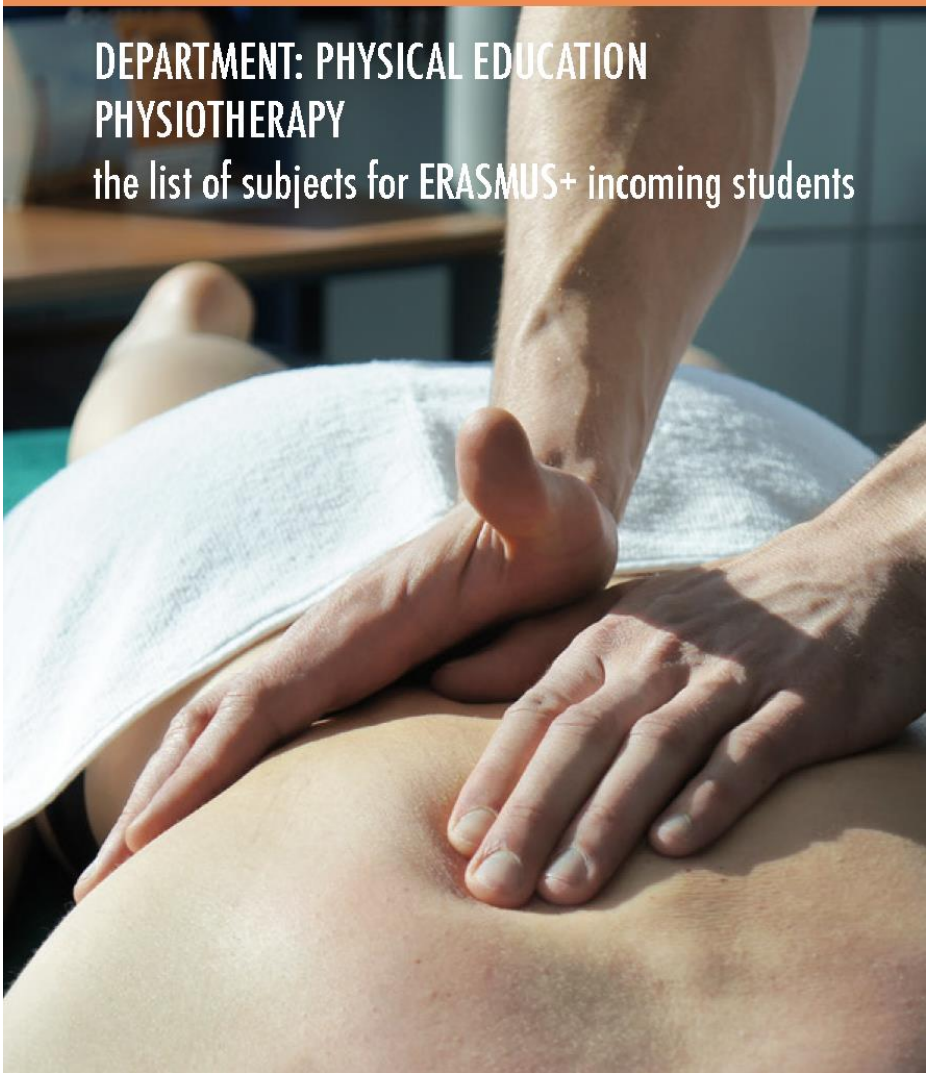
AKADEMIA WYCHOWANIA FIZYCZNEGO
IM. EUGENIUSZA PIASECKIEGO W POZNANIU

DEPARTMENT: PHYSICAL EDUCATION PHYSIOTHERAPY

the list of subjects for ERASMUS+ incoming students



ERASMUS+ PROGRAMME
FIELD OF STUDY: PHYSIOTHERAPY
LIST OF SUBJECTS FOR WINTER OR SUMMER SEMESTER 2022/2023

No.	SUBJECT	HOURS/ ECTS	FORM OF PASSING
02-FT-1-ER-01	**Functional diagnostic in motor system disorders (Diagnostyka funkcjonalna w dysfunkcjach narządu ruchu)**	25/5	Exam
02-FT-1-ER-02	**Basics of Rehabilitative Ultrasound Imaging (Podstawy ultrasonografii rehabilitacyjnej)**	25/5	Exam
02-FT-1-ER-03	**The basics of McKenzie method and diagnostics of gross and fine motor skills with Functional Movement Screen (FMS™) (Podstawowe zagadnienia dotyczące terapii metodą McKenzie)**	25/5	Exam
02-FT-1-ER-04	**Neurological rehabilitation (Rehabilitacja neurologiczna)**	25/5	Pass
02-FT-1-ER-05	**Pulmonary rehabilitation (Rehabilitacja pulmonologiczna)**	15/3	Pass
02-FT-1-ER-06	**Dysfunction of Children Body Posture (Zaburzenia i dysfunkcje postawy ciała u dzieci)**	25/5	Pass
02-FT-1-ER-07	**Objective physiotherapeutic assessment using motion capture, Zebris System, Delos System and e.t.c. (Obiektywna ocena fizjoterapeutyczna z wykorzystywaniem systemów obrazujących ruch, systemu Zebris, systemy Delos itp.)**	25/5	Exam
02-FT-1-ER-08	**Nutrition in diseases of civilization (Żywienie w chorobach cywilizacyjnych)**	15/3	Pass
02-FT-1-ER-09	**Adapted Physical Activity of Disabled (Aktywność fizyczna osób niepełnosprawnych)**	15/3	Pass
02-FT-1-ER-10	**Sherborne Developmental Movement- Therapy for those with minimal movement experience, as well as children with proper development (Metoda ruchu rozwijającego Weroniki Sherborne)**	15/3	Exam
02-FT-1-ER-11	**Sports Medicine and Traumatology with first aid (Medycyna sportu i traumatologia z elementami pierwszej pomocy)**	15/3	Exam

02-FT-1-ER-12	**Histology (Histologia)**	15/3	Exam
02-FT-1-ER-13	**Genetics and Molecular Biology (Genetyka i biologia molekularna)**	15/3	Exam
02-FT-1-ER-14	**Motor Control (Sterowanie ruchem)**	25/5	Exam
02-FT-1-ER-15	**Recreational Sport and Wellness in the Llife and Prevention of Civilization Disease (Sport rekreacyjny i wellness w życiu i profilaktyce chorób cywilizacyjnych)**	25/5	Pass
02-FT-1-ER-16	**Kids and youth sport – an introduction to the bio-banding concept based on the individualization of biological development and optimization of the training process (Sport dzieci i młodzieży – wprowadzenie do koncepcji bio-banding w oparciu o indywidualizację rozwoju biologicznego i optymalizację procesu treningowego)**	15/3	Project
02-FT-1-ER-17	**Clinical practices in physiotherapy (Praktyki kliniczne z zakresu fizjoterapii)**	80/8	Pass
02-FT-1-ER-18	**Clinical Practice (Praktyki Kliniczne) - Medical Care and Rehabilitation Centre**	80/8	Pass
01-WF-1-ER-21	**Methodology of Teaching Basic Swimming for Children with Elements of Halliwick Method (Metodyka Nauczania Pływania Podstawowego z Elementami Terapii Wodnej Halliwick)**	15/4	Pass
01-WF-1-ER-10	**General Physiology (Fizjologia Ogólna)**	15/4	Exam
01-WF-1-ER-08	**Exercise Physiology (Fizjologia Wysiłkowa)**	15/4	Exam
01-WF-1-ER-26	**Health Education (Wychowanie Zdrowotne)**	15/4	Exam
01-T-1-ER-11	**Art Therapy Workshop (Elementy Arteterapii)**	15/4	Pass
01-T-1-ER-12	**Dance Therapy Elements - introduction (Elementy Terapii Tańcem - wprowadzenie)**	15/4	Pass
01-T-1-ER-13	**Yoga (Joga)**	15/4	Pass
02-FT-1-ER-19	**Diagnostic and therapeutic methods for upper extremities disfunctions in neurological conditions (Badanie i rehabilitacja dysfunkcji kończyn górnych w schorzeniach neurologicznych)**	15/3	Practical exam

02-FT-1-ER-20	**Basics of Proprioceptive Neuromuscular Facilitation PNF (Podstawy Proprioceptywnego Torowania Nerwowo-Mięśniowego PNF)**	15/3	Practical exam

LIST OF SUBJECT ONLY FOR PHYSIOTHERAPY STUDENTS

OBLIGATIONS

Classes for ERASMUS Incoming Students

All Incoming Students are obliged to respect the following rules:

1. **Students should establish/update** the list of classes/lectures to attend (learning agreements) as soon as possible (within one month of their arrival to Poznań). Student must not make changes in this document during the semester or shortly before the exams because it is the basis for preparation of an Exam Card.

2. Student must not stop attending **classes/lectures during the course**. **Institutional and Departmental Coordinator and teacher responsible for it should be informed earlier.**

3. Students should come to classes run by Polish teachers **on time**.

4. Within every chosen course an Erasmus Student has the maximum of 15 class-hours of **lectures** (in English) and, besides that, participates in some practical classes together with the Polish students. We offer a **module of subjects in English** with our academic teachers who are responsible for the subject and are obliged to do their best to help students. The module is based on proposals from incoming students (their Learning Agreements). Whether a course will be offered in English is subject to student demand (min. 50% of incoming students). For financial reasons **we can offer a MAXIMUM of 10 subjects per semester from each faculty and 5 subject for physiotherapy students (no more).**

5. In order to receive credits for the courses an Erasmus Student should see the teachers and present the **Exams Card** available from the Institutional Coordinator at the Erasmus+ Programme Office. This form is the basis for the preparation of the Transcript of Records which will be sent directly to the coordinator at the partner institution not earlier than one month after the end of semester.

6. In case of **any problems** an Erasmus Student should immediately contact his/her Polish partner-student, the Institutional or Departmental Coordinator.

7. According to the Bilateral Agreement signed with your university, the IRO will confirm the real time of your study only.

Subject	**DIAGNOSTYKA FUNKCJONALNA W DYSFUNKCJACH NARZĄDU RUCHU** **FUNCTIONAL DIAGNOSTIC IN MOTOR SYSTEM DISORDERS**
Unit of AWF	**Chair of Clinical Physiotherapy**
Teacher's name	**Marcin Grześkowiak PhD**
ECTS points	**5**
Number of hours	**25**
Methods of estimation	*Methods of education: workshops (maximum number of participants: 12), method of evaluation: oral exam*
Effects/results of education	*At the conclusion of this subject students will be able to:* - perform the physical examination of patients with motor system disorders - understand the principles of clinical reasoning - distinguish between disorders of motor system caused by peripheral nervous system and musculoskeletal system - demonstrate orthopedics tests for shoulder, knee, cervical and lumbar spine - demonstrate neurological and nerodynamic evaluation of peripheral nervous system
Topics of the classes	*1) Cranial nerve examination guidelines* *2) Upper and lower limb neurological examination guidelines* *3) Shoulder examination guidelines* *4) Knee examination guidelines* *5) Cervical and lumbar spine examination guidelines*
Recommended literature	*1) Jarvis C. Student Laboratory Manual for Physical Examination & Health Assessment* *2) Magee DJ. Orthopedic Physical Assessment*

Subject	**PODSTAWY ULTRASONOGRAFII REHABILITACYJNEJ** **BASICS OF REHABILITATIVE ULTRASOUND IMAGING**
Unit of AWF	**Chair of Clinical Physiotherapy**
Teacher's name	**Marcin Grześkowiak PhD**
ECTS points	**5**
Number of hours	**25**
Methods of estimation	*Methods of education: workshops (maximum number of participants: 6), method of evaluation: oral exam*
Effects/results of education	*At the conclusion of this subject students will be able to:* - operate and optimize ultrasound unit - understand the limitations of diagnostic musculoskeletal ultrasound imaging and when further expertise is clinically warranted - image and identify relevant anatomy of the shoulder and lower trunk - demonstrate effective imaging and assessment of various soft tissues, including tendons, muscles etc. - demonstrate muscle contraction and relaxation - utilize ultrasound imaging to help make appropriate management decisions according to the clinical situation
Topics of the classes	*1) Theoretical background of Rehabilitative Ultrasound Imaging* *2) Anatomy, physiology, sonoanatomy and pathology of lateral abdominal wall* *3) Anatomy, physiology, sonoanatomy and pathology of anterior abdominal wall* *4) Anatomy, physiology, sonoanatomy and pathology of lumbo-sacral complex* *5) Anatomy, physiology, sonoanatomy and pathology of shoulder complex*
Recommended literature	*1) Jacobson JA. Fundamentals of Musculoskeletal Ultrasound* *2) O`Neill JMD. Musculoskeletal Ultrasound: Anatomy and Technique*

Subject	**PODSTAWOWE ZAGADNIENIA DOTYCZĄCE TERAPII METODĄ MCKENZIE ORAZ METODA FUNCTIONAL MOVEMENT SCREEN (FMS™) JAKO PRZYKŁAD GLOBALNEJ DIAGNOSTYKI FUNKCJONALNEJ** **THE BASICS OF MCKENZIE METHOD AND DIAGNOSTICS OF GROSS AND FINE MOTOR SKILLS WITH FUNCTIONAL MOVEMENT SCREEN (FMS™)**
Unit of AWF	**Department of Musculoskeletal Rehabilitation/ Zakład Rehabilitacji Narządu Ruchu**
Teacher's name	**Łukasz Michałowski , PhD PT**
ECTS points	**5**
Number of hours	**25**
Methods of estimation	*Practical classes, workshop. The evaluation process consist of preparation to the classes and practical and written tests.*
Effects/results of education	*McKenzie Method is a concept based on knowledge of symptoms and the analysis of behavior of complaints and joint mechanics (motion segment), in an interview and physical examination. Examination of the McKenzie Method allows to determine the direction of movement of the damaged tissue so the therapist can determine which body movement can push those tissues back on the right place. McKenzie treatment uniquely emphasizes education and active patient involvement in the management of their treatment in order to decrease pain quickly, and restore function and independence, minimizing the number of visits to the clinic.* *The Functional Movement Screen (FMS™) is an assessment technique, which attempts to identify imbalances in mobility and stability during fundamental movement patterns. This assessment tool is thought to exacerbate the individual's compensatory movement problems, allowing for easy identification. It is these movement flaws that may lead to breakdown in the kinetic linking system, causing inefficiency and microtrauma during activity. In many cases, muscle flexibility and strength imbalances along with previous injuries may not be identified. These problems, which have been acknowledged as significant risk factors for injury, will be identified using the FMS™.*
Topics of the classes	1. *The principles of McKenzie Method and Functional Movement Screen (FMS™).* 2. *Definitions and terms used in the McKenzie Method and Functional Movement Screen (FMS™).* 3. *Forms and documents used in the McKenzie Method and Functional Movement Screen (FMS™); The ranking and*

	grading system. 4. *The epidemiology of body disorders; Injury prevention.* 5. *Pain patterns and mechanism of pain production.* 6. *The McKenzie classification of spinal pain; Treatment of the anatomical disruption or displacement within the motion segment (Derangement Syndrome). Treatment of the end-range stress of normal structures (Postural Syndrome) and end-range stress of shortened structures (Dysfunction Syndrome).* 7. *Biomechanics and movement patterns; Limitations of strength, balance and range of motion.* 8. *Functional Movement Screen (FMS™) - tool for analysing the stability of body segments during movement; Part of the comprehensive physiotherapeutic and biomechanical assessment of physically active persons as an element of primary prevention of sport injuries.* 9. *Physical examination and assessment in McKenzie Method and Functional Movement Screen (FMS™)* 10. *The mechanical therapy procedures; education of the patient and patient involvement in the treatment; Corrective exercise to restore movement patterns.* 11. *Proper movement and building strength on it.*
Recommended literature	

Subject	**REHABILITACJA NEUROLOGICZNA** **NEUROLOGICAL REHABILITATION**
Unit of AWF	**Department of Musculoskeletal Rehabilitation/ Zakład Rehabiliatcji Narządu Ruchu**
Teacher's name	**Magdalena Goliwąs, PhD** **Lech Furmaniuk, PhD**
ECTS points	**5**
Number of hours	**25**
Methods of estimation	*Active participation in the classes. Practical classes, workshop.*
Effects/results of education	*After completing this course, the student:* *- Has the ability to carry out a structural and functional assessment of patient after stoke* *- Understands the differences between patients with acute and chronic stroke* *- Knows the techniques applied in increased muscle tension* *-Knows therapeutic strategies in patients after stroke*
Topics of the classes	*1. Basic assessment of neurological patient (after stroke, cranio-cerebral trauma)* *2. The test used for functional assessment: Up and Go, Berg Balance Scale, Fugel-Meyer Test, Stroke Rehabilitation Assessment of Movement* *3. Techniques to reduce muscle tension* *4. Differences in management of acute and chronic phase after stoke and cranio-cerebral trauma* *5. Practical training with the patient on the mat*
Recommended literature	*1. Rain S., Meadows L., Lynch-Ellerington M.: Bobath Concept Theory and Clinical Practice I Neurological Rehabilitation. Wiley-Blackwell; 2009* *2. Bobath B.: Adult Hemiplegia: Evolution and Treatment, 3rd end. Butterworth-Heinemann; Oxfort 1990*

Subject	**REHABILITACJA PULMONOLOGICZNA** **PULMONARY REHABILITATION**
Unit of AWF	**Chair of Clinical Physiotherapy**
Teacher's name	**Dorota Dolecińska PhD PT**
ECTS points	**3**
Number of hours	**15**
Methods of estimation	*• oral presentation* *• demonstration of rehabilitation techniques*
Effects/results of education	*After the course student is able to:* *• perform a functional examination and evaluation of pulmonary patients paying attention to common signs and symptoms of obstructive and restrictive diseases and red flags,* *• select techniques and exercises according to the patient's clinical condition: (1) instruct the patient in how to perform exercises and (2) perform techniques used in pulmonary rehabilitation,* *• plan a rehabilitation program based on the guidelines and recommendations for pulmonary rehabilitation in the most common diseases of the respiratory system.*
Topics of the classes	*1) Functional examination and evaluation of pulmonary patients for physiotherapists. The SOAP note (subjective, objective, assessment, plan).* *2) Differential diagnosis for physiotherapists. Assessment of patient-reported symptoms. Red flag signs and symptoms.* *3) Exercise training in pulmonary rehabilitation. Breathing exercises. Inspiratory and expiratory muscles training. Breathing control techniques. Alternative methods of exercise therapy (e.g. yoga, tai chi, exergames).* *4) Chest physiotherapy. Lung expansion techniques. Mucus clearance techniques in pulmonary rehabilitation (chest percussion, chest compression, chest vibration, postural drainage, modified postural drainage, dynamic drainage, autogenic drainage, active cycle of breathing technique, positive expiratory pressure technique, oscillating positive expiratory pressure technique, forced expiration technique, manually assisted cough).* *5) Guidelines and recommendations for rehabilitation in common obstructive and restrictive respiratory diseases in acute and chronic stage of the disease (i.a. chronic obstructive pulmonary disease,*

	COVID-19, cystic fibrosis).
Recommended literature	• *Pradan L, Mihaltan F, Bansal V (eds.) Practical Guide for Pulmonary Rehabilitation: The Essential Source for Pulmonary Rehabilitation Programs. Nova Science Publishers, Incorporated, 2021* • *Clini E, Holland AE, Pitta F, Troosters T (eds.) Textbook of Pulmonary Rehabilitation. Springer International Publishing AG, 2018*

Subject	**ZABURZENIA I DYSFUNKCJE POSTAWY CIAŁA U DZIECI** **DYSFUNCTION OF CHILDREN BODY POSTURE**
Unit of AWF	**Department of Musculoskeletal Rehabilitation/ Zakład Rehabiliatcji Narządu Ruchu**
Teacher's name	**Marta Flis-Masłowska, PhD (NMT, European Neuromuscular Therapist)**
ECTS points	**5**
Number of hours	**25**
Methods of estimation	*Practical classes, workshop.The evaluation consists on practical tests and powerpoint presentation.*
Effects/results of education	*The objective of this course is to provide students with knowledge on the types of body dysfunctions, use of functional assessment of children posture, physical examination and education of the patient. Moreover students are able to practical use of Thera-Band exercise bands and basic myofascial therapeutic techinques.* ***Objectives of the subject:*** *- diagnosis with shaping body posture and postural control in ontogenesis;* *- learning individual and team preventive and corrective actions, adequate to postural disorders and various rehabilitation method.*
Topics of the classes	***Program content:*** 1. *Analysis of the formation and changes within the body posture and anatomic-physiological conditions.* 2. *The mechanism of shaping the body posture - biomechanical interpretation.* 3. *Characteristics of the correct posture.* 4. *Muscle balance and dysbalance in the pelvic, thoracic, dorsal, abdominal and knee areas.* 5. *Diagnostic various methods used in the assessment of postural disorders.* 6. *Disfunction of the posture in the sagittal plane: the concave back, the round one, the back round - concave, flat back.* 7. *Individual and team corrective procedures. Use of Thera-Band tapes in posture defects therapy.*

Recommended literature	*Articles in scientific body posture journals are recommended.*

Subject	**OBIEKTYWNA OCENA FIZJOTERAPEUTYCZNA Z WYKORZYSTYWANIEM SYSTEMÓW OBRAZUJĄCYCH RUCH, SYSTEMU ZEBRIS, SYSTEMY DELOS** **OBJECTIVE PHYSIOTHERAPEUTIC ASSESSMENT USING MOTION CAPTURE, ZEBRIS SYSTEM, DELOS SYSTEM AND E.T.C.**
Unit of AWF	**Department of Musculoskeletal Rehabilitation/Zakład Rehabiliatcji Narządu Ruchu**
Teacher's name	**Daniel Choszczewski, MSc PT**
ECTS points	**5**
Number of hours	**25**
Methods of estimation	*-practical classes, workshop* *- participation in laboratory demonstrations* *- final written test*
Effects/results of education	*The result of education will be the ability to use the device for objective functional analysis of the human body and the ability to use results to diagnose defects of posture and dysfunctions*
Topics of the classes	*The following devices will be presented:* *1. Tri-plane traffic analysis using Vicon Nexus and BTS Smart-D* *2. Analysis of body posture parameters for postural and scoliosis defects using the MORA 4G device* *3. Analysis of arching of the foot using the CQ-ST pod* *4. Analysis of postural stability on stable substrate using CQ-Stab* *5. Analysis of postural stability on unstable substrate using Delos* *6. Analysis and posture of the body using Zebris FDM-T treadmill*
Recommended literature	*- Whittle's Gait Analysis; David Levine, PhD, PT, Jim Richards, BEng, MSc, PhD and Michael W. Whittle, BSc, MSc, MB, BS, PhD* *- Gait Analysis, Normal and Pathological Function; Jacquelin Perry.*

Subject	**ŻYWIENIE W CHOROBACH CYWILIZACYJNYCH** **NUTRITION IN DISEASES OF CIVILIZATION**
Unit of AWF	**Department of Food and Nutrition /Zakład Żywnościl i Żywienia**
Teacher's name	**Joanna Karolkiewicz, PhD, associate professor** **Ewa Śliwicka, PhD**
ECTS points	**3**
Number of hours	**15**
Methods of estimation	*Theoretical classes.* *Practical classes in the form of workshops preparing and preparing meals.*
Effects/results of education	*The course content includes current nutrition theory and evidence based practice in prevention and treatment of disease. Advanced therapies and patient management in nutrition support will be discussed. Course topics include obesity, cardiovascular disease, diabetes, cancer and osteoporosis.*
Topics of the classes	*1. Energy balance and body composition.* *2 . Principles of human nutrition.* *3. Nutrition in obesity and diabetes* *4. Nutrition in cardiovascular disease.* *5. Nutrition in osteoporosis.* *6. Nutritional treatment in cancer*
Recommended literature	*1.Eastwood, M. A. Principles of Human Nutrition, 2nd edition, Wiley-Blackwell, 2003.* *2.Lean M.E.J. Principles of human nutrition. Medicine,2015, 43 (2), 61-65.* *3.Payne A., Barker H.M., Advancing Dietetics and Clinical Nutrition. Churchill Livingstone, 2010.* *4.Katsilambros N., Dimosthenopoulos C., Kontogianni M.D., Manglara E., Poulia K.A. Clinical Nutrition in Practice. Wiley-Blackwell, 2010.*

Subject	**AKTYWNOŚĆ FIZYCZNA OSÓB NIEPEŁNOSPRAWNYCH** **ADAPTED PHYSICAL ACTIVITY OF DISABLED**
Unit of AWF	**Department of Adapted Physical Activity/ Zakład Adaptowanej Aktywności Fizycznej**
Teacher's name	**Maciej Wilski. PhD, MSc PT**
ECTS points	**3**
Number of hours	**15**
Methods of estimation	*Student's presentation. Practical classes, workshop.*
Effects/results of education	*After completing this course, the student:* *- develops the competences necessary to work with disabled athletes* *- develops teaching, training, and coaching skills, needed for a well-balanced approach in educational and sports environment* *- develops knowledge of Paralympic sports and adaptive activities.*
Topics of the classes	*A. Foundational topics in APA (Adapted Physical Activity), history, purposes, aims, goals, and objectives of sports for disabled persons, disability based sport organizations, disability sport terminology.* *B. Winter and summer Paralympic sports, team sports for disabled persons. Practical training:* *- Goalball* *- Wheelchair Rugby* *- Boccia* *C. Active rehabilitation – history, purposes, aims, goals, organizations and practical training.* *D. Social and psychological advantages of sports of the disabled*
Recommended literature	*Sherill C.: Adapted physical activity, recreation and sport. The McGraw-Hill Companies, 1998* *Winnick, J., & Porretta, D. (Eds.). (2016). Adapted Physical Education and Sport, 6E. Human Kinetics.*

Subject	**METODA RUCHU ROZWIJAJĄCEGO WERONIKI SHERBORNE** **SHERBORNE DEVELOPMENTAL MOVEMENT- THERAPY FOR THOSE WITH MINIMAL MOVEMENT EXPERIENCE, AS WELL AS CHILDREN WITH PROPER DEVELOPMENT**
Unit of AWF	**Faculty of Physical Culture in Gorzów Wlkp.** **(Zamiejscowy Wydział Kultury Fizycznej w Gorzowie Wlkp.)** **ul. Orląt Lwowskich 4–6, 66-400 Gorzów Wielkopolski**
Teacher's name	**Katarzyna Rosicka, MSc**
ECTS points	**3**
Number of hours	**15**
Methods of estimation	- *Active participation in the classes, workshop.* - *Students' presentation*
Effects/results of education	Sherborne Developmental Movement is an approach to teaching and working with movement that is both accessible, by people with minimal movement experience, as well as children with proper development. Benefits of using Sherborne Developmental Movement •Develop good self esteem, form positive relationships •Improve emotional and physical literacy •Extend and improve communication and creative expression •Build learning power, challenge thinking and increase problem solving At the end of this course, the candidate will be able to: 1. Define and understand principles of Sherborne Developmental Movement 2. Apply such knowledge in practice.
Topics of the classes	*1. The principles of Sherborne Developmental Movement.* *2. Benefits of using Sherborne Developmental Movement* *3. Practical Training.*
Recommended literature	1. Sherborne W., Developmental Movement for Children, Worth Publishing, 2001 2.https://www.sherbornemovementuk.org/about/sherborne-developmental-movement/

Subject	**MEDYCYNA SPORTU I TRAUMATOLOGIA Z ELEMENTAMI PIERWSZEJ POMOCY** **SPORTS MEDICINE AND TRAUMATOLOGY WITH FIRST AID**
Unit of AWF	**Department of Sports Medicine and Traumatology/ Zakład Medycyny Spotu i Traumatologii**
Teacher's name	**Przemysław Lutomski, PT, PhD** **Maciej Jurasz MSc, PT OMT, FDM IC**
ECTS points	**3**
Number of hours	**15**
Methods of estimation	*Practical classes, workshop.* Writen test
Effects/results of education	*Knowlege about common injuriries in sport and the way of evaluation/examination and treatment.* *Manual Therapy – diagnosis/evaluation and treatment.* *Knowledge and skills in BLS field (first aid in both postraumatic and non traumatic situations).*
Topics of the classes	*Definitions:* *Trauma/injuries/overuse syndromes* *Classifications of most common injuries* *Manual Techniques in Practice* *Diagnosis, first aid and teratment in traumatology and manual medicine/physiotherapy* *[BLS/ (Basic Life Support) according to ERC (Europ. Resuscitation Council)]*
Recommended literature	

Subject	**HISTOLOGIA** **HISTOLOGY**
Unit of AWF	**Department of Biology and Anatomy/** **Zakład Biologii i Anatomii**
Teacher's name	**Wojciech Jarosz, PhD**
ECTS points	**3**
Number of hours	**15**
Methods of estimation	*Practical classes, workshop .* *Exam format: The test with some multiple choice, and matching*.
Effects/results of education	*At the end of the course student will be able to:* *Cognitive:* *1. Describe the microscopic structure of human tissues –their morphological differentiation in relation to the function and location.* *2. Described the possibility of regeneration of individual tissues.* 3. *Describe the role of different types of tissues in structural and functional integrity of human body.*
Topics of the classes	*1. Introduction and cell – microscopy.* *2. The structure, functions and regeneration of different types of epithelial tissues. Types of intercellular connections.* *3. The structure, functions and regeneration of different types of connective tissues, specific structure and role of adipose tissue.* *4. The structure, functions and regeneration of different types of cartilaginous tissues and bone tissues; the role of perichondrium and periosteum.* *5. Blood and lymph: characteristic of plasma and morphological elements: number and structure of erythrocytes – the role of hemoglobin in transport of oxygen, number and structure and functions of leucocytes (lymphocytes, monocytes and granulocytes), immunological role of lymphocytes, number structure and functions thrombocytes. The role of blood and lymph.* *6. The structure, functions and regeneration smooth, striated muscle, myocardial fibre* *7. The structure, functions and regeneration of nerves tissue in different part of nervous system; reflexes – conditioned and unconditioned, bisynaptic reflex arc.* *This course is designed for physiotherapy students who should have a*

	basic knowledge about the tissues of human body. The program covers structure, function, location and regeneration of : epithelium, connective tissue (specific, cartilage and bone), blood and lymph, muscle tissue, nervous tissue. *During individual work with microscope in lab students will analyze the structure of all human tissues including: flat, cylindrical, cuboid and transient epithelium, fibrous tissue, areolar tissue, hyaline cartilage, elastic cartilage, fibrocartilage, spongy bone, compact bone, blood cells: leucocytes and erythrocytes, smooth fibre, striated muscle fibre, myocardial fibre, different shape of neurons.*
Recommended literature	*1. Netter's Essential Histology, 2nd ed. Ovalle WK and Nahirney PC. Saunders, Elsevier.* *2. Inderbir Singh's Textbook of Human Histology With Colour Atlas and Practical Guide. Neelam Vasudeva , Sabita Mishra. Jaypee B.M.P. New Delhi.*

	GENETYKA I BIOLOGIA MOLEKULARNA
	GENETICS AND MOLECULAR BIOLOGY
Unit of AWF	**Department of Biology and Anatomy/ Zakład Biologii i Anatomii**
Teacher's name	**Wojciech Jarosz, PhD**
ECTS points	**3**
Number of hours	**15**
Methods of estimation	*Practical classes, workshop.* *Exam format: The test with some multiple choice and matching.*
Effects/results of education	*The subject is an introduction to the principles of genetics, including topics from classical Mendelian concepts to the contemporary molecular biology of the gene.* *Prerequisites: knowledge of basic human biology.* *Upon successful completion of this course, students should be able to demonstrate the following competencies:* *1) an ability to use the vocabulary that embodies the knowledge of genetics* *2) knowledge about the molecular and inheritance mechanisms discussed during classes* *3) good discernment in basic molecular biology methods knowing their application*
Topics of the classes	*1. Fundamentals of genetics: DNA and RNA, genes and genomes. Different methods of DNA isolation. Gel electrophoresis of DNA. Laboratory work: DNA isolation of students' DNA.* *2. Polymerase chain reaction method and its types. Laboratory work: amplification of selected region of DNA. Gel electrophoresis of PCR products.* *3. Restriction enzymes. Methods used for mutation detection: PCR-RFLP (restriction fragments length polymorphism) and SSCP (single stranded conformation polymorphism). Genetic engineering: clones and cloning; GMOs. Laboratory work: DNA cleavage with restriction enzyme. Gel eelectrophoresis of restriction fragments.* *4. DNA sequencing methods. Bases of bioinformatics. Laboratory work: practical use of online databases and tools in NCBI (National Centre for Biotechnology Information): GenBank, BLAST, OMIM, PubMed.* *5. Principles of heredity, inheritance patterns. The genotype-phenotype relations – expression of parental traits*

Recommended literature	*1. Genomes, 2nd edition. Terence A Brown. Oxford: Wiley-Liss (free online access).* *2. Genetics and Molecular Biology. 2nd edition. Robert Schleif. The Johns Hopkins University Press Baltimore and London (free online access).* *3. BIOS Instant Notes in Genetics. Hugh Fletcher, Ivor Hickey. Routledge.*

Subject	**NEUROMOTORYKA** **MOTOR CONTROL**
Unit of AWF	**Department of Neurobiology/Zakład Neurobiologii**
Teacher's name	**prof. dr hab. Jan Celichowski** **prof. dr hab. Piotr Krutki** **prof. AWF dr hab. Włodzimierz Mrówczyński** **prof. AWF dr hab. Dorota Bukowska**
ECTS points	**5**
Number of hours	**25**
Methods of estimation	*- participation in laboratory demonstrations* *- final written test*
Effects/results of education	*At the end of this course, the candidate will be able to:* *1. Describe the basic structural components of the nervous system.* *2.Understand and describe basic mechanisms behind neuronal excitability, conduction, synaptic transmission, nerve coding.* *3. Understand and describe mechanisms of muscle contraction and control of movements.* *4. Describe role of basic experimental studies on the nervous system in physiotherapy.*
Topics of the classes	*This course is designed for physiotherapy students.* *Basic knowledge of biology is required.* *The program covers structure and functions of neurons and glia, cell communication, structure and functions of the central nervous system, neuro-muscular transmission, neurological basis of movement, motor units. Morphological and electrophysiological methods of nervous system studies will be presented, and their contribution to physiotherapy will be described.* *During the course students will:* - *analyze the microscopic structure and location of the different types of neurons* - *examine the microscopic and macroscopic structure of slice preparations from different regions of the central nervous system and determine the localization and role of the major nerve centers* - *observe the microscopic structure of the stained slices of muscle tissue and motor units fibers* - *observe computer models of the action potentials, and the postsynaptic potentials from the spinal cord neurons* - *demonstrate (on a computer model) the motor unit contractions*

- *record electromyographic activity of limb muscles*
- *observe the physiological tremor in skeletal muscles*
- *determine the force-frequency curve of the motor units*

Practical classes will be held at the electrophysiological and morphological laboratories, where students will be able to observe modern methods of studies on the nervous system.

1. *A nerve cell. Electrophysiology of neurons.*
- *nerve cell structure, with main focus on the cell membrane*
- *nerve cells types: classification on the basis of structure and function*
- *cell excitability and excitation*
- *action potential and nerve conductance*
- *glial cells; structure of myelin sheath*
- *synapses: types and structure*
- *mechanisms of synaptic transmission*
- *synaptic delay and neurotransmitters*
- *postsynaptic excitatory and inhibitory potentials*
- *spatial and temporal summation*
- *presynaptic inhibition and facilitation*
- *electrical synapses*
- *convergence and divergence*
- *neuronal code*

2. *Morphological and electrophysiological methods of experimental studies on the nervous system.*
- *enzymatic and fluorescent markers for determining the connections within the nervous system*
- *microscopic analysis of marker injection place and identification of labeled cells in the brain stem*
- *extracellular and intracellular recordings of nerve cell action potentials and postsynaptic potentials*
- *electrophysiological studies on motoneuron properties*
- *patch-clamp, and voltage-clamp*

3. *Morphology and function of the central nervous system.*
- *the spinal cord structure and functions*
- *autonomic centers within the spinal cord*
- *major ascending (sensory) and descending (motor) tracts of the spinal cord*
- *the brain stem structure and functions*
- *cranial nerves, their motor, sensory and autonomic nuclei*
- *reticular formation of the brain stem*
- *the cerebellum - macro and microscopic structure*
- *cerebellar inputs and outputs (control of movement and posture)*
- *motor disorders in cerebellar disorders*
- *the thalamus: general structure and function*
- *microscopic structure of the cerebral cortex*

	- *motor programming* - *location and role of telencephalic nuclei* - *associative cortical areas and higher brain functions* 4. *Muscle fibers and motor units.* - *muscle fiber morphology, ultrastructure and diversity* - *molecular mechanisms of muscle contraction* - *types of muscle contraction* - *motoneurons and the neuromuscular junction* - *types of muscle fibers* - *the motor plate* - *definition of a motor unit* - *characteristics of different types of motor units* - *the fatigue test* - *recruitment and derecruitment of motor units* - *rate coding during muscle contractions* - *characteristics of human motor units* - *principles of electromyography* - *normal and pathological EMG recording* - *physiological tremor*
-	1. *J.A. Zoladz. Muscle and exercise physiology. Academic Press, 2019. ISBN 978-0-12-814593-7* 2. *Kandel Eric, Schwartz James, Jessell Thomas (eds.) Principles of Neural Science ISBN-10: 0071390111 | ISBN-13: 978-0071390118* 3. *Pfaff Donald W. (ed.) Neuroscience in the 21st century. From Basic to clinical. ISBN 978-1-4614-1998-3* 4. *Bear MF, Connors BW, Paradiso MA. Neuroscience, exploring the brain. ISBN-10: 0781760038 | ISBN-13: 978-0781760034* 5. *Felten David L. and Shetty Anil N. Netter's Atlas of Neuroscience, 2nd Edition with STUDENT CONSULT. ISBN-10: 1416054189 | ISBN-13: 978-1416054184*

Subject	**SPORT REKREACYJNY I WELLNESS W ŻYCIU I PROFILAKTYCE CHORÓB CYWILIZACYJNYCH** **RECREATIONAL SPORT AND WELLNESS IN THE LLIFE AND PREVENTION OF CIVILIZATION DISEASE**
Unit of AWF	**Department of Theory of Sport/Zakład Teorii Sportu**
Teacher's name	**Jan M. Konarski, PhD, Ass. Prof.**
ECTS points	**5**
Number of hours	**25**
Methods of estimation	*Credit on the base of presentation and realization of own project. Personal, positive activity during meetings and exercises.*
Effects/results of education	*Fit students out with knowledge about using recreational sport and different forms of wellness in normal life and prevention of civilization disease. Moreover, familiarize with methodology of preparation different kinds of classes according to aim and actual possibilities of training's participants. The meetings will be realized as lectures and practical exercise in different places and environments.*
Topics of the classes	*1. Wellness characteristics of meaning and applications in life and civilization disease.* *2. Role of recreational sports in present society.* *3. Program preparation to selected forms of recreational sports and wellness.* *4. Place of recreational sports and wellness in European and Worldwide health prevention programs.* *5. Methodological base and technics of yoga as whole lifetime system of health prevention.* *6. Body-mind system psycho-somatic refresh of contemporary human.* *7. Familiarize with reaction of own body in situation of stress and relaxation by educational kinesiology integration dance.* *8. Application of different movements forms of integration in the group.* *9. Designing of parkour and selecting of exercise depending on kind and aims of exercise participants.* *10. Using of untypical equipment during preparation and realization of recreational sports and kind of groups.* *11. Modification and adaptation popular kinds of recreational sports to needs and abilities of participants, and environment of exercise.*

	12. *Preparation and realization of selected forms of recreational sports and wellness.* 13. *Integration dance.* 14. *RINGO – game for people in every age and fitness.* 15. *Activation people in different age and fitness level with special aspects of older people.* 16. *Wellness in different moment of life – from childhood to old age.* *Workshop and brainstorm as proposition to find best solution during organization of events for different groups of participants – from kids to seniors.*
Recommended literature	*Lipoński W (2003) World Sports Encyclopedia. MBI Publishing Company LLC, USA.* *Balyi I,. Hamilton A. (2004) Long-Term Athlete Development: Trainability in Childhood and Adolescence. Windows of Opportunity. Optimal Trainability. Victoria: National Coaching Institute British Columbia & Advanced Training and Performance Ltd.* *Bompa T. O. , Haff B. (2009) Periodization: theory and methodology of training. 5th ed. Human Kinetics.* *Malina, RM, Bourchard, C, and Bar-Or, O. (2004) Growth, maturation, and physical activity. Champaign, IL: Human Kinetics.* *Sharkey, B. & Gaskill, S. (2006). Sport physiology for coaches. Champaign, IL: Human Kinetics.* *Wilmore JH., Costill DL. (1994) Physiology of sport and exercise. Champaign, IL: Human Kinetics.* *Benson H., Stuart E. (1993) The wellness book. The comprehensive guide to maintaining health and treating stress-related illness. Fireside Book, Pub. Simon & Schuster.*

Subject	**SPORT DZIECI I MŁODZIEŻY – WPROWADZENIE DO KONCEPCJI BIO-BANDING W OPARCIU O INDYWIDUALIZACJĘ ROZWOJU BIOLOGICZNEGO I OPTYMALIZACJĘ PROCESU TRENINGOWEGO.** **KIDS AND YOUTH SPORT – AN INTRODUCTION TO THE BIO-BANDING CONCEPT BASED ON THE INDIVIDUALIZATION OF BIOLOGICAL DEVELOPMENT AND OPTIMIZATION OF THE TRAINING PROCESS.**
Unit of AWF	**Department of the Theory of Sport / Zakład Teorii Sportu**
Teacher's name	**Jan M. Konarski, PhD, Ass. Prof., Mateusz Skrzypczak, MSc, PhD**
ECTS points	**3**
Number of hours	**15**
Methods of estimation	*Activity during meetings,* *Project*
Effects/results of education	*Increase knowledge about growth and maturation of kids and youth in the context of psycho-physical-biological needs and taking into consideration specific demands of early, late and on-time developing athletes as well as using individual diversity during sport training preparation. Bio-banding concept as tools to optimize training (PE lessons) / competitive process to minimize risk of injuries and optimize development of youth in perspective for adult life.*
Topics of the classes	1. *Growth and maturation as milestones in human life* 2. *Functional development* 3. *Role of physical activity for youth and kids from recreation and fun to professional level* 4. *Periodization of training and supporting general and special development on the next stage of adolescence in the context of long term athlete development* 5. *Bio-banding and other tools to design training (PE's lessons) process and specific, individual loads* 6. *Control and assessment of aims realization as information about appropriate decisions' making and direction of development.* 7. *Practical solutions.*
Recommended literature	1. Malina, RM, Bourchard, C, and Bar-Or, O. (2004) Growth, maturation, and physical activity. Champaign, IL: Human Kinetics. 2. Bompa T., Carrerra M. (2015) Conditioning young athletes. Champaign, IL: Human Kinetics. 3. Sharkey, B. and Gaskill, S. (2006). Sport physiology for coaches. Champaign, IL: Human Kinetics 4. Bompa T. O. , Haff B. (2009) Periodization: theory and methodology of training. 5th ed. Human Kinetics.

5. Balyi I., Way R., Higgs C. (2013) Long-term athlete development. Champaign, IL: Human Kinetics.
6. Faigenbaum A.V., Westcott W. (2009) Youth strength training. Champaign, IL: Human Kinetics.
7. Malina, R. M., Cumming, S. P., Rogol, A. D., Coelho-e-Silva, M. J., Figueiredo, A. J., Konarski, J. M., & Kozieł, S. M. (2019). Bio-banding in youth sports: background, concept, and application. Sports Medicine, 49(11), 1671-1685.
8. Cumming, S. P., Lloyd, R. S., Oliver, J. L., Eisenmann, J. C., & Malina, R. M. (2017). Bio-banding in sport: applications to competition, talent identification, and strength and conditioning of youth athletes. Strength & Conditioning Journal, 39(2), 34-47.
9. Cumming, S. P., Brown, D. J., Mitchell, S., Bunce, J., Hunt, D., Hedges, C., ... & Malina, R. M. (2018). Premier League academy soccer players' experiences of competing in a tournament bio-banded for biological maturation. Journal of sports sciences, 36(7), 757-765.
10. Konarski, J. M., Konarska, A., Strzelczyk, R., Skrzypczak, M., & Malina, R. M. (2019). Internal and External Loads During Hockey 5's Competitions Among U16 Players. Journal of strength and conditioning research.
11. Konarski, J., Krzykała, M., Skrzypczak, M., Nowakowska, M., Coelho-e-Silva, M., Cumming, S., & Malina, R. (2020). Characteristics of select and non-select U15 male soccer players. Biology of Sport, 38(4), 535-544.
12. Figueiredo, A. J., Gonçalves, C. E., Coelho e Silva, M. J., & Malina, R. M. (2009). Characteristics of youth soccer players who drop out, persist or move up. Journal of sports sciences, 27(9), 883-891.

Subject	**PRAKTYKI KLINICZNE Z ZAKRESU FIZJOTERAPII** **CLINICAL PRACTICES IN PHYSIOTHERAPY**
Unit of AWF	**Poznańskie Centrum Fizjoterapii Funkcjonalnej sp. z o.o., Mostowa 6 Street, floor 4, Poznań**
Teacher's name	**Magdalena Goliwąs, PT, PhD**
ECTS points	**8**
Number of hours	**80**
Methods of estimation	*•Active participation in the classes (one absence allowed)* *•Preparation for classes (doing home tasks)* *•Preparation of a patient treatment plan*
Effects/results of education	*This course is designed for physiotherapy students.* *Basic knowledge of human anatomy and biomechanics is required.* *The course will cover basic orthopaedic conditions and various conditions of musculoskeletal system and neurological patient like:* *•Degenerative changes in various joints* *•Disorders of bones and soft tissues (fractures, sprains, strains, inflammations)* *•Tendons and ligamentous injuries (raptures)* *•Low back pain* *•Open and close fractures* *•Various joints replacements* *•Reconstructive surgery* *•Other orthopaedic conditions* *•Functional assessment of patient after stroke* *Practical classes will be held at the rehabilitation room, where students will be able to observe physiotherapists during their work with the patient, perform some basic procedures / evaluations and carry out exercises with the patient.* *•Presentation and supervision of exercises performed by patients recommended by the leading physiotherapist* *•Operation of equipment and selected measuring devices* *•Learning to perform basic functional assessment tests* *•Analysing test results and proper clinical reasoning* *•Learning techniques to reduce muscle tension* *Participation in the development of a patient treatment plan*
Topics of the classes	• *Nonoperative treatment of acute and overuse injuries of lower and upper extremities.* • *Rehabilitation of the upper extremity (shoulder, elbow, wrist) after common arthroscopic procedures.* • *Rehabilitation of the lower extremity (hip, knee, ankle) after common arthroscopic procedures.*

	• *Practical approach to rehabilitation (demonstration of exercises, justification for selection of exercises and sequence of their execution).* • *Differences in rehabilitation of the professional athletes. Biomechanical evaluation and return to sport criteria after injury / surgery.*
Recommended literature	• *Bobath B.: Adult Hemiplegia: Evolution and Treatment, Oxford 1990* • *Peter Brukner, Karim Khan "Clinical Sports Medicine" McGraw-Hill Education / Australia 2012, 4th Edition* • *S. Brent Brotzman, Kevin E. Wilk "Clinical Orthopaedic Rehabilitation" Mosby 2003, 2nd Edition (or new edition: Charles E. Giangarra, Robert C. Manske "Clinical Orthopaedic Rehabilitation: A Team Approach" Elsevier 2017, 4th Edition)*

.

Subject	**PRAKTYKI KLINICZNE** **CLINICAL PLACEMENT- MEDICAL CARE AND REHABILITATION**
Unit of AWF	**Zakład Opiekuńczo - Leczniczy i Rehabilitacji Medycznej, (Medical Care and Rehabilitation Center), Mogileńska 42 Street, 61-044 Poznań**
Teacher's name	**Jakub Urbanowicz MSc PT , Martyna Reinholz, MSc PT**
ECTS points	**8**
Number of hours	**80**
Methods of estimation	*- Active participation in the classes* *- Preparation of a patient treatment plan, adequate to the type of injury / surgery and rehabilitation period*
Effects/results of education	*Students can:* *- examine the functional patient after injury and in the course of neurological diseases* *- plan and carry rehabilitation procedures*
Topics of the classes	– *Rehabilitation in neurology: Encephalitis, Meningitis, Stroke, Cerebral Palsy, Brain Injuries, Multiple Sclerosis, Parkinson's and Alzheimer's Diseases, SLA* – *Pathological Manifestation of aging, Musculoskeletal and Neurological disorders and disease, Cognitive disorders, Cardiovascular, Pulmonary, Skin conditions and diseases, Metabolic pathologies* – *Various condition of Musculoskeletal System: Arthritic conditions, disorders of bones and soft tissues (fractures, sprains, strains, inflammations), upper and lower limb, spinal deformities and disorders, musculoskeletal pain management*
Recommended literature	

Subject	**METODYKA NAUCZANIA PŁYWANIA PODSTAWOWEGO Z ELEMENTAMI TERAPII WODNEJ HALLIWICK** **METHODOLOGY OF TEACHING BASIC SWIMMING FOR CHILDREN WITH ELEMENTS OF HALLIWICK METHOD**
Unit of AWF	**Laboratory of Swimming and Water Lifesaving / Pracownia Pływania i Ratownictwa Wodnego**
Teacher's name	**Krystian Wochna, PhD**
ECTS	**4**
Number of hours	**15**
Methods of estimation	*Pass practical classes* *Prepare lesson plans*
Effects/results of education	*1. The aim of the subject is to educate students in methodology of teaching basic swimming for children.* *2. Staging the process of teaching swimming.* *3. Describing of using the Halliwick method.*
Topics of the classes	*3 classes – lectures:* *Water environmental features* *Educational aspects of the swimming teaching process* *Assumptions of the Halliwick Method* *8 classes – exercises:* *Methods, forms and principles of teaching children swimming, practical use of a play form, stroke mechanics, The Halliwick Ten Point Programme, Plans preparation* *8 classes – exercises:* *Conducting classes by students according to their plans*
Recommended literature	*1. Peden, A.E.; Franklin, R.C. Learning to Swim: An Exploration of Negative Prior Aquatic Experiences Among Children. Int. J. Environ. Res. Public Health 2020, 17:3557* *2. Jerszyński, D.; Antosiak-Cyrak, K.; Habiera, M.; Wochna, K.; Rostkowska, E. Changes in selected parameters of swimming technique in the back crawl and the front crawl in young novice swimmers. Journal of Human Kinetics 2013, 37:161-171.* *3. Tripp, F.; Krakow, K. Effects of an aquatic therapy approach (Halliwick-Therapy) on functional mobility in subacute stroke patients: a randomized controlled trial. Clin Rehabil 2014, 28(5):432-9.*

ubject	**FIZJOLOGIA OGÓLNA** **GENERAL PHYSIOLOGY**
Unit of AWF	**Department of Athletics, Strength and Conditioning/ Zakład Lekkiej Atletyki i Przygotowania Motorycznego**
Teacher's name	**Barbara Pospieszna, PhD**
ECTS points	**4**
Number of hours	**15**
Basic information about the subject	*Students will learn the basis of human physiology.* *Theoretical part is supported with practical aspects of physiology e.g. blood groups, HR, SV, BP measurement, pulmonary function tests etc.* *Students are encouraged to train their analytical approach to learning and working in groups.*
Topics of the classes	1. *Blood* a. *Blood constituents (plasma, cells)* b. *Hemoglobin* c. *Blood functions* d. *Blood groups* 2. *Cardiovascular system* a. *Heart* b. *Vascular system* c. *Electrical conduction system of the heart* d. *Heart and blood flow control* e. *Main parameters: HR, SV, BP, CO* 3. *Respiratory system* a. *Stages of pulmonary ventilation* b. *Breathing regulation* c. *Vital Capacity, pulmonary volumes* d. *Minute lung ventilation (V_E), breathing frequency* e. *Pulmonary function tests* 4. *Muscles* a. *Structure of skeletal muscle* b. *Sarcomere* c. *Motor unit and muscle fibers types* d. *Neuromuscular junction* a. *Sliding filament theory*

Human Physiology 13th International Edition. Stuart Fox. 2012
Human Anatomy and Physiology. Katja Hoehn, Elaine N. Marieb. 2014
Human Physiology. Lauralee Sherwood. 2008.

Subject	**FIZJOLOGIA WYSIŁKOWA** **EXERCISE PHYSIOLOGY**
Unit of AWF	**Department of Athletics, Strength and Conditioning/ Zakład Lekkiej Atletyki i Przygotowania Motorycznego**
Teacher's name	**Barbara Pospieszna, PhD**
ECTS	**4**
Number of hours	**15**
Methods of estimation	*active participation in classes, exam*
Effects/results of education	*Students will learn:* *- how human body functions under different exercise stimulation* *- what underlies the efficient training strategy* *- about the health benefits of exercise* *- how to estimate physical tolerance and physical capacity at different age and physical level*
Topics of the classes	*1. Main systems functioning under exercise conditions:* *- blood and acid-base balance* *- cardiovascular system* *- respiratory system* *2. The health benefits of exercise, exercise prescription* *3. Direct and indirect methods of estimating physical tolerance and physical capacity (aerobic, anaerobic)*
Recommended literature	*Bouchard C., Blair S.N., Haskell W.: Physical Activity and Health. Human kinetics 2012.* *Hargreaves M., Spriet L. Exercise Metabolism. Human kinetics 2006.* *Hoffman J. Physiological Aspects of Sport Training and Performance. Human kinetics 2014.* *Kenney W.L., Wilmore J., Costill D. 6E.: Physiology of Sport and Exercise. Human kinetics 2015.* *Richardson S., Andersen M., Morris T. Overtraining Athletes. Human kinetics 2008.* *Taylor A., Johnson M. Physiology of Exercise and Healthy Aging. Human kinetics 2008.*

Subject	**EDUKACJA ZDROWOTNA** **HEALTH EDUCATION**
Unit of AWF	**Department of Physical Activity Sciences and Health Promotion/ Zakład Nauk o Aktywności Fizycznej i Promocji Zdrowia**
Teacher's name	**Ida Laudańska-Krzemińska, Ass. Professor**
ECTS points	**4**
Number of hours	**15**
Methods of estimation	assessment
Basic information about the subject	*The course's objective includes following issues: ways of understanding and defining the health; holistic concept of health as an alternative to the biomedical model; models and methods of health education and it adoption in physical education classes (eg. experiential learning); basics of health didactics in context of physical educator's/ coach's work.*
Topics of the classes	1. *Theoretical foundation and aspects of application of health promotion and health education (biopsychosocial model of health and sickness, setting theory, health promotion models, health education models)* 2. *Health education and physical education – associations and dependences, terminology, basic, concepts, models* 3. *Health behavior* a. *Concepts and definitions, models for changing (Health Belief Model, HAPA, Transtheoretical Model), application for school* b. *Characteristic of the main important behavior: physical activity, nutrition, smoking cigarettes, drinking alcohol, self-control* 4. *Interactive teaching and learning of attitude (relation) for body and health in physical education* a. *Active learning – principle and model, constructivism as theoretical basis* b. *Experiencing teaching – principle, Kolb' cycle* c. *Workshop as a methodical procedure in health and*

	physical education d. *Examples techniques and methods of active learning using in health and physical education – methods of integrate, diagnostic, planning, developing creative reflection, discussion, creative solving of problem* 5. *Employment of interactive teaching in physical education teacher work– elaboration outline (draft) and conducting of the health education lesson with pupils in primary or secondary school*
Recommended literature	1. *Puza R.F. Health education. Ideas and activites. Human Kinetics. 2008* 2. *Page R.M, Page T.S. Promoting health and emotional well-being in your classroom. Jones and Barlett Learning 2015* 3. *Physical education and health education – common didactic goals and interdependencies. Eds. Bronikowski M., Krawański A., Osiński W. AWF Poznań, 2011* 4. *A guide for incorporating health & wellness into school improvement plans. CDC, 2016* 5. *MORSE L.L., ALLENSWORTH, F.D Placing Students at the Center: The Whole School, Whole Community, Whole Child Model. Journal of School Health, November2015, Vol.85,No.11p. 785* 6. *Laudańska-Krzemińska I. Health education as a challenge for physical education teachers - a Polish perspective. [W:] Fachdl.ktik "Bewegung und Sport" im Kontext (pod red.) Kleiner K. Purkersdorf: Verlag Brüder Holllinek, 2012, 237-247* 7. *Krawański A. Intellectual challenges of physical education Studies in Physical Culture and Tourism 2009 t. 16 nr 3 s. 281-290* 8. *Krawański A. Pedagogical challenges of physical education Studies in Physical Culture and Tourism 2009 t. 16 nr 4 s. 401-412* 9. *JOURNALS:* a. *European Journal of Physical and Health Education* b. *Education for Health: Change in Training & Practice* c. *Health Education Research* d. *Physical & Health Education Journal* e. *Global Health Promotion* f. *Health Promotion International* 10. *Health behavior and health education: theory, research, and practice / Karen Glanz, Barbara K. Rimer, Frances Marcus Lewis, editors ; foreword by Noreen M. Clark.* 11. *Health Promotion Planning. An Educational and Enviromental Approach/ LW Green, MW Kreuter*

Subject	**ELEMENTY ARTETERAPII** **ART THERAPY WORKSHOP**
Unit of AWF	**Zakład Tańca i Fitnessu / Department of Dance and Fitness**
Teacher's name	**Paulina Wycichowska, MA**
ECTS points	**4**
Number of hours	**15**
Methods of estimation	*The knowledge is presented in a form of workshops: practical experiments involving individual and group work.*
Effects/results of education	*Art Therapy Workshop is designed to provide a student with basic experience of various techniques of art therapy.* *The aim of the subject is to prepare a student for creative and collaborative work through experience of music and visual arts.*
Topics of the classes	*Main topics of study:* - *Introduction to art therapy: art as a means of maintaining wellbeing.* - *Concept of creativity, its measurement and development.* - *Strategies of stress management.* - *Introduction to creative writing.* - *Introduction to music therapy.* - *Introduction to drawing, painting & collage therapy.* - *Introduction to photography therapy.* *Exercises:* - *Reflection on concepts: "Art" and "Artist".* - *Training creativity: associations, metaphore, convergent and divergent thinking, lateral thinking.* - *Creating works involving music, drawing, painting, collage and photography* - *Reflection on the works.*
Recommended literature	*Rubin Judith A., Introduction to Art Therapy: Sources and Resources, Routledge 2010.* *Malchiodi Cathy A., Handbook of Art Therapy, Guilford Press 2003.*

Subject	**ELEMENTY TERAPII TAŃCEM - WPROWADZENIE** **DANCE THERAPY ELEMENTS - INTRODUCTION**
Unit of AWF	**Zakład Tańca i Fitnessu / Department of Dance and Fitness**
Teacher's name	**Paulina Wycichowska, MA, Justyna Torłop-Bajew, MA**
ECTS points	**4**
Number of hours	**15**
Methods of estimation	*The knowledge is presented in a form of workshop of practical experiments involving individual and group work.*
Effects/results of education	*Dance Therapy Elements subject is designed to provide a student with basic experience of various techniques of dance therapy.* *The aim of the subject is to prepare a student for creative and collaborative work through experience of dance therapy elements in workshop.*
Topics of the classes	*Main topics of study:* - *Introduction to dance therapy: concept of "dance".* - *Potential effects of dance therapy.* - *The healing and developmental assets of dance therapy.* - *Introduction to dance therapy LMA – Laban Movement Analysis System.* - *Introduction to dance therapy - important influences: Irmgard Bartnieff, Mary Chace, Anna Halprin.* *Exercises:* - *Laban - Bartenieff Movement Fundamentals.* - *Exploring body, shape, space and dynamics movement structures.-* - *Mirroring and synchronised movement.* - *Reflection on the processes.*
Recommended literature	*Bartenieff Irmgard, Body Movement – Coping With Environment, Routledge 1980.* *Dance Movement Therapy: Theory and Practice, edited by Helen Payne, Routledge 1992.*

Subject	**JOGA** **THE BREATH IN CONNECTION WITH PERFORMED ASANAS**
Unit of AWF	**Zakład Tańca i Fitnessu / Department of Dance and Fitness**
Teacher's name	**Andrzej Adamczak**
ECTS points	**4**
Number of hours	**15**
Methods of estimation	*1. Introduction to yoga* *2. Concentration on the breath in connection with performed asanas* *3. How to use muscles in yoga positions*
Effects/results of education	*1. Student knows the basics of yoga's asana* *2. Student knows how to use the breath when correctly performing asanas* *3. Student can perform strengthening and stretching exercises*
Topics of the classes	*1. Teaching selected asanas* *2. Using the breath correctly* *3. Teaching the exact exercise of individual asanas*
Recommended literature	

Subject	**BADANIE I REHABILITACJA DYSFUNKCJI KOŃCZYN GÓRNYCH W SCHORZENIACH NEUROLOGICZNYCH** **DIAGNOSTIC AND THERAPEUTIC METHODS FOR UPPER EXTREMITIES DISFUNCTIONS IN NEUROLOGICAL CONDITIONS**
Unit of AWF	**Department of Neuromuscular Physiotherapy**
Teacher's name	**Joanna Małecka MA PT**
ECTS points	**3**
Number of hours	**15**
Methods of estimation	*The evaluation consists of practical examination*
Effects/results of education	*The aim of this course is to familiarized students with upper extremity neurological examination and skilled them how to create rehabilitation program in such as conditions.* *Objectives of the subject:* *- student should be able to find and use proper evidence-based outcome measures to assess upper extremities disfunctions among neurological patients;* *- student should learn how to treat upper extremities disfunctions using neurodevelopmental treatment methods*
Topics of the classes	***Program content:*** 1. *Evidence-based diagnostic tools for upper extremities assessment* 2. *Characteristics of the upper extremities disfunctions in neurological conditions* 3. *Cognitive Therapeutic Exercises in upper extremities rehabilitation* 4. *Elements of NDT-Bobath for adults in upper extremities neurorehabilitation* 5. *Elements of PNF method in upper extremities rehabilitation*
Recommended literature	*- Bobath Concept: Theory and Clinical Practice in Neurological Rehabilitation; Raine, Meadows, Lynch–Ellerington; Wiley-Blackwell, 2009* *- PNF in Practice; Adler, Susan S.; Beckers, Dominiek; Buck, Math; Springer-Verlag GmbH, 2021* *- Physical Rehabilitation, O'Sulivan, Schmitz, Fulk; F.A.Davis Company, 2014* *- Articles in neurological rehabilitaion topics* *- neuropt.org* *- sralab.org*

Subject	**PODSTAWY PROPRIOCEPTYWNEGO TOROWANIA NERWOWO-MIĘŚNIOWEGO (PNF)** **BASICS OF PROPRIOCEPTIVE NEUROMUSCULAR FACILITATION (PNF)**
Unit of AWF	**Department of Neuromuscular Physiotherapy**
Teacher's name	**Joanna Małecka MA PT**
ECTS points	**3**
Number of hours	**15**
Methods of estimation	*The evaluation consists of practical examination*
Effects/results of education	*The aim of this course is to familiarized students with PNF method and skilled them how to use this method in future PT work.* *Objectives of the subject:* *- student should be able to present patterns and techniques of PNF method* *- student should applied PNF method principals in clinical practise*
Topics of the classes	***Program content:*** 1. *Theoretical background of PNF method* 2. *Pelvis and scapula patterns* 3. *Upper and lower extremity patterns* 4. *Trunk and head patterns* 5. *Clinical examples – functional approach using PNF method*
Recommended literature	*- PNF in Practice; Adler, Susan S.; Beckers, Dominiek; Buck, Math; Springer-Verlag GmbH, 2021* *- ipnfa.org*