



Field of Study: Physiotherapy

**Offered course for the academic year 2024/2025 with description:**

**1. Anatomy part I**

The main aim of lecture is to familiarize students with the structure of organs and systems of the human body, with particular emphasis on the structure and biomechanics of the musculoskeletal system, and to understand the functions and role of this organ in the proper functioning of a human being. Application of the acquired knowledge in the field of the structure and functions of the human body in the practical activity of a physiotherapist.

**Topics:** Structure of the human body, Surroundings and lines of the human body, Planes, Axes of the body, Osteology, Syndesmology, Types of bone connections - permanent and free connections, Muscular system, Central and peripheral nervous system, Somatic and autonomic system, Structure of the spinal nerve, Circulatory system, System lymphatic.

**2. Medical Biology**

Medical biology

The main aim of lecture is:

- to familiarize students with the structure and function of the cell as the basic unit of life and to present the processes conditioning its growth, survival and reproduction,
- introducing students to the basics of human embryology and acquainting them with the human life cycle,
- to familiarize students with the structure and function of tissues and their recognition in the microscopic image.

**Topics:** Organism cell, Cell energy, Structure of cell membranes, Cell cycle, Mitosis, Apoptosis, Meiosis, Gametogenesis, Human embryology, Organogenesis, Determination and sex differentiation.

**3. Biochemistry**

The main aim of lecture is:

- familiarizing students with the function of basic compounds found in the human body: proteins, carbohydrates, fats, nucleic acids;
- familiarization with the basic structures building cells and tissues as well as metabolic processes taking place in cells;
- getting acquainted with the basic analytical methods used in a biochemical laboratory and developing the ability to observe and draw conclusions from biochemical experiments.

**Topics:** Structure and function of amino acids and proteins, Carbohydrates and lipids, Metabolism of carbohydrates, Fatty acids, Amino acids, Division and functions of vitamins.

**4. Biophysics**

The main aim of lecture is to remind the basic laws of physics and to familiarize with the physical mechanisms of the processes taking place in the human body. Understanding the physical foundations of research and therapeutic methods used by modern medicine. Developing the ability to assess the impact of physical factors on the human body.

**Topics:** Molecular interactions, Structure of biological membranes, Bioelectric phenomena in cell membranes, Effects of current flow through tissues, Mechanical waves - sources, Ultrasounds, Thermoregulation, Electromagnetic radiation, Ionizing radiation, Non-ionizing radiation, Interactions with matter.



### 5. First aid

The main aim of lecture is to familiarize students with the organization of the State Medical Rescue system in Poland and to learn the basic skills of recognizing and providing first aid in life and health emergency.

**Topics:** Life threatening condition, Pre-hospital medical emergency, Respiratory fitness, Air- way obstruction, Artificial lung ventilation, Choking, Deviceless CPR in adults, BLS guidelines according to the Polish Resuscitation Council, AED, Injury, Haemorrhage, Wound, Amputation, Open fractures, Closed fractures.

### 6. Genetics

The main aim of lecture is to familiarize students with the structure and organization of the human genome, the molecular basis of the process of inheritance and expression of genetic information, presentation of the basic assumptions of classical genetics and types of inheritance, as well as molecular mechanisms underlying the development of genetically determined diseases and genetic determinants of motor skills.

**Topics:** Nucleic acids, Flow of genetic information, Inheritance at the molecular level, DNA replication, Human karyotype, Chromosomal aberrations, Genetic variation - recombination, Mutations, Polymorphisms, Mendel's laws, Autosomal inheritance, Sex-linked inheritance, Mitochondrial inheritance, Multifactorial inheritance.

### 7. Public Health

The main aim of lecture is to present the basic concepts of health and disease, to familiarize the student with the concept, scope and functions of public health, to present the determinants of health, to familiarize with the social and health policy of the state, to identify the basic measures of health and to familiarize with screening tests, to present the main health risks, to familiarize with the basic concepts and elements of health education, preparing students to develop a preventive program targeted at specific social groups.

**Topics:** Poland and in the world, Basic concepts of health and disease, Factors determining health, Social and health policy of the state, Health measures, Screening tests, Health threats of modern world societies.

### 8. Foreign language / English part I, II, III, IV

The main aim of lecture is to achieve the skills to use the vocabulary in the field of physiotherapy at the B2 + level, to develop language skills: listening and reading comprehension as well as speaking and writing at the B2 + level, to understand the basic aspects presented in the texts, including specialist discussions on your own professional topic at B2; + level, free communication on general and professional topics at B2 + level;

**Topics:** Interpersonal relations, Professions, Work positions, Forms of employment, Work requirements, Characteristics of the profession of a physiotherapist, Patients and their problems, Man body parts, organs, Systems and their functions.

### 9. Clinical psychology

The main aim of lecture is to acquire knowledge and skills in the field of clinical psychology by students. The student will acquire competences related to the use of psychology in the work of a physiotherapist.

**Topics:** Psychiatric disorders, Psychiatric illnesses, Neurodevelopmental disorders, Dissociative disorders, Personality disorders, Depressive disorders, Anxiety disorders, Obsessive-compulsive disorders, Post-traumatic and stress factor disorders.

### 10. General psychology

The main aim of lecture is to acquire knowledge and skills in the field of the basics of psychology. The student will acquire competences necessary in working with another human being, expand self-



knowledge and shape important subjective properties.

**Topics:** Contemporary methods of psychological research, Biological trend, Psychodynamic trend, Behaviorist current, Cognitive trend, Humanistic trend, Evolutionary trend, Problems of contemporary psychology, Difficult situations, Building identity, Dynamics of personality, Personality and self-regulation, The phenomenon of violence.

#### 11. History of physiotherapy

The main aim of lecture is:

- familiarizing the student with the genesis and historical conditions of the development of rehabilitation in Poland and in the world. The student will acquire knowledge of the functioning of international physiotherapeutic organizations and other organizations associating physiotherapists, will be familiarized with the ethical, social and legal dependencies of the profession of a physiotherapist and the correlation of rehabilitation with physical and medical culture over the centuries.

**Topics:** Rehabilitation in the world, rehabilitation in Poland, factors of rehabilitation development, Ethical, social and legal conditions for practicing the profession of a physiotherapist.

#### 12. Philosophy

The main aim of lecture is to shape the ability to find the influence of the most important philosophical concepts in various areas of culture. The aim of the course is to shape the ability to think logically, to pose questions and to shape tolerance towards other people and their views.

**Topics:** Philosophical concept, Culture, Tolerance, Attitude towards other people.

#### 13. General sociology

The main aim of lecture is to familiarize students with the knowledge of society, precursors of sociology, processes, structures, bonds, social roles, research methods in sociology and general knowledge about Polish society and its transformation.

**Topics:** Man as a social being, Socialization, social ties, Social relations, Social control, Industrialization, Globalization, Modernization, Transformation in Poland.

#### 14. Sociology of disability

The main aim of lecture is to familiarize students with the issues of disability in the social context. During the lecture and seminar, students learn about various definitions of disability, the way it is understood both in the historical context and today. Issues related to the role of the family and other social groups as environments supporting people with disabilities will be discussed.

**Topics:** Disability as a social and cultural phenomenon, Functioning of people with disabilities, Classification of disability, Acceptance, Stigmatization, Education of people with disabilities, Labor market for people with disabilities.

#### 15. Bioethics

The main aim of lecture is to present students with the scope and area of interest in bioethics, the basics of axiology, legal and ethical foundations of the profession. The subject is to familiarize students with the ethical principles applicable in the profession of physiotherapist and prepare them to practice in accordance with professional ethics.

**Topics:** History of Bioethics, History of Ethics, Ethics of Principles, Utilitarianism, Ethics of Care, Ethics of Virtue, Paternalism and Autonomism, Reproductive Health, New Genetics, Life and Death, Psychiatric Ethics, Bioethics in the European Union.

#### 16. Special pedagogy

The main aim of lecture is to familiarize the student with the basic issues of pedagogy and special education. The student will get to know:

- limitations and conditions for the education of people with disabilities,



- rules of dealing with pedagogical problems in these people
- contemporary tendencies in the revalidation of people with disabilities. The student will learn:
- use the recommendations contained in the decisions about the need for special education
- apply appropriate forms of therapeutic and educational proceedings supporting the process of revalidation of a person with a disability.

**Topics:** Disability, Developmental and educational needs, Early Support for Child Development, Individual Educational and Therapeutic Program, Certification.

### **17. Demography and epidemiology**

The main aim of lecture is to introduce the student to the basics of knowledge in the field of demography and epidemiology. Getting to know the role, purpose and tasks of epidemiology, with the complexity of the multifactorial etiology of the disease, identification of environmental threats and interpretation of the epidemiological features of civilization diseases. To acquaint the student with the role, purpose and tasks of demography, the characteristics of the methods and principles of demographic analysis.

**Topics:** Prevention and Hygiene, Health Measurement, Epidemiological Research, Epidemiology of Infectious Diseases, Epidemiology of Civilization Diseases, Observational Epidemiology, Demographic Structure, Disease Prevention.

### **18. Economics and health protection systems**

The main aim of lecture is to familiarize the student with:

- principles of functioning of the health care system and health economy.
- methods of settlements in health care,
- cash flow within the system,
- the process of transformation of the Polish health care system,
- the role and tasks of the National Health Fund as a player.

**Topics:** Health care in Poland, Models of financing health care, Sources of financing health care, Principles of establishing one's own practice, Principles of providing services, Financing.

### **19. Management and Marketing**

The main aim of lecture is to familiarize the student with the knowledge of management and marketing, entrepreneurship, management functions and marketing instruments as well as with the basic concepts of running a business. In addition, he acquires the ability to plan business ventures and learns the rules of compliance with formal limitations of economic activity on the medical services market.

**Topics:** Management functions, Start-up - the essence and organization, Marketing orientation of the company, Marketing instruments.

### **20. General Physiotherapy**

The student will acquire knowledge about the basic concepts of physiotherapy, disability and the directions of physiotherapy.

Objectives of the course:

- Identification of basic concepts related to disability, physiotherapy, selected systems, techniques and therapeutic methods.
- Determining the place of physiotherapy among medical sciences and its connections with other sciences.
- Presentation of physiotherapy as a component of medical rehabilitation.
- Mastering the ability to perform research and tests for the needs of physiotherapy.

**Topics:** Tasks of the Polish Rehabilitation Concept, Professional ethics of a physiotherapist, Disability, Adaptation, Regeneration, Compensation, Social rehabilitation, Therapeutic rehabilitation, Vocational rehabilitation, Hospital rehabilitation, Outpatient rehabilitation, Home rehabilitation, Sanatorium rehabilitation, Spa tourism, Rehabilitation rehabilitation.



### **21. Physioprohylaxis and health promotion**

The scope of the subject provides knowledge in the field of health promotion, prevention, and health education in a broad sense. Acquaints the individual and social groups about the need to shape and promote a healthy lifestyle.

**Topics:** Physioprohylaxis, Health promotion, Health education, Physical activity, Healthy lifestyle.

### **22. Palpation anatomy**

The main aim of lecture is:

- to familiarize the student with the issues of palpation anatomy, including manual search for bone and joint structures, muscles, vessels and nerves,
- preparing the student for functional work with the patient,
- preparing the student for clinical work with the patient.

**Topics:** Indicative bone points, Muscular system, Tendon system, Ligament system, Topography of the nervous system, Blood vessel system.

### **23. Physiology of Physical Exercise**

Exercise physiology is the science of human performance under physical stress and the relationships between physical activity as well as the structure and function of the human body.

**Topics:** Muscle Fiber Types. Strenght, Power and Endurance of Muscles, Muscle Metabolic Systems in Exercise, Recovery of the Aerobic System After Exercise, Respiration in Exercise, Cardiovascular System in Exercise, Body Heat in Exercise, Body Fluids and Salt during Exercise, The health benefits of physical activity, Hormonal Changes Associated with Physical Activity and Exercise Training.

### **24. Physiological diagnostics**

The aim of the course is to familiarize students with the physiological diagnostics of individual systems and organs of the human body.

**Topics:** Physiological diagnostics of the nervous system, muscles and sensory organs, Physiological diagnostics of the circulatory and respiratory systems, Exercise stress test, Physical prowess and functional efficiency, Physiological diagnostics of blood and kidneys, Physiological diagnostics of the digestive and endocrine systems.

### **25. Physiology of pain**

The aim of the course is to familiarize students with the mechanisms of pain formation, conduction, modulation and perception.

**Topics:**

- Pain - general information: definition of pain, analgesia, hypoalgesia, hyperalgesia, allodynia.
- The function, clinical features and systemic effects of pain
- Pain classification according to duration (acute and chronic pain) and pathomechanism (nociceptive, neuropathic and psychogenic pain).
- Nociceptive pain: definition of nociception, stimulating factors, somatic and visceral pain, physiological and pathological pain.
- Neuropathic pain: causes, pathomechanism, characteristics, accompanying phenomena (paraesthesia, hyperesthesia, hypoesthesia, hyperalgesia, hypoalgesia, allodynia, hyperpathy, neuralgia, causalgia), examples of neuropathic pain syndromes.
- Pain assessment scales.
- Examples of case reports of patients with pain symptoms.

### **26. Kinesitherapy part II**

The main goal is to fill the entire treatment system space. As part of the subject, students will learn about various pricing methods in kinesiotherapy. The subject prepares students for the use of diagnostics for the purposes of physiotherapy.



**Topics:**

- Muscle strength assessment using the Lovett method
- Systematics of therapeutic exercises.
- Local kinesiotherapy exercises:
- Exercises of general rehabilitation kinesiotherapy.
- Systematics of kinesiotherapeutic methods. Mechanical methods. Neurophysiological methods. Educational methods.
- Gait and its pathology. Principles and methodology of learning to walk. Upright.

**27. Massage**

The student will acquire knowledge and skills in the field of therapeutic massage. They will learn about the influence of massage on tissues and systems, as well as techniques and methods of massage. The aim of the course is:

- acquainting students with the historical outline of therapeutic massage
- presentation of massage techniques and methods
- presentation of the principles of the procedure
- familiarizing students with the indications and instructions for the massage treatment
- familiarizing students with the health and safety rules of the masseur's work (massage rooms, masseur, patient)
- preparing students to work in a massage parlor

**Topics:** Massage classification, Work ethic of the masseur. Principles of applying classical massage. Indications and contraindications for massage, The impact of massage on systems and organs. Classical massage techniques, Sports massage, Isometric massage, Massage in the water environment, Lymphatic drainage, Classic massage in selected diseases.

**28. Medical products**

The aim of the course is to prepare the student for to gain knowledge in the field of orthopedic equipment. During the course, the student will learn the definition and designs of orthopedic equipment, as well as the qualifications of physiotherapists in the field of writing orders for orthopedic equipment.

**Topics:** Definition of orthopedic appliances, Historical overview of orthopedic appliances, Qualification of physiotherapists in the field of orthopedic supplies, Amputations, Prosthetics of upper limbs and lower limbs, Calceotics and orthopedic footwear, Orthotics of the spine, Orthotics of the upper limbs, Orthotics of the lower limbs, The use of orthopedic aids, Orthopedic equipment in selected diseases, e.g., hip dysplasia, scoliosis.

**29. Biomechanics**

The main aim of lecture is to acquire knowledge of the basics of human movement biomechanics, skills in the use of measuring equipment in biomechanical research, including: assessment of human gait, assessment of balance and postural stability.

**Topics:** Strength, Moments of force, Determinants of human motor activity, Kinematic chain, Degrees of freedom, Biomechanical levers, Biomechanical properties of the tissue, Mechanical strength of the tissues of the musculoskeletal system, Biomechanical adjustment processes, Ergonomics.

**30. Movement education and movement of teaching methodology**

During the course, students will learn about the process of learning and teaching motor activities. The aim of the subject is to familiarize the student with the subject of conducting the classes. Acquiring the ability to organize and conduct classes including corrective exercises. The lectures are devoted to the following topics: terminology of movement shaping, teaching human motor activities, sports for the disabled, and motor games. During the exercises, students learn and assimilate the nomenclature of exercises, by doing them, learn to conduct classes for patients with posture defects and learn about various forms of corrective games and games in practice.

**Topics:** Movement shaping, Systematics of didactic and educational principles, Course of classes,





Outline, Teaching and shaping coordination motor skills, Static and dynamic flexibility, Static strength, Dynamic strength, Sport for the disabled, Movement games and fun.

### **31. Pharmacology in physiotherapy**

The main aim of lecture is to master the knowledge of:

- pharmacology and pharmacokinetics, - drug action mechanism,
- adverse effects and possible interactions and side effects,
- rules for the use of drugs in different age groups.

**Topics:** Pharmacology, Pharmaceutical forms, Dose, Drug administration routes, Pharmacokinetics, Pharmacodynamics, Drug interactions, Analgesics, Antipyretics, Anti-inflammatory drugs.

### **32. Information technologies**

The main aim of lecture is:

- familiarizing the students with the subject of processing the information. Genesis of information flow and methods how to store and process data. Lecture take approach how to use digital information in physiotherapy. Students will acquire knowledge about topic how to protect data and what dangers can appear in data collection process. The subject covers issues related to the use of spreadsheets from the MS Office package. The student acquires the ability to use the capabilities of a spreadsheet to facilitate subsequent work with spreadsheets, including data storage and data collection.

### **33. Physical medicine part. 2**

The subject is aimed at improving the ability to perform physical treatments depending on the disease entity, preparation for the correct selection of medical equipment and the correct performance of physical treatments, taking into account indications and contraindications

**Topics:** Selection of physical methods for disease entities, Methods of performing treatments, Indications and contraindications for treatments.

### **34. Adapted physical activity**

Adapted physical activity is an introductory subject in the field of physical activity of people with disabilities. Students will gain theoretical and practical knowledge about the selection and the way of conducting of classes for people with special needs.

Familiarization students with:

- Adapted Physical Activity theory,
- the specificity of conducting Adapted Physical Activity classes for people with special needs,
- the latest trends in Adapted Physical Activity and learning about specific adaptations in classes for people with special needs,
- the specificity of conducting physical (sports) activity classes intended for disabled people,
- methodology of teaching selected sports disciplines for disabled people,
- practical wheelchair driving skills necessary for disabled people to move independently in everyday life.

### **35. Sport for people with disabilities**

Sport of people with disabilities is an introductory subject in the field of physical activity of people with disabilities. Students will gain theoretical and practical knowledge on the selection and conduct of classes with people with special needs. students with:

Familiarization students with:

- Adapted Physical Activity theory,
- the specificity of conducting Adapted Physical Activity classes for people with special needs,
- the latest trends in Adapted Physical Activity and learning about specific adaptations in classes for people with special needs,
- the specificity of conducting physical (sports) activity classes intended for disabled people,
- methodology of teaching selected sports disciplines for disabled people,
- practical wheelchair driving skills necessary for disabled people to move independently in everyday life.



**Topics:** Adapted Physical Activity (APA), Physical activity of people with special needs, Disability in Poland and in the world, Classification issues in sport. Discussion of selected disciplines, Paralympics, Special Olympics, Modern technologies in sport with disabilities.

#### **36. Clinical basics of physiotherapy in neurology and neurosurgery**

The aim of the course is to familiarize students with the basics of clinical problems in the field of diseases in the field of medicine, such as neurology and neurosurgery, taking into account the basic principles used in the assessment of clinical symptoms.

**Topics:** Anatomy and physiology of the nervous system, Disturbances in the structure and functioning of the nervous system, Diseases of the central and peripheral nervous system, Motor dysfunctions, Subject examination and interpretation of the assessment of the patient's condition and treatment progress using clinimetric scales.

#### **37. Clinical basics of physiotherapy in pediatric neurology**

The aim of the course is to familiarize students with selected issues from the basics of childhood neurology and the correct selection of treatments and physiotherapeutic methods, taking into account indications and contraindications.

**Topics:** Childhood, Maturity, Old age, Individual development processes, neurological diseases of childhood, Physical examination, Physical examination.

#### **38. Clinical basics of physiotherapy in pediatrics**

The main aim of lecture is to familiarize students with the knowledge of the correct and incorrect physical and psychomotor development of a child, with particular emphasis on the neonatal and infant period.

The subject is to acquire skills in the methodology of physiotherapeutic treatment in the treatment of selected childhood diseases and the diagnosis of developmental disorders in infants, children and adolescents.

**Topics:** Normal and abnormal psychomotor development of a child, Physiotherapeutic treatment of a premature child, Asymmetry and torticollis, Down syndrome, Cerebral palsy, Planning and programming of physiotherapy in children.

#### **39. Clinical basics of physiotherapy in oncology and palliative medicine**

During the course of the course, the student will acquire knowledge of the basics of oncology and palliative medicine in the field of:

- Cancer epidemiology.
- Knowledge in the field of primary and secondary cancer prevention, risk factors, diagnostics and treatment methods for selected neoplastic diseases
- The ability to apply theoretical knowledge to work with oncological patients.
- The ability to plan physiotherapy in patients with neoplastic diseases and during palliative treatment, taking into account: contraindications to the use of physiotherapy.

**Topics:** Rehabilitation in oncology and palliative medicine, Physiotherapy in oncological surgery, Physiotherapy in radiotherapy and chemotherapy, Indications and contraindications, Neoplasms of the respiratory system, Neoplasms of the locomotor system, Neoplasms of the genitourinary system, Breast cancer, Gastrointestinal neoplasms, Physiotherapy terminal stage of neoplastic disease, Primary and secondary prevention, Population screening programs in oncology.

#### **40. Clinical basics of physiotherapy in surgery**

The aim of the course is to familiarize students with the basic knowledge of surgery, methods of preparing patients for elective and "emergency surgery" procedures and possible postoperative complications.

**Topics:**

- Types and division of wounds. Treatment of traumatic wounds and chronic wounds. Types of





- burns. Pathophysiology Burns. Frostbites.
- The causes of bleeding in the upper and lower gastrointestinal tract
- Surgical diseases of the gastrointestinal tract
- Acute abdominal diseases
- Surgical diseases of the chest.
- Surgical diseases of arterial and venous vessels
- Causes and types of postoperative complications

#### **41. Physiotherapy in oncology and palliative medicine**

The main aim of lecture is to familiarize students with the diagnosis and treatment of an oncological patient and in the course of palliative care in advanced neoplastic disease. The student has the opportunity to prepare for the planning, implementation and monitoring of the course of physiotherapeutic treatment for an oncological patient based on modern standards of conduct.

**Topics:** Pathological disorders occurring in the course of neoplastic disease, Functional assessment, Planning and programming of physiotherapy, Physiotherapy in the terminal phase, Physiotherapy in the palliative phase, Indications and contraindications, Pain reduction, Lymphoedema, Improving the quality of the last days of life of dying patients.

#### **42. Physiotherapy in pediatrics**

The aim of the course is to acquire the ability to conduct an interview and obtain information on the development and health of a child, as well as the ability to perform a physiotherapeutic assessment of children in the course of selected diseases and developmental disorders.

Students will acquire basic skills in the proper performance of activities included in physiotherapy in children in the course of various disease entities.

**Topics:** physiotherapy in pediatrics, development, physiotherapeutic techniques, developmental disorders, physiotherapeutic evaluation, physiotherapeutic interview.

#### **43. Physiotherapy in cardiology and cardiosurgery**

The aim of the course is to prepare the student for theoretical and practical preparation of for qualified physiotherapy of cardiovascular diseases.

**Topics:** Diseases of the cardiovascular system, Diagnostic methods and methodology of cardiac physiotherapy, Programming and planning the rehabilitation of patients with cardiovascular diseases, Taking into account the current state of health, Rehabilitation of cardiac patients and patients after cardiac surgery in accordance with the methodology and systematics of physiotherapy adequately to their health conditio.

#### **44. Physiotherapy in surgery**

The aim of the course is to acquaint students with the etiology, symptoms and pathophysiology of surgical diseases. Preparing students to develop a plan of physiotherapeutic treatment including basic physiotherapeutic activities. Shaping practical knowledge as to how to perform a functional assessment for the needs of physiotherapy in patients with surgical diseases. Preparing students to independently select the appropriate exercises.

#### **Topics:**

- Basic theoretical assumptions of manual therapy, indications and contraindications to the use of manual therapy.
- Basic concepts of manual therapy: blocking - symptoms and causes, hypermobility, mobilization and their types, joint play (traction, slide, compression), capsular patterns, final feeling of movement.
- The general scheme of examining the patient.
- Principles of studying movement in the joint (quantity and quality of movement), the mechanism of the impact of manual therapy measures on the patient's body.
- Side effects of manual therapy treatments.
- Methods of manual therapy used in the therapy of the spine, peripheral joints and soft tis-



sues.

#### **45. Clinical physiotherapy in neurology and neurosurgery**

The main aim of lecture is to familiarize students with the principles of performing basic physiotherapeutic activities in the field of neurology and neurosurgery, including indications and contraindications for their use.

**Topics:** Neurology, Neurosurgery, Diseases of the central nervous system, Diseases of the peripheral nervous system, Planning and programming of physiotherapy, Uprighting, Learning to locomotion.

#### **46. Clinical physiotherapy in developmental age**

Expanding knowledge in the field of pediatrics and developmental age. Acquiring practical knowledge in the field of children's physiotherapy.

**Topics:** Posture defects, Down syndrome, Cerebral palsy, Meningeal hernia, Genetic syndromes, Autism spectrum.

#### **47. Clinical basis of physiotherapy in sports medicine**

The aim of the course is to familiarize the student with basic knowledge, basic skills, getting acquainted with the specificity of sports injuries and diagnostics

**Topics:**

- Knowledge about ligaments and tendons and their regeneration.
- Physiotherapeutic procedures and diagnostics in selected sports injuries.
- Physiotherapeutic treatment and prevention of sports injuries.

#### **48. Clinical basics of physiotherapy in intensive care**

The subject is aimed at broadening the knowledge about the most important health problems of patients during intensive care and presenting methods of their assessment, prevention and control. Additionally, its task is to draw the student's attention to the role of a physiotherapist in dealing with a patient in a life-threatening condition.

**Topics:** Intensive care unit, Pressure ulcers, Pathological changes in systems, Improvement treatment, Patient care, Psychological problems of critically ill, Therapeutic rehabilitation methods.

#### **49. Clinical basics of physiotherapy in rheumatology**

The item approximates:

- etiopathogenesis of rheumatic diseases to the extent necessary to understand the mechanism of disease symptoms
- symptoms and diagnostic criteria as well as an outline of the treatment of disease entities in rheumatology, which physiotherapists most often encounter during their work
- rheumatic ailments and related direct and long-term effects.

**Topics:** Characteristics, clinical symptoms and diagnostic and therapeutic problems in the course of seronegative spondyloarthropathies. Models of improvement proceedings. Rheumatoid arthritis (RA) - clinical picture and rehabilitation treatment.

#### **50. Clinical basis of physiotherapy in pulmonology**

Pulmonary rehabilitation includes the diagnosis and treatment of patients with chronic respiratory diseases. They are characterized by periodic exacerbations and require systematic treatment and periodic rehabilitation. The main goal of pulmonary rehabilitation is to unblock the airflow channels (clearing the bronchial tree from the residual secretion), and thus reversing the symptoms and pathophysiological processes leading to respiratory failure and improving the patient's general health.



**Topics:**

- familiarization with disease entities and methods of treatment in pulmonology
- getting acquainted with the indications and contraindications to physical activity in particular respiratory diseases,
- preparing the student to manage and improve patients with pulmonary diseases in accordance with the methodology and systematics of physiotherapeutic procedures,
- preparing the student to program a plan to improve patients with lung and bronchial diseases, taking into account the current state of health,
- familiarizing the student with functional tests assessing lung capacity,
- preparing the student to conduct training instruction in hospital and home conditions.

**51. Clinical physiotherapy in medicine sports**

The aim of the course is familiarizing students with selected dysfunctions in the field of orthopedics and traumatology, and sports medicine. Familiarizing the student with the principles of planning and carrying out physiotherapy in sports medicine. Familiarizing the student with objective sources of information.

**Topics:**

- The role of a physiotherapist in a player's medical team. What is medical training. Aims of sports physiotherapy.
- Central stabilization for athletes including diaphragm functions.
- Medical training of the trunk muscles.
- Plyometry in rehabilitation.
- Fundamentals of physiology of sports exercises. Eccentric, concentric and isometric exercises. Strength training.
- Neuromuscular training. Sensorimotor exercises. Exercises in open and closed kinematic chains.
- Functional diagnostics of the competitor.
- Principles of physiotherapy in sports injuries.
- Therapy plans for selected sports injuries.

**52. Physiotherapy in pulmonology**

Pulmonary rehabilitation includes the diagnosis and treatment of patients with chronic respiratory diseases. They are characterized by periodic exacerbations and require systematic treatment and periodic rehabilitation. The main goal of pulmonary rehabilitation is to unblock the airflow channels (clearing the bronchial tree from the residual secretion), and thus reversing the symptoms and pathophysiological processes leading to respiratory failure and improving the patient's general health.

**Topics:**

- Definition of pulmonary rehabilitation.
- Goals of comprehensive pulmonary rehabilitation.
- The role of physiotherapy in respiratory diseases.
- Selection and clinical evaluation of candidates for pulmonary rehabilitation
- Methods of examining the respiratory system for the needs of physiotherapy:
  - functional tests of the respiratory system - spirometry; mechanics of breathing - plethysmography, polysomnography; gas exchange - pulse oximetry;
  - exercise tests - James test, match extinguishing test, 6-12-minute walk test, exercise test on a treadmill and cycloergometer.
- Subjective Dyspnea Assessment Scales: MRC scale, ATS scale, Borg scale, test according to Coates, visual analog scale.
- Types of respiratory failure
- Imaging examinations of the respiratory system

**53. Clinical physiotherapy in rheumatology**

In the course, the student learns about disease entities specializing in rheumatology and their use in



physiotherapy.

**Topics:**

- Aims, tasks of rehabilitation in rheumatic diseases. Characteristics of changes in the motor system.
- Characteristics, clinical symptoms and diagnostic and therapeutic problems in the course of seronegative spondyloarthropathies. Models of improvement proceedings.
- Rheumatoid arthritis (RA) - clinical picture and rehabilitation treatment.

**54. Planning physiotherapy in internal diseases**

Preparation of the student in the field of planning physiotherapeutic activities in internal diseases. The aim of the course is:

- familiarizing students with physiotherapeutic methods used in the rehabilitation of patients with cardiovascular, respiratory and endocrine system disorders,
- urinary and digestive systems and in blood diseases.

**Topics:** Peripheral vascular diseases, Cardiac rehabilitation, Diabetes mellitus, Obesity, Physiotherapy in endocrinology, Physiotherapy in gastroenterology, Physiotherapy in kidney and urinary system diseases, Physiotherapy in lung diseases and thoracic surgery, Physiotherapy in blood diseases.

**55. Functional diagnostics in dysfunctions of the locomotor system**

The aim of the course is familiarization students with the etiology, symptoms and pathophysiology of motor system dysfunctions. Preparing students to develop a plan of physiotherapeutic treatment, including basic diagnostic methods. Shaping practical knowledge on how to perform a functional diagnosis for the needs of physiotherapy in patients with diseases of the locomotor system.

**Topics:**

- Physical, diagnostic and functional examinations.
- Types, sources and assessment of pain.
- Skeletal motor disorders, functional tests.
- Gait diagnostics and assessment.
- Anatomical tapes - outline.
- Physiotherapeutic visit, documentation.
- International Classification of Functioning, Disability and Health - coding principles.

**56. Correct Anatomy part 2**

The main aim of lecture is to familiarize students with the structure of organs and systems of the human body, with particular emphasis on the structure and biomechanics of the musculoskeletal system, and to understand the functions and role of this organ in the proper functioning of a human being. Application of the acquired knowledge in the field of the structure and functions of the human body in the practical activity of a physiotherapist.

**Topics:** Osteoarticular system, Muscular system, Digestive system, Cardiovascular system, Lymphatic system, Innervation and paralysis, Respiratory system, Endocrine system, Urinary system, Sensory organs, Topography and biomechanics.

**57. Functional Anatomy**

The main aim of lecture is to familiarize students with the functions of organs and systems of the human body, with particular emphasis on the structure, biomechanics and functions of individual joints of the musculoskeletal system, and to understand the role of this organ in the proper functioning of the human body. Application of the acquired knowledge in the field of the structure and functions of the human body in the practical activity of a physiotherapist.

**Topics:** Topographic anatomy of the skeletal, ligamentous and muscular systems.

**58. X-ray Anatomy**

The main aim of lecture is to familiarize students with human X-ray anatomy in the area of the upper limb, lower limb, spine, skull, thorax and abdominal cavity.



Students learn about different types of imaging of individual parts of the body (X-ray diagnostics, computed tomography, magnetic resonance imaging, ultrasound). Students learn anatomical denominations in the field of radiological anatomy.

**Topics:** Methods of imaging the human body. X-ray diagnostics, Computed tomography, Magnetic resonance imaging, Ultrasound.

#### **59. General Physiology**

The aim of the course is to familiarize students with human physiology - the science that allows to understand the mechanisms that work to keep the human body alive and functioning.

**Topics:**

- The Nervous System. Synaptic transmission.
- Physiology of the skeletal and smooth muscles. Regulation of the motor activity.
- Sensory physiology. Special senses.
- The autonomic nervous system. The blood.
- The cardiovascular and respiratory systems.
- Physiology of urine formation. The body fluids compartments and acid-base balance.

#### **60. General Pathology**

The main aim of lecture is to familiarize students with the basic issues related to general pathology. The course will be based on the knowledge of human anatomy and physiology.

Describes the mechanisms of disease development, course and ending. Ways of prevention, diagnosis and principles of epidemiology of civilization diseases.

**Topics:** Descent of inflammatory changes, Wound healing, Hemodynamic factors of vascular pathology.

#### **61. Intellectual Property Rights**

The main aim of lecture is to familiarize students with the legal regulations in the field of Polish intellectual property protection law and with the legal regulations regarding the protection of personal rights and the ability to apply this knowledge in practice.

**Topics:** Basics of intellectual property law, Copyrights, Industrial property rights, Databases.

#### **62. Basics of civil law**

The main aim of lecture is to familiarize students with legal regulations in the field of Polish civil law and civil procedure and the ability to apply this knowledge in civil-legal relations. Principles of concluding contracts and making declarations of will.

**Topics:** Fundamentals of civil law, property law. Liabilities, inheritance, family law, civil proceedings.

#### **63. Basics of labor law**

The main aim of lecture is to familiarize students with legal regulations in the field of Polish labor law, health and safety regulations and with legal regulations regarding social security and the ability to apply this knowledge in professional work in the Republic of Poland. Students will also learn about the content of labor law standards in selected EU countries.

**Topics:** Fundamentals of labor law, Social insurance, Health and safety regulations, Labor law in selected EU countries.

#### **64. Basics of medical law**

The main aim of lecture is to familiarize students with legal regulations in the field of health protection law and with legal regulations concerning the profession of a physiotherapist and the ability to apply this knowledge in their professional work. Explaining the legal relations between the patient and medical service providers. To familiarize students with the regulations on medical law in the legal and comparative aspect. Students will learn about the norms of medical law in Poland and selected EU



countries.

**Topics:** Fundamentals of medical law, Law on healthcare institutions, Health insurance law, Act on the profession of physiotherapist, Human rights, Patient rights, Responsibility in medical professions.

#### **65. Clinical Communications**

The main aim of lecture is to familiarize students with issues related to clinical communication, effective interpersonal communication with a problem client in a crisis. The student will acquire the basic skills necessary to develop effective clinical communication. The student will learn the techniques of effective communication and assertiveness techniques.

**Topics:** Verbal communication, Non-verbal communication, Factors disrupting communication, Consequences of disturbed communication in relation to the patient, Constructive feedback.

#### **66. Psychotherapy**

The main aim of lecture is to familiarize students with the knowledge of psychotherapy, its various trends and techniques in psychotherapy. The student will learn the techniques of cognitive psychotherapy and self-diagnosis.

**Topics:** Analytical psychotherapy, Psychodynamic psychotherapy, Cognitive behavioral psychotherapy, Humanistic and existential psychotherapy, Systemic psychotherapy, Concept of Emotional Intelligence.

#### **67. Biological renewal/ Wellness**

The aim of the course is to familiarize the student with the concepts, means and methods of work in the field of biological regeneration in sport and recreation, and to teach the student to use physiotherapeutic methods in biological regeneration.

**Topics:** Wellness, Biological regeneration, Recreation, Health promotion, Health education, Physical activity.

#### **68. Balneoclimatology**

The aim of the course is to familiarize students with the concepts and forms of biological regeneration and to prepare the student for the selection of appropriate physiotherapeutic methods - including balneology in biological regeneration.

**Topics:** Forms of biological regeneration, Treatment with physical methods, Concepts and forms of biological regeneration, Healing waters, Therapeutic peat, Inhalations, Drinking cures, Therapeutic baths, Climatic treatment.

#### **69. Physical medicine, part 1**

Physical medicine is a branch of medicine applicable in physiotherapy, where it combines the issues of physical methods used for therapeutic, preventive and diagnostic purposes.

The main aim of the course is to familiarize the student with the principles of applying physiotherapeutic methods and to acquire basic knowledge and skills in the field of physical medicine and balneoclimatology.

**Topics:** Basics of physical medicine, Thermotherapy, Cryotherapy, Hydrotherapy, Light therapy, Electromagnetic radiation, Laser therapy, Electrotherapy, Electrodiagnostic, High-frequency electromagnetic field, Low-frequency magnetic field, Ultrasounds, Inhalations.

#### **70. Kinesitherapy part I.**

During the classes, students are introduced to the basics of kinesiotherapy. The subject is to prepare students to independently carry out basic diagnostics for the needs of kinesiotherapy and to provide students with knowledge about the basic forms of kinesiotherapy impact on the body.

**Topics:**





- Historical overview of kinesiotherapy.
- Regeneration, compensation, adaptation.
- The impact of improvement exercises on the human body.
- Disability. - Diagnostics for the needs of kinesiotherapy:
- Consequences of prolonged immobilization
- Neurophysiological foundations of motor rehabilitation.
- Orthopedic supplies as therapy support measures.

#### **71. Manual therapy**

The aim of the course is acquiring knowledge in the field of manual therapy, including diagnostics, mobilization and algorithm of treatment in manual therapy. Developing skills and competences in the field of techniques and methodology in manual therapy. Shaping attitudes consistent with the ethics of the profession of a physiotherapist.

#### **72. Clinical biomechanics**

The main aim of lecture is to prepare students for functional work with a patient with an organ disorder. The student will learn the basic principles and concepts of biomechanics in terms of the work of a physiotherapist. The student will learn about his own limitations, self-assessment of deficits and educational needs.

**Topics:** Human motor potential, Morphological biomechanics, Biomechanics of passive and active motor system, Pathomechanics of muscle activity, Biokinematics of bones and joints, Balance, Stability, Habitual posture, Correct posture, Biomechanics of locomotion, Biomechanics of the spine. Breakdown and wound healing. Bedsores.

- Physiotherapy in postoperative disorders of the respiratory system.
- Rehabilitation of patients after abdominal operations.
- Rehabilitation of patients with a stoma.
- Rehabilitation of patients after peripheral ischemia operations.

#### **73. Methods of manual therapy**

The subject covers issues in the field of selected modern methods of manual therapy and the possibilities of their applications in clinical practice.

**Topics:** Neuromobilization, FDM, Trigger point therapy, Physical therapy for TMJ.

#### **74. The method of neuromuscular reeducation**

The subject covers the issues of selected modern methods of neuromuscular reduction and the possibilities of their applications in clinical practice.

**Topics:** PNF, Kinesiotaping.

#### **75. Methods of neurorehabilitation**

The subject covers the issues of selected modern methods of neurorehabilitation and the possibilities of their applications in clinical practice.

**Topics:** NDT-Bobath, Biofeedback, PNF.

#### **76. Methods of postural reeducation**

The subject covers the issues of selected modern methods of postural reeducation and the possibilities of their applications in clinical practice.

**Topics:** Methods of postural reeducation.

#### **77. Methods of neurodevelopmental therapy**

The subject covers the issues of selected modern methods of neurodevelopmental therapy and the



possibilities of their applications in clinical practice.

**Topics:** Vojta, NDT-Bobath, NDT-Bobath baby.

**78. Clinical basis of physiotherapy in kardiology and cardiosurgery**

The aim of the course is to prepare the student for active physiotherapy in cardiovascular diseases and for shaping a healthy lifestyle, with particular emphasis on physical activity.

**Topic:** Familiarizing students with the overall physiotherapy in cardiovascular diseases, Including modern diagnostic methods used in cardiology, Familiarization with the methods of inpatient and early post-hospital rehabilitation, Selection of physiotherapeutic procedures and methods of physiotherapy according to the clinical diagnosis, The period of the disease and the functional state of the rehabilitated person.

**79. Clinical basics of physiotherapy in gynecology and obstetrics**

The aim of the course is to familiarize students with disease entities in the field of gynecology and obstetrics and to familiarize them with selected issues in the physiology and pathology of pregnancy. The aim of the subject is to find out the causes and symptoms of selected pregnancy pathologies, puerperal complications and gynecological disorders in relation to physiotherapeutic treatment.

**Topics:** Physiology of pregnancy and childbirth, Pelvic floor muscles, Urinary incontinence in women, Principles of planning and programming physiotherapy in patients before and after gynecological surgeries, Psychoprophylaxis during pregnancy, Menstrual disorders, Cancers of the reproductive organ.

**80. Clinical basics of physiotherapy in psychiatry**

The subject covers issues related to mental health disorders. During the course, topics related to selected mental disorders, mental health protection, and the psychiatric care system will be discussed; patient education, psychopathology of mental diseases.

**Topics:** The concept of mental health and disease, Etiology and epidemiology of mental disorders, Psychopathology - specific psychopathology, Classification of mental disorders, Psychosis - heraldic symptoms, Schizophrenia - stigmatization, Neurotic disorders, Psychiatric care system, Communication with the mentally ill, Rehabilitation of people with mental disorders.

**81. Clinical basics of physiotherapy in orthopedics and traumatology**

The aim of the course is to familiarize students with diseases and injuries of the motor organ in children and adults. Preparing a physiotherapy student to work with a patient with orthopedic and post-traumatic diseases.

**Topics:** Diagnostics, Surgery, Bones, Hips, Knees, Shoulder, Ankles, Elbow, Ligaments, Spine, Amputation, Cancer, Post-traumatic diseases, Break.

**82. Clinical basics of physiotherapy in geriatrics**

The main aim of lecture is to:

- providing knowledge on the process of human aging and old age in the biological, psychosocial and behavioral dimensions;
- development of the ability to work with elderly people in various life situations;
- preparing students to carry out tasks in the field of self-diagnosis, planning and organization of care.

**Topics:** Positive and non-positive aging, Old age diseases, Family education, Care for the sick.

**83. Physiotherapy in psychiatry**



The main aim of lecture is to identify the basic concepts, principles and methods of physiotherapy in the course of mental illness. During the course, the student will get acquainted with the most common psychiatric units. Will be able to select appropriate activities included in the physiotherapy in patients with mental disorders.

**Topics:** Psychiatric rehabilitation, National Mental Health Program, Psychotherapy, Occupational Therapy, Social Skills Training, Classification of Mental Illnesses.

#### **84. Physiotherapy in gynecology and obstetrics**

The aim of the course is to familiarize students with the basic concepts of gynecology and obstetrics and to familiarize the student with the basic physiotherapeutic methods in gynecological diseases. The subject is aimed at improving the skills of conducting therapy in pregnant and puerperal women.

**Topics:** Gynecology, Obstetrics, Female and male urogenital system, Pelvic floor muscles, Pregnancy, Childbirth, Puerperium, Menstruation, Climacterium, Childbirth school.

#### **85. Physiotherapy in geriatrics**

The main aim of lecture is to familiarize students with the principles of physiotherapeutic treatment of the elderly. During the course, topics related to the physiology and pathology of old age are discussed. The student has the opportunity to prepare for professional care in the field of physiotherapeutic activities in diseases assigned to old age based on modern standards of conduct.

**Topics:** Great geriatric syndromes, Comprehensive geriatric evaluation, Occupational therapy, Organ changes, Aging theories, Physical activity, Elderly training, Falls, Dementia, Weakness syndrome, Urinary incontinence, Iatrogenic syndromes.

#### **86. Clinical physiotherapy in orthopedics and traumatology**

The aim of the course is familiarizing students with dysfunctions and diseases related to the human locomotor system. Shaping practical knowledge as to how to conduct a test for the needs of physiotherapy in patients with diseases of the locomotor system.

#### **Topics:**

- Basic issues in orthopedics
- Bone tumors
- Amputations
- Diseases of the shoulder joint
- Diseases of the elbow joint and wrist
- Diseases of the knee joint
- Joint endoprostheses
- Diseases of the knee joint
- Diseases of the ankle and foot
- Diseases of the hip joint

#### **87. Didactics of physiotherapy**

The main aim of lecture is to develop didactic and educational skills in the field of teaching physiotherapy, conducting training and professional development. Students will gain knowledge in the field of transferring knowledge on the principles of shaping, maintaining and restoring fitness and endurance to people of different ages, lost or reduced due to various diseases or injuries, and the principles of health promotion.

**Topics:** Medical didactics, Health education didactics, Taxonomic concepts of learning outcomes, Teaching methods of the presenter, Teaching and education methods, Activating methods.

#### **88. Functional diagnostics in internal diseases**

The aim of the course is to prepare the student for in the scope of the diagnostic algorithm based on



patient observation, palpation assessment and functional tests of the respiratory system, cardiology, oncology, geriatrics, urinary tract diseases and endocrine disorders.

**Topics:** Diseases of the respiratory system, Cardiovascular diseases, Diseases of the urinary system, Diseases of the endocrine system, Diabetes, Obesity, Physical and physical examination in rehabilitation, Rules of performing and criteria of diagnostic tests, Diagnostic and functional examination of the venous and lymphatic system, Functional examination of the respiratory system, Diagnosis of incontinence urine, Physiotherapeutic diagnostics in oncology, Physiotherapeutic diagnostics in cardiology, Functional diagnostics in geriatrics.

#### **89. Functional diagnosis in developmental age**

The main aim of the course is to acquire knowledge and skills by students in the selection of diagnostic and functional tests for the purposes of creating, verifying and modifying the rehabilitation program in developmental age.

**Topics:** Functional diagnostics, Functional tests, Psychomotor development scales, Functional assessment, Psychomotor development, Developmental disorders of children and adolescents.

#### **90. Planning physiotherapy in dysfunctions of the musculoskeletal system**

The aim of the course is familiarizing the student with adaptation to rehabilitation in movement dysfunctions from the path of indications and contraindications. Broadening the knowledge of basic positions and disease syndromes as well as disorders and pathological changes occurring in the course of injuries and diseases characteristic for the musculoskeletal system exploring knowledge in options about text news. Preparing the student to conduct the improvement in various cases; mastering the basic techniques and methods as well as the ability to apply them in practice in an individual physiotherapy plan on the control lines Preparing a student for cooperation with specialists from other medical professions, determining theoretical and practical skills and abilities.

#### **Topics:**

- Types of additional research and their importance in rehabilitation programming.
- Indications for conservative treatment in particular disease entities of the musculoskeletal system.
- Physiotherapy in injuries of the locomotor system treated conservatively.
- Physiotherapy in motor dysfunctions of a chronic nature.
- Physiotherapy in injuries of the locomotor system treated surgically