATIONAL OBJECTIVES OF THE MODULE

Knowledge of anatomical structures of the human movement in order to develop skills to develop skills to plan and manage the physical activity

SYLLABUS

Hrs	Frontal teaching
10	General Anatomy - . Organization of living beings and, in particular, of the human body. The systems and organ systems and their classification . The anatomical terminology of the external forms of the human body. The cavity 'bust. The anatomical position and terms of position. The terms of movement. Generality 'on the cell. Definition of tissue, organ class. The epithelial tissue and glandular epithelia. The trofomeccanici tissues. Skeletal connective tissues. The contractile tissue. The nervous tissue.
4	The bony skeleton: spine. the rib cage, the skull, the shoulder girdle and upper limb bones, pelvic girdle and lower limb bones.
2	Joints: classification and generality.
2	Morphology, architecture, classification and function of muscles.The mechanical muscle.
2	Shoulder joint; movements and motor muscles. The elbow joint; movements and motor muscles.
2	Radiocarpal joint and hand joints
2	Hip joint femoral; movements and motor muscles.
2	The knee joint; movements and motor muscles.
2	Articulation ankle and foot joints. Movements of joints and motor muscles.
2	The joints of the spine; movements and motor muscles.
6	The circulatory system. The heart, arteries, veins, capillaries. The largest circulation, the small circulation, fetal circulation. The lymph, lymph vessels and lymph nodes. bone marrow, spleen, thymus.
4	The respiratory system. The airways: nose, nasopharynx, larynx, trachea and bronchi. The bronchioles. The lungs and lung hierarchies. Lung structure. The pleura.
2	Skin and appendages.